Coalition for Physician Accountability

The Coalition for Physician Accountability's Undergraduate Medical Education-Graduate Medical Education Review Committee (UGRC):

Recommendations for Comprehensive Improvement of the UME-GME Transition

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Overview

In 2020, the Coalition for Physician Accountability (Coalition) formed a new committee to examine the transition from undergraduate medical education (UME) to graduate medical education (GME). The UME-GME Review Committee (the "UGRC" or the "Committee") was charged with the task of recommending solutions to identified challenges in the transition. These challenges are well known, but the complex nature of the transition together with the reality that no single entity has responsibility over the entire ecosystem has perpetuated the problems and thwarted attempts at reform.

Using deliberate and thoughtful methods, the UGRC spent 10 months exploring, unpacking, discussing, and debating all aspects of the UME-GME transition. The Committee envisioned a future ideal state, performed a root-cause analysis of the identified challenges, repeatedly sought stakeholder input, explored the literature, sought innovations being piloted across the country, and generated a preliminary set of potential solutions to the myriad problems associated with the transition. Initial recommendations were widely released in April 2021, and feedback was obtained from organizational members of the Coalition as well as interested stakeholders through a public call for comment. This feedback was instrumental to refining, altering, and improving the recommendations into their final form. The UGRC also responded to feedback by consolidating similar recommendations, organizing them into more cogent themes, and sequencing them to guide implementation.

The UGRC has presented a total of 34 final recommendations, organized around nine themes, for comprehensive improvement of the UME-GME transition. The Committee has formally handed off these recommendations to the Coalition for their consideration and implementation. Importantly, the UGRC strove to abide by an agreed upon set of guiding principles that gave primacy to the public good and that championed diversity, equity, and inclusion. The Committee believes that the recommendations are interconnected and should be implemented as a complete set. Doing so will create better organizational alignment, likely decrease student costs, reduce work, enhance wellness, address inequities, better prepare new physicians, and enhance patient care.

UGRC Members

The members of the UME-GME Review Committee (UGRC), their pertinent constituency or organizational affiliation, and their workgroup assignments are listed in the table below. Please refer to the section of this report on "UGRC Process" for details about each workgroup. A complete glossary of terms and constituency/organization names can be found in Appendix A.

Name	Constituency/Organization	Workgroup Assign-ment
Richard Alweis	DIO	B
Steven Angus	DIO	A
Michael Barone	NBME	A
Jessica Bienstock	DIO	D and Bundling
Maura Biszewski	AOA	D
Craig Brater	ECFMG	A and Bundling
Jesse Burk Rafel	Resident	C
Andrea Ciccone	Lead Coalition Staff Member	Unassigned
Susan Enright (Workgroup B Leader)	Medical Education	B
Sylvia Guerra	Student	B and DEI
Daniel Giang (Bundling Workgroup Leader)	DIO	C and Bundling
John Gimpel	NBOME	B
Karen Hauer (Workgroup A Leader)	Medical Education	A
Carmen Hooker Odom	Public Member	B
Donna Lamb	NRMP	B
Grant Lin	Resident	D, DEI, and Bundling
Elise Lovell (UGRC co-chair)	OPDA	C
George Mejicano (UGRC co-chair)	Medical Education	D and DEI
Thomas Mohr	AACOM	C
Greg Ogrinc	ABMS	D and DEI
Juhee Patel	Student	A
Michelle Roett (DEI Workgroup Leader)	Medical Education	D and DEI
Dan Sepdham	Residency Program Director	C
Susan Skochelak	AMA	D
Julie Story Byerley (Workgroup D Leader)	Medical Education	D and Bundling
Jennifer Swails (Workgroup C Leader)	Residency Program Director	C and Bundling
Jacquelyn Turner	Clerkship Director	C and DEI
Alison Whelan	AAMC	B
Pamela Williams	Medical Education	A
William Wilson	Public Member	A

Acknowledgements

The UGRC would like to acknowledge the significant contributions of the following individuals, whose efforts were integral to the successful completion of the Committee's charge.

We greatly appreciate the dedication and commitment demonstrated over the past year by the UGRC workgroup leads: Julie Byerley, Susan Enright, Daniel Giang, Karen Hauer, Michelle Roett, and Jennifer Swails. Our public members, Carmen Hooker Odom and Reverend William Wilson, consistently focused our work on our ultimate responsibility, the public good.

Andrea Ciccone (NBME, AOA), served as primary Coalition staff support to the UGRC, and provided invaluable insights, perspectives, and organization.

We sincerely thank our outstanding project manager Chris Hanley (AAMC) and communications director Joe Knickrehm (FSMB). Research librarians Kris Alpi, Robin Champieux, and Andrew Hamilton (Oregon Health & Science University) enthusiastically guided our evidence informed approach. A team consisting of Dana Kerr, Matthew Roumaya, Carol Morrison, Ulana Dubas, and Lauren Foster (NBME) performed the important analysis of the public commentary, while Susan Morris and Sheila FitzPatrick (ABMS) managed graphic design. Our medical writer Victoria Stagg Elliott (AMA) contributed significantly to the creation of this report.

The members of the Coalition Management Committee met throughout this process and offered relevant guidance and context.

Finally, we are eternally grateful to each member of the UGRC, who contributed their time, passion, expertise, and experience from across the arc of medical education, in the common cause of improving the UME-GME transition for all involved, and improving the medical care provided in our society.

Elise Lovell, MD
George Mejicano, MD, MS

UGRC co-chairs

Executive Summary

In the summer of 2020, a Planning Committee of the Coalition for Physician Accountability (Coalition) selected the members of a new committee – the Undergraduate Medical Education (UME) to Graduate Medical Education (GME) Review Committee (UGRC) – and charged them with the task of recommending solutions to identified challenges in the UME-GME transition.[1] The UGRC is pleased to submit this report, which includes the 34 final recommendations for comprehensive improvement of the UME-GME transition, to the Coalition for their consideration and implementation.

Introduction:

The charge to the UGRC stated that there are identified challenges in the transition between medical school and residency that are negatively impacting the UME-GME transition.[1] These challenges include, but are not limited to, the following:

- Disproportionate attention towards finding and filling residency positions rather than on assuring learner competence and readiness for residency training;

- Unacceptable levels of stress on learners and program directors throughout the entire process;

- Inattention to optimizing congruence between the goals of the applicants and the mission of the programs to ensure the highest quality health care for patients and communities;

- Mistrust between medical school officials and residency program personnel;

- Overreliance on licensure examination scores in the absence of valid, trustworthy measures of students' competence and clinical abilities;

- Lack of transparency to students on how residency selection actually occurs;

- Increasing financial costs to students as well as opportunity costs to programs associated with skyrocketing application numbers;

- The presence of individual and systemic bias throughout the transition; and

- Inequities related to specific types of applicants such as international medical graduates.

In recent years, these and related challenges have expanded to the point that they are causing severe strain on the entire system. Simply put, there is an emerging consensus and urgency to bring forth solutions and as stated by the Planning Committee,[1] that the *"UME-GME community is energized at this moment to solve these problems, and should therefore act boldly and fairly with transparency, while thoughtfully considering stakeholder input, and utilizing data when available."*[1]

In addition to understanding the challenges noted above, **the UGRC had to develop a shared concept of what comprises the "UME-GME transition."** Through its deliberations, the Committee came to a collective understanding that the transition encompasses a complex ecosystem involving many individuals and organizations. The transition begins during the preclinical phase of medical school as students consider specialty options, are counseled by

mentors and faculty advisors, and embark on the long journey of professional identity formation. During their clinical years, students participate in patient care in numerous settings and on different rotations, choose a variety of electives, decide on a specialty, prepare application materials, research residency programs, apply to many programs, are offered and partake in interviews, interact with program personnel, are selected through a matching process, undergo hiring and credentialing, complete advanced skills training courses, experience major life transitions, initiate new support structures, begin employment, participate in orientation, assume significantly more patient care responsibilities, and embed themselves within a learning and work environment that they will call home for the next three to seven years. In other words, the UME-GME transition is not simply the application, interview, and match process. Moreover, the transition does not end at the start of orientation to their first year of training. For unmatched students and international medical graduates, the process may take even longer.

As learners navigate through the UME-GME transition, they interact with numerous organizations with jurisdiction over specific components of the process. Each organization plays a role and impacts the success of the transition. However, the ecosystem is not governed by a single entity. In essence, it is a decentralized collection of interdependent parts, each with their own interests, which currently do not communicate effectively or function cohesively. Solutions that bring the components of the transition into better alignment could have many positive outcomes and will likely decrease student costs, reduce work, enhance wellness, address inequities, better prepare new physicians, and enhance patient care.

Background:

In 2018, a national conversation culminated regarding the use of numeric scores associated with medical licensing examinations in residency applicant screening and selection. In response, the chief executive officers of five national organizations (AMA, AAMC, ECFMG, FSMB, and NBME) agreed to co-sponsor an Invitational Conference on USMLE Scoring (InCUS).[2] InCUS took place in March 2019 with a primary goal of reviewing the practice of numeric score reporting. Three of the recommendations that emerged focused on the USMLE:

(a) Reduce the adverse impact of the overemphasis on USMLE performance in residency screening and selection through consideration of changes such as pass/fail scoring;

(b) Accelerate research on the correlation of USMLE performance to measures of residency performance and clinical practice; and

(c) Minimize racial demographic differences in USMLE performance.

In contrast, the fourth InCUS recommendation focused on the UME-GME transition: **Convene a cross-organizational panel to create solutions for the assessment and transition challenges from UME to GME**. The final report from InCUS noted that there was general agreement that changes in scoring of licensure examinations would not address important aspects of the UME-GME transition system that needed attention. *"It was acknowledged that many organizations and stakeholder groups have responsibility for improving this transition. Yet if many are responsible, a concern exists that no one group will take ownership or feel empowered to carry on the broader conversation necessary to bring about appropriate change."*[2]

In September 2019, a proposal was made to the Coalition to convene a UME-GME Review Committee in line with the fourth recommendation from InCUS.[3] As a result, a Planning Committee was created by the Coalition to develop the construct, membership, and charge of the Review Committee, which would be responsible for recommending solutions to identified challenges in the UME-GME transition.[1]

The UGRC's Guiding Principles

As stated above, the UGRC was charged with the task of recommending solutions to identified challenges in the UME-GME transition. Although the Committee was encouraged to act boldly, thoughtfully consider stakeholder input, and utilize data whenever possible, the UGRC's primary goals were to ensure learner competence and readiness for residency and to foster wellness in learners, staff, faculty members, and program directors.[1] In addition, the UGRC was tasked to devote attention to the following items:

- Optimizing fit between applicants and programs to ensure the highest quality health care for patients and communities;

- Increasing trust between medical schools and residency programs;

- Mitigating current reliance on licensure examinations in the absence of valid, standardized, trustworthy measures of students' competence and clinical care;

- Increasing transparency for applicants to understand how residency selection operates;

- Considering the needs of all types of applicants in making its recommendations;

- Considering financial cost to applicants throughout the application process; and

- Minimizing individual and systemic bias throughout the UME-GME transition process.

The UGRC melded these principles into a single tenet that was kept front of mind during its deliberations and related work: above all else, the UME-GME transition must optimally serve the public good. Inherent to that tenet, the Committee consistently focused on the importance of increasing diversity, enhancing equity, and championing inclusion.

The Work of the UGRC

Seven consensus steps prepared the UGRC to successfully accomplish the task of generating recommendations:

- Elaborate the charge to include optimal preparation for residency by leveraging learners' time and experiences between the Match and the initial months of training.

- Require level setting to ensure that all UGRC members had common understanding of the UME-GME transition.

- Use the concept of backward design to envision a future ideal state that helps create a system that produces it.

- Produce Ishikawa diagrams (i.e., fishbones) to determine the root causes that underly the many challenges currently associated with the transition.

- Articulate the desired outcome and understand the root problems before generating solutions.

- Identify potential solutions and innovations described in the literature or implemented by institutions across the country.

- Embrace a consensus approach to endorsing recommendations, informed by available evidence.

Generation and Adoption of Preliminary Recommendations

The UGRC did not begin the process of generating potential solutions to the identified problems of the transition until the work described above was complete. Even then, the generation of the preliminary recommendations was focused and deliberate to ensure that background material could be assembled, that each potential solution

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was thoughtfully considered, and that there was ample time and space to discuss contentious ideas. Each recommendation was linked to the future ideal state as well as to root causes of problems with the transition.

In addition, the co-chairs decided to frame each recommendation in broad terms, to include specific examples on how a recommendation might be implemented, and to list both pros and cons for each potential recommendation. Successful implementation of the UGRC's recommendations relies on the cooperation of multiple entities since the challenges within the transition are interdependent and not under the control of any one organization or stakeholder group. **Recommendations based on principles and that describe characteristics of what can be achieved are more likely to garner support compared to granular recommendations that might be readily dismissed as unrealistic or politically difficult.** In addition, recommendations with a high degree of consensus will be harder to ignore than those adopted by the UGRC by a simple majority.

In April 2021, the UGRC adopted 42 preliminary recommendations organized around 12 themes. The preliminary recommendations and pertinent background material were presented to the Coalition, followed one week later by their widespread release and a call for public comment.

Response to Feedback and Next Steps

Feedback about the preliminary recommendations was obtained from the organizational members of the Coalition as well as from stakeholders through a public, month-long call for comments. This feedback was shared with each member of the UGRC so that input from the Coalition and external stakeholders could inform the Committee's final recommendations. Feedback obtained by the UGRC co-chairs through dialogue with students, program directors, DIOs, medical educators, medical school deans, and international medical graduates – obtained through purposeful outreach to those groups – was considered before finalizing the recommendations.

In response to all feedback, the UGRC made important changes to its preliminary recommendations. The changes included significant editing, clarification, and refinement of language; complete reworking of a recommendation addressing application inflation; and judiciously combining similar ideas to reduce the overall number of recommendations. Of note, 32 of the preliminary recommendations were impacted by the feedback obtained through public commentary.

Further, the co-chairs created a "bundling workgroup" tasked to consolidate similar recommendations, to sequence those that were interdependent with one another, and to re-organize them into more cogent themes. As a result of these efforts, **the UGRC has adopted 34 final recommendations, organized around nine themes, to comprehensively improve the UME-GME transition**. Moreover, the recommendations within each theme are sequenced in chronologic order to guide their implementation. A fully textualized and comprehensive narrative on each recommendation can be found in Appendix C.

The Committee believes that each proposed change will produce positive results and that implementation of the complete set of recommendations will improve the entire transition. The UGRC also recognizes that each recommendation may be categorized as transactional, investigational, or transformational in nature. Though certain recommendations are designed to garner "early wins" by reducing the significant stress felt by students and program directors, the UGRC believes that the transformational recommendations are of greatest importance because they align the medical community with a shared interest to promote the public good.

With the delivery of the 34 final recommendations and this accompanying report, the work of the UGRC is now complete. The Coalition will meet in late summer 2021 to discuss the final recommendations and consider next steps towards implementation.

THEME

Collaboration and Continuous Quality Improvement

RECOMMENDATIONS

1 Convene a national ongoing committee to manage continuous quality improvement of the entire process of the UME-GME transition, including an evaluation of the intended and unintended impact of implemented recommendations.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

One of the challenges in creating alignment and making improvements is the lack of a single body with broad perspective over the entire continuum. This creates a situation where organizations and institutions are unnecessarily and counterproductively isolated, without a shared mental model or mission. A convened committee, that includes learner and public representatives, should champion continuous improvement to the UME-GME transition, with the focus on the public good.

2 In addition to supporting collaboration around the UME-GME transition, this national committee should: develop and articulate consensus around the components of a successful residency selection cycle; explore the growing number of unmatched physicians in the context of a national physician shortage; and foster future research to understand which factors are most likely to translate into physicians who fulfill the physician workforce needs of the public.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

Currently, the medical education community lacks a shared mental model of what constitutes a successful transition from UME to GME, and also what factors predict that success. The lack of agreement leads to conflict over the content of applications as well as the resources required for a residency selection cycle. Success could include simple educational outcomes such as completing training, board certification, or lack of remediation. Alternatively, applicant-specific factors may be more important, such as likelihood of choosing the same program again. Success may be defined solely on the public good, based on the fill rate of programs and the number of physicians practicing in underserved areas. Or, it may be that successful residency selection is institutionally specific based on its mission and community served, with some institutions focused on research and others on rural communities. The committee should articulate the factors associated with a successful residency selection cycle so they can be appropriately emphasized in the UME-GME transition, especially as changes are made to the process.

The committee should report on data trends, implications, and recommended interventions to address the growing number of unmatched physicians. This analysis should include demographic data to examine diversity, specialty disparities in unmatched students, number of applications, grading systems, participation in SOAP, post-SOAP unmatched candidates, match rate in subsequent years of re-entering the match pool, and attrition rates of learners during residency. This recommendation is intended to urge UME programs and institutions to utilize a continuous quality improvement approach and review unmatched graduates by specialties, demographics, number of programs applied to, and clinical grading; to offer alternative pathways; and to add

faculty development for clinical advising. Both UME and GME data would identify patterns within the continuum of medical education that negatively impact unmatched physicians and attrition rates of GME programs. Ideally, shared resources and innovation across the continuum would be identified and disseminated.

Graduates of U.S. medical schools fill many residency positions, which means GME is constrained by the decisions made by U.S. medical school admissions committees. However, international medical graduates are also considered at many programs and provide an opportunity to serve the public good. The committee should foster research to help program directors understand which applicant characteristics are useful indicators to address ongoing medical workforce issues. Further changes to the transition should be informed by evidence whenever possible.

YR2

3 The U.S. Centers for Medicare and Medicaid Services (CMS) should change the current GME funding structure so that the Initial Residency Period (IRP) is calculated starting with the second year of postgraduate training. This will allow career choice reconsideration, leading to improved resident wellbeing and positive effects on the physician workforce.

NARRATIVE DESCRIPTION OF RECOMMENDATION:
Given the timing of the residency recruiting season and the Match, students have limited time to definitively establish their specialty choice. If a resident decides to switch to another program or specialty after beginning training, the hospital may not receive full funding due to the IRP and thus be far less likely to approve such a change. The knowledge that residents usually only have one chance to choose a specialty path increases the pressure on the entire UME-GME transition. Furthermore, educational innovation is limited without flexibility for time-variable training.

Diversity, Equity, and Inclusion

RECOMMENDATIONS

4 Specialty-specific salutary practices for recruitment to increase diversity across the educational continuum should be developed and disseminated to program directors, residency programs, and institutions.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

Recognizing that program directors, residency programs, and institutions have wide variability in goals, definitions, and community needs for increasing diversity, shared resources should be made available for mission-aligned entities, with specialty-specific contributions including successful strategies and ongoing challenges. This recommendation is intended for specialty organizations to perform workforce evaluations and specifically address diversity, equity, and inclusion (DEI) associated with specialty-specific disparities in recruitment.

5 Members of the medical educational continuum must receive continuing professional development regarding anti-racism, avoiding bias, and ensuring equity. Principles of equitable recruitment, mentorship and advising, teaching, and assessment should be included.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

Inclusive excellence requires avoiding bias and improving racial equity; these are essential skills for faculty in today's teaching. Many physicians lack these skills, perpetuating health disparities, lack of diversity, and learner mistreatment. ACGME Common Program Requirements already include specific applicable requirements. This recommendation reinforces the importance of addressing issues related to DEI for all members of the educational community, including residents starting from orientation. This will ultimately promote belonging, eliminate bias, and provide social support.

Trustworthy Advising and Definitive Resources

RECOMMENDATIONS

6 Create an interactive database with verifiable GME program/track information and make it available to all applicants, medical schools, and residency programs and at no cost to the applicants. This will include aggregate characteristics of individuals who previously applied to, interviewed at, were ranked by, and matched for each GME program/track.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

Verifiable and trustworthy GME program/track information should be developed and made available in an easily accessible database to all applicants. Information for the database should be directly collected and sources should be transparent. Each program's interviewed or ranked applicants reflect the program's desired characteristics more accurately than the small proportion of applicants the program matches. Data must be searchable and allow for data analytics to assist with program decision making (e.g., allowing applicants and their advisors to input components of their individual application to identify programs/tracks with similar current residents). Applicants and advisors should be able to sort the information according to demographic and educational features that may significantly impact the likelihood of matching at a program (e.g., geography, scores, degree, visa status, etc.). This database would also provide information on the characteristics of individuals who previously applied to and matched into various specialties.

7 Evidence-informed, general career advising resources should be available for all medical school faculty and staff career advisors, both domestic and international. All students should have free access to a single, comprehensive electronic professional development career planning resource, which provides universally accessible, reliable, up-to-date, and trustworthy information and guidance. General career advising should focus on students' professional development; inclusive practices such as valuing diversity, equity, and belonging; clinical and alternate career pathways; and meeting the needs of the public. Specialty-specific match advising should focus on the individual student obtaining an optimal match.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

Centralized advising resources, developed in collaboration with specialty societies, should reflect a common core, with supplemental information as needed, and be evidence-informed and data-driven. This will fill an information gap and increase the transparency and reliability of information shared with students. Resources should support the unique needs of traditionally underrepresented, disadvantaged, and marginalized student groups. Guidance contained in the resources can support faculty in managing or eliminating conflicts of interest related to recruiting students to the specialty, advising for the Match, and advocating for students in the Match. Advising tools should incorporate strengths-based approaches to career selection. The resources should include the option of nonclinical careers without stigma. Three areas of focus are envisioned: basic advising information, general career advising, and specialty-specific match advising.

Clear and accurate information regarding clinical and nonclinical career choices should be available for all students. The AAMC's Careers in Medicine (CiM) platform achieves some of the aims of this recommendation. The strengths and limitations of CiM should be examined, expanding the content and broadening access to this resource, including to all students (U.S. MD, U.S. DO, IMG) at no cost throughout their medical school training, or at a minimum, at key career decision-making points, in order to support students' professional development. The public good can be prioritized within this resource with content emphasis on workforce strategies to address the needs of the public, including specialty selection and practice location as well as alternative nonclinical career choices. Links to specialty-specific medical student advising resources should also be incorporated.

Basic advising information should be created for all faculty and staff who interact with students to promote common understanding of career advising, professional development, specialty selection, and application procedures; introduce the role of specialty-specific advisors as distinct from other faculty teachers; and minimize sharing outdated or incorrect information with students. General career advising should be differentiated from specialty-specific match advising or specialty recruiting. General career advisors require expertise in career advising; incorporate strengths-based ap-proaches to career selection including the option of nonclinical careers without stigma; focus on professional development; value diversity, equity, and belonging; incorporate the needs of the public; and introduce the role of specialty-specific match advisors. Specialty-specific match advisors should undergo a training process created as part of this resource development that includes equity in advising and mitigation of bias.

8 Educators should develop a salutary practice curriculum for UME career advising.

NARRATIVE DESCRIPTION OF RECOMMENDATION:
Guidelines are needed to inform U.S. MD, U.S. DO, and international medical schools in developing their career advising programs. Standardized approaches to advising along with career advisor preparation (both general and specialty-specific) can enhance the quality, equity, and quantity of advising and improve student trust in the advice. Educators can improve medical student career advising by developing formal guidelines with key recommendations based upon professional development frameworks and competencies. Implementation of such guidelines will result in greater consistency, thoroughness, effectiveness, standardization, and equity of medical school career advising programs to better support students in making career decisions and will lay the foundation for career planning across the continuum.

Outcome Framework and Assessment Processes

RECOMMENDATIONS

9 UME and GME educators, along with representatives of the full educational continuum, should jointly define and implement a common framework and set of outcomes (competencies) to apply to learners across the UME-GME transition.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

A shared mental model of competence facilitates agreement on assessment strategies used to evaluate a learner's progress, and the inferences that can be drawn from assessments. Shared outcomes language can convey information on learner competence with the patient/public trust in mind. For individual learners, defining these outcomes will facilitate learning and may promote a growth mindset. For faculty, defining outcomes will allow for the use of assessment tools aligned with performance expectations and faculty development. For residency programs, defining outcomes will be useful for resident selection and learner handovers from UME, resident training, and resident preparation for practice.

10 To eliminate systemic biases in grading, medical schools must perform initial and annual exploratory reviews of clinical clerkship grading, including patterns of grade distribution based on race, ethnicity, gender identity/expression, sexual identity/ orientation, religion, visa status, ability, and location (e.g., satellite or clinical site location), and perform regular faculty development to mitigate bias. Programs across the UME-GME continuum should explore the impact of bias on student and resident evaluations, match results, attrition, and selection to honor societies.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

Recognizing that inherent biases exist in clinical grading and assessment in the clinical learning environment, each UME and GME program must have a continuous quality improvement process for evaluating bias in clinical grading and assessment and the implications of these biases, including honor society selection. This recommendation is intended to mitigate bias in clinical grading, transcript notations, MSPE reflections of remediation, and residency evaluations. This recommendation is not intended to create requirements for reporting race, ethnicity, gender identity, sexual identity, religion, or ability of learners as data analysis must be limited to data readily available to each school.

11 The UME community, working in conjunction with partners across the continuum, must commit to using robust assessment tools and strategies, improving upon existing tools, developing new tools where needed, and gathering and reviewing additional evidence of validity.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

Educators from across the education continuum should use shared competency outcomes language to guide development or use of assessment tools and strategies that can be used across schools to generate credible, equitable, value-added competency-based information. Assessment information should be shared in residency applications and a post-match learner handover. Licensing examinations should be used for their intended purpose to ensure requisite competence.

Outcome Framework and Assessment Processes

12 Using the shared mental model of competency and assessment tools and strategies, create and implement faculty development materials for incorporating competency-based expectations into teaching and assessment.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

Faculty must understand the purpose of outcomes-focused education, specific language used to define competence, and how to mitigate biases when assessing learners. They must understand the purpose and use of each assessment tool. The intensity and depth of faculty development can be tailored to the amount and type of contact that individual faculty have with students. Clerkship directors, academic progress committees, student competency committee members, and other educational leaders require a more in-depth understanding of the assessment system and how determinations of readiness for advancement are made. This faculty development requires centralized electronic resources and training for trainers within institutions. Review of training materials, and completion of any required activities to document review and/or understanding, should be required on a regular basis.

Away Rotations

RECOMMENDATIONS

13 Convene a workgroup to explore the multiple functions and value of away rotations for applicants, medical schools, and residency programs. Specifically, consider the goals and utility of the experience, the impact of these rotations, and issues of equity including accessibility, assessment, and opportunity for students from groups underrepresented in medicine and financially disadvantaged students.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

Away rotations can be cost prohibitive yet may allow a student to get to know a program, its health system, and surrounding community. Some programs are reliant on away rotations to showcase their unique strengths to attract candidates. Given the multifactorial and complex role that away rotations fulfill, a committee should be convened to conduct a thorough and comprehensive review of cost versus benefit of away rotations, followed by recommendations from that review. Non-traditional methods of conducting and administering away rotations should be explored (e.g., offering virtual away rotations, waiving application fees, or offering away stipends particularly for financially disadvantaged students).

Equitable, Mission-Driven Application Review

RECOMMENDATIONS

14 A convened group including UME and GME educators should reconsider the content and structure of the MSPE as new information becomes available to improve access to longitudinal assessment data about applicants. Short-term improvements should include structured data entry fields with functionality to enable searching.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

The development of UME competency outcomes to apply across learners and the continuum is essential in decreasing the reliance on board scores in the evaluation of the residency applicant. These will take time to develop and implement and may be developed at different intervals. As new information becomes available to improve applicant data, the MSPE should be utilized to improve longitudinal applicant information. In addition, improvements in the MSPE, such as structured data entry fields with functionality to enable searching, should be explored.

15 Structured Evaluative Letters (SELs) should replace all Letters of Recommendation (LORs) as a universal tool in the residency program application process.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

A Structured Evaluative Letter (SEL), which would include specialty-specific questions, would provide knowledge from the evaluator on student performance that was directly observed versus a narrative recommendation. The template should be based on an agreed upon set of core competencies and allow equitable access to completion for all candidates. The SEL should be based on direct observation and must focus on content that the evaluator can complete. Faculty resources should be developed to improve the quality of the standardized evaluation template and decrease bias.

16 To raise awareness and facilitate adjustments that will promote equity and accountability, self-reported demographic information of applicants (e.g., race, ethnicity, gender identity/expression, sexual identity/orientation, religion, visa status, or ability) should be measured and shared with key stakeholders, including programs and medical schools, in real time throughout the UME-GME transition.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

Inequitable distribution of applicants among specialties is not in the best interest of programs, applicants, or the public good. Bias can be present at any level of the UME-GME transition. A decrease in diversity at any point along the continuum provides an important opportunity to intervene and potentially serve the community in ways that are more productive. An example of accountability and transparency in an inclusive environment across the continuum is a diversity dashboard for residency applicants. A residency program that finds bias in its selection process could go back in real time to find qualified applicants who may have been missed, potentially improving outcomes.

Equitable, Mission-Driven Application Review

17 To optimize utility, discrete fields should be available in the existing electronic application system for both narrative and ordinal information currently presented in the MSPE, personal statement, transcript, and letters. Fully using technology will reduce redundancy, improve comprehensibility, and highlight the unique characteristics of each applicant.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

Optimally, each applicant will be reviewed individually and holistically to evaluate merit. However, some circumstances may require rapid review. The 2020 NRMP program directors' survey found that only 49% of applications received an in-depth review. The application system should utilize modern technology to maximize the likelihood that applications are evaluated in a way that is holistic, mission-based, and equitable.

Currently, applications are assessed based on the information that is readily available, which may place undue emphasis on scores, geography, medical school, or other factors that perpetuate bias. Adding specific data gives an opportunity for applicants to demonstrate their strengths in a way that is user-friendly for program directors. Maximizing the amount of accurate information readily available in the application will increase capacity for holistic review of more applicants and improve trust during the UME to GME transition. Although not all schools and programs will align on which information should be included, areas of agreement should be identified and emphasized.

18 To promote equitable treatment of applicants regardless of licensure examination requirements, comparable exams with different scales (COMLEX-USA and USMLE) should be reported within the electronic application system in a single field.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

Osteopathic medical students make up 25% of medical students in U.S. schools and these students are required to complete the COMLEX-USA examination series for licensure. Residency programs may filter out applicants based on their USMLE score leading many osteopathic medical students to sit for the USMLE series. This creates substantial increase in cost, time, and stress for osteopathic students who believe duplicate testing is necessary to be competitive in the Match. A combined field should be created in the Electronic Residency Application Service (ERAS) that normalizes the scores between the two exams and allows programs to filter based only on the single normalized score. This will mitigate structural bias and reduce financial and other stress for applicants.

19 Filter options available to programs for sorting applicants within the electronic application system should be carefully created and thoughtfully reviewed to ensure each one detects meaningful differences among applicants and promotes review based on mission alignment and likelihood of success at a program.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

Currently, residency programs receive more applications than they can meaningfully review. For this reason, filters are sometimes used to identify candidates that meet selection criteria. However, some commonly used filters may exclude applicants who are not meaningfully different from ones who are included (e.g., students who took a different licensure examination, students with statistically insignificant differences in scores, students from different campuses of the same institution, etc.). The use of free text filters increases the risk of not identifying, or mischaracterizing applicant characteristics. All applications should be evaluated fairly, independent of software idiosyncrasies. Filters should be developed in conjunction with all stakeholders. Each filter that is offered should align with the missions and requirements of residency programs.

Equitable, Mission-Driven Application Review

20 Convene a workgroup of educators across the continuum to begin planning for a dashboard/portfolio to collect assessment data in a standard format for use during medical school and in the residency application process. This will enable consistent and equitable information presentation during the residency application process and in a learner handover.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

Key features of a dashboard/portfolio in the UME-GME transition, and across the continuum, should include competency-based information that aligns with a shared mental model of outcomes, clarity about how and when assessment data were collected, and narrative data that uses behavior-based and competency-focused language. Learner reflections and learning goals should be included. Dashboard development will require careful attention to equity and minimizing harmful bias, as well as a focus on the competencies and measurements that predict future performance with patients. Transparency with students about the purpose, use, and reporting of assessments, as well as attention to data access and security, will be essential.

Optimization of Application, Interview, and Selection Processes

RECOMMENDATIONS

21 All interviewing should be virtual for the 2021-2022 residency selection season. To ensure equity and fairness, there should be ongoing study of the impact of virtual interviewing as a permanent means of interviewing for residency.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

Virtual interviewing has had a significant positive impact on applicant expenses. With elimination of travel, students have been able to dedicate more time to their clinical education. Due to the risk of inequity with hybrid interviewing (virtual and in person interviews occurring in the same year or same program), all interviews should be conducted virtually for the 2021-2022 season. Hybrid interviewing (virtual combined with onsite interviewing) should be prohibited.

A thorough review of the data around virtual interviewing is also recommended. Candidate accessibility, equity, match rates, and attrition rates should be evaluated. Residency program feedback from multiple types of residencies should be solicited. In addition, the separation of applicant and program rank order list deadlines in time should be explored, as this would allow students to visit programs without pressure and minimize influence on a program's rank list.

22 Develop and implement standards for the interview offer and acceptance process, including timing and methods of communication, for both learners and programs, to improve equity and fairness, to minimize educational disruption, and to improve wellbeing.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

The current process of extending interview offers and scheduling interviews is unnecessarily complex and onerous, with little to no regulation. Applicant stress and loss of rotation education while attempting to conform to some elements (e.g., obsessively checking emails to accept short-timed interview offers) can be improved with changes to the application platform, policies, and procedures. Development of a common interview offering/scheduling platform and creating policies (e.g., forbidding residency programs to over offer/over schedule interviews and from setting inappropriate time-based applicant replies), would result in important improvements. While these processes are being developed, residency programs involved in the 2021-2022 residency selection season should allow applicants 24 to 48 hours to accept or decline an interview offer. In addition, for the 2021-2022 residency selection season, programs should not offer more interviews to applicants than available interview positions. Likewise, applicants should not accept multiple interviews that are scheduled at the same time.

Optimization of Application, Interview, and Selection Processes

23 Innovations to the residency application process should be piloted to reduce application numbers and concentrate applicants at programs where mutual interest is high, while maximizing applicant placement into residency positions. Well-designed pilots should receive all available support from the medical community and be implemented as soon as the 2022-2023 application cycle; successful pilots should be expanded expeditiously toward a unified process.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

Application inflation is a major problem in the current dysfunction in the UME-GME transition. The 2020 NRMP program director's survey found that only 49% of applications received an in-depth review; an unread application represents wasted time and expense for applicants. Yet doubling the program resources available for review is not practical. Informational interventions – like improved career advising and transparency – are unlikely to reduce application numbers significantly in the context of a high stakes prisoner's dilemma. In sum, the current process is costly to applicants and program directors and does not optimally serve the public good.

To address this dysfunction, Coalition organizations and other groups in the medical community should utilize all available logistic, analytic, and financial resources to lead and support innovative pilots to reduce application numbers and concentrate applicants at programs where mutual interest is high, while maximizing applicant placement into residency positions. Pilots should be based on best available evidence, specialty-specific needs, potential impact (both positive and negative), and collaboration among stakeholders. Pilot innovations, some of which are ongoing, could include, but are not limited to, the following: expanding integrated UME-GME pathways, preference signaling, application caps, and/or additional application or match rounds.

Groups sponsoring pilots should be accountable for using a continuous quality improvement approach to gather and monitor evidence of effectiveness and equity across applicant groups with historically distinct application behaviors and outcomes, including United States MD and DO graduates, international medical graduates, couples applicants, previously unmatched applicants, and individuals belonging to groups that are underrepresented in medicine.

While pilot studies may vary across specialties, ultimately the redesigned residency application process should be as consistent as possible across specialties, recognizing that applicants, advisors, and program directors may be subject to the rules of multiple specialties in the context of combined tracks, couples, and dual applicants.

24 Implement a centralized process to facilitate evidence-based, specialty-specific limits on the number of interviews each applicant may attend.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

Identify evidence-based, specialty-specific interview caps, envisioned as the number of interviews an applicant attends within a specialty above which further interviews are not associated with significantly increased match rates, across all core applicant types. Create a centralized process to operationalize interview caps, which could include an interview ticket system or a single scheduling platform.

Educational Continuity and Resident Readiness

RECOMMENDATIONS

25
Early and ongoing specialty-specific resident assessment data should be automatically fed back to medical schools through a standardized process to enhance accountability and to inform continuous improvement of UME programs and learner handovers.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

Instruments for feedback from GME to UME should be standardized and utilized to inform gaps in curriculum and program improvement. UME institutions should respond to the GME feedback on their graduates' performance in a manner that leads to quality improvement of the program.

26
Develop a portfolio of evidence-based resident support resources for program directors, designated institutional officials (DIOs), and residency programs. These will be identified as salutary practices, and accessible through a centralized repository.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

A centralized source of resident support resources will assist programs with effective approaches to address resident concerns. This will be especially relevant for competency-based remediation and resident wellbeing resources in the context of increased demand for support around the UME-GME transition. Access for programs and program directors will be low/no cost, confidential, and straightforward.

27
Targeted coaching by qualified educators should begin in UME and continue during GME, focused on professional identity formation and moving from a performance to a growth mindset for effective lifelong learning as a physician. Educators should be astute to the needs of the learner and be equipped to provide assistance to all backgrounds.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

Coaching can benefit a student's transition to become a master adaptive learner with a growth mindset. While this transition should begin early in medical school, it should be complete by the time that the student moves from UME to GME. If a learner does not transition to a growth mindset, their wellness and success will be compromised. The addition of specific validated mentoring programs (e.g., Culturally Aware Mentoring) and formation of affinity groups to improve sense of belonging should be considered.

28 Specialty-specific, just-in-time training must be provided to all incoming first-year residents, to support the transition from the role of student to a physician ready to assume increased responsibility for patient care.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

The intent of this recommendation is to level set incoming resident preparation regardless of medical school experience. Recent research has shown that residents reported greater preparedness for residency if they participated in a medical school "boot camp," and participation in longer residency preparedness courses was associated with high perceived preparedness for residency. This training must incorporate all six specialty competency domains and be conducive to performing a baseline skills assessment. These curricula might be developed by specialty boards, specialty societies, or other organized bodies. To minimize costs, specialty societies could provide centralized recommendations and training could be executed regionally or through online modules.

29 Residents must be provided with robust orientation and ramp up into their specific program at the start of internship. In addition to clinical skills and system utilization, content should include introduction to the patient population, known health disparities, community service and engagement, faculty, peers, and institutional culture.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

Improved orientation to residency has the potential to enhance trainee wellbeing and improve patient safety. Residents should have orientation that includes not only employee policies, but also education that optimizes their success in their specific clinical environment. Residents, like other employees, should be paid for attending orientation.

30 Meaningful assessment data based on performance after the MSPE must be collected and collated for each graduate, reflected on by the learner with an educator or coach, and utilized in the development of a specialty-specific, individualized learning plan to be presented to the residency program to serve as a baseline at the start of residency training.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

Guided self-assessment by the learner is an important component in this process and may be all that is available for some international medical graduates. This recommendation provides meaning and importance for the assessment of experiences during the final year of medical school (and possibly practice for some international graduates), helps to develop the habits necessary for life-long learning, and holds students and schools accountable for quality senior experiences. It also uses the resources of UME to prepare an individualized learning plan (ILP) to serve as a baseline at the start of GME. This initial ILP will be refined by additional assessments envisioned as an "In-Training Examination" (ITE) experience early in GME. The time for this experience should be protected in orientation, and the feedback should be formative similar to how most programs manage the results of ITEs. This assessment might occur in the authentic workplace and based on direct observation or might be accomplished as an Objective Structured Clinical Exam using simulation. This assessment should inform the learner's ILP and set the stage for the work of the clinical competency committee of the program.

Health and Wellness

RECOMMENDATIONS

31 Anticipating the challenges of the UME-GME transition, schools and programs should ensure that time is protected, and systems are in place, to guarantee that individualized wellness resources – including health care, psychosocial supports, and communities of belonging – are available for each learner.

NARRATIVE DESCRIPTION OF RECOMMENDATION:
Given that the wellness of each learner significantly impacts learner performance, it is in the program and public's best interest to ensure the learner is optimally prepared to perform as a resident. There should be a focus on applying resources that are already available rather than depending on the creation of new resources. Examples of wellness resources include enrollment in health insurance, establishing with a primary care provider and dentist, securing a therapist if appropriate, identifying local communities of belonging, and other supports that optimize wellbeing. These resources may especially benefit the most vulnerable trainees.

32 Adequate and appropriate time must be assured between graduation and learner start of residency to facilitate this major life transition.

NARRATIVE DESCRIPTION OF RECOMMENDATION:
The transition from medical school to residency typically marks a concrete transition from paying for education to becoming a fulltime employee focused on the lifelong pursuit of professional improvement. This transition is life changing for many. It often requires a move from one location to another, sometimes across the world. There must be time for licensing and in some cases, visa attainment. Often this life transition is accompanied by other major life events such as partnering or childbearing. Once residency starts, the learner may work many hours each week and may have little time to establish a home. Thus, it is important for wellness and readiness to practice that adequate time be provided to accomplish this major life transition.

The predictability of this transition must be recognized by both UME and GME institutions, and cooperation on both sides is required for this transition to be accomplished smoothly. There is a desire to overall better prepare learners for the start of residency, and an assured transition time would allow related recommendations to be more easily accomplished.

33 All learners need equitable access to adequate funding and resources for the transition to residency prior to residency launch.

NARRATIVE DESCRIPTION OF RECOMMENDATION:
As almost every learner graduating from medical school transitions to residency, the need to fund a geographic move and establishment of a new home is predictable. This financial planning should be incorporated into medical school expenses, for example through equitable low interest student loans. Options to support the transitional expenses of international medical graduates should also be identified. These costs should not be incurred by GME programs.

34 There should be a standardized process throughout the United States for initial licensing at entrance to residency to streamline the process of credentialing for both residency training and continuing practice.

NARRATIVE DESCRIPTION OF RECOMMENDATION:

To benefit the public good, costs to support the U.S. healthcare workforce should be minimized. To this end, all medical students should be able to begin licensure earlier in their educational continuum to better distribute the work burden and costs associated with this predictable process. When learners are applying to programs in many different states, the varied requirements are unnecessarily cumbersome. Especially for states where a training license is required, the time between the Match and the start of the first year of residency is often inadequate for this purpose. This is a potential cost saving measure.

The Learner's Journey

The UME-GME transition encompasses a complex ecosystem. As learners navigate through the UME-GME transition, they interact with numerous organizations with jurisdiction over specific components of the process. However, the ecosystem is not governed by a single entity.

1 Committee to Manage CQI across Transition

2 Residency Selection and Physician Workforce Research

3 IRP Reform

Professional Identity Formation

16 Sharing Applicant Demographics to Improve Diversity

10 CQI to Mitigate Bias across Transition

5 DEI Education Across the Continuum

4 Specialty Specific Practices to Increase Diversity

Medical schools and programs have a responsibility to promote equity and diversity across the continuum

7 Career Advising Resources

8 Career Advising Curriculum

27 Coaching for Professional Identity Formation

Throughout the transition, learners are being assessed, including through preclinical course examinations, rotation evaluations, and licensure examinations

9 Common Competencies across Transition

11 Improved Assessment Tools

12 Competency Based Faculty Development Materials

25 Feedback from GME to UME

Final Year

13 Review of Away Rotations

Research Residency Programs

6 Interactive GME Database

24 Interview Limits

22 Standards for Interview Offer and Acceptance Process

21 Virtual Interviews for 2021-2022

Offered and Partake in Interviews

20 Standardized Dashboard and Portfolio for Learners

19 Review of Filter Content and Use

17 Electronic Application System Improvements

18 Reporting Licensure Exams in a Single Field

15 Structured Evaluative Letters

14 MSPE Revision

Apply to Many Programs

Prepare Application Materials

Selection Process

23 Residency Application Process Innovations

28 Specialty Specific Residency Preparation

29 Improved Residency Program Orientation

30 UME to GME ILP Handoff

Initiate Support Structures

26 Centralized Resident Support Resources

31 Wellness Resources for the Transition

Major Life Transitions

Hiring and Credentialing

34 Standardized Process for Initial Licensing

Medical School Graduation

Residency Preparedness

32 Assured Time Between UME and GME

33 Equitable Access to Funding for Transition

Embed in Learning and Work Environment

Legend

- ● Collaboration and Continuous Quality Improvement
- ● Diversity, Equity and Inclusion
- ● Trustworthy Advising and Definitive Resources
- ● Outcome Framework and Assessment Processes
- ● Away Rotations
- ● Equitable Mission-Driven Application Review
- ● Optimizing Application, Interview and Selection Processes
- ● Educational Community and Resident Readiness
- ● Health and Wellness

UGRC Process

In the summer of 2020, a Planning Committee of the Coalition selected the members of the UGRC and charged them with the task of recommending solutions to identified challenges in the transition. The following is a description of the work process of the UGRC.

ORIGIN OF THE UGRC

In 2018, a national conversation culminated regarding the use of numeric scores associated with medical licensing examinations in residency applicant screening and selection. In response, the chief executive officers of five national organizations agreed to co-sponsor an Invitational Conference on USMLE Scoring (InCUS) in March 2019, with the primary goal of reviewing the practice of numeric score reporting. Three recommendations that emerged focused on the USMLE, however the fourth InCUS recommendation focused on the UME-GME transition: **Convene a cross-organizational panel to create solutions for the assessment and transition challenges from UME to GME.**

In September 2019, a proposal was made to the Coalition to convene a UME-GME Review Committee in line with the fourth recommendation from InCUS. The Coalition's members are the national organizations responsible for the oversight, education and assessment of medical students and physicians throughout their medical careers.[4] As a result, a Planning Committee was created by the Coalition to develop the construct, membership, and charge of the Review Committee, which would be responsible for recommending solutions to identified challenges in the UME-GME transition.[1] In January 2020, a call for nominations was issued for individual representatives to the Planning Committee from undergraduate medical educators, residency program directors, learners, and the public. The Coalition's Management Committee selected the individual members of the Planning Committee from over 60 responses. In addition, organizational representatives from AACOM, AAMC, AOGME, ECFMG, NBME, NBOME, and OPDA were appointed to the Planning Committee.

The Planning Committee met in March 2020 and identified the construct and structure of the UGRC, developed a process for selecting its members, and determined the key questions that the UGRC should consider. The Planning Committee discussed the scope of the UGRC and organized pertinent issues into three broad themes: (a) preparation and selection for residency, (b) the application process, and (c) overall considerations such as diversity and specialty specific competencies. The Planning Committee also spelled out the timeline, deliverables, expectations, and composition of the UGRC. An open call for nominations took place in May and June of 2020 and the Planning Committee reviewed 183 applications to populate a balanced UGRC that included undergraduate and graduate medical educators, organizational members, public members, students, and residents. Care was taken to ensure that multiple perspectives would be represented on the UGRC, including type of degree (DO and MD), racial and ethnic diversity, range of specialties, geographic distribution, and persons with a focus on undergraduate medical education (faculty and deans) and graduate medical education (program directors and DIOs). All UGRC members were selected in July, the co-chairs were named in August, and the UGRC held its first meeting in September 2020.

UGRC STRUCTURE

The UGRC was led by an Executive Committee comprised of the two co-chairs, the lead Coalition staff member, and the four original workgroup leads. The co-chairs and lead staff member initially created four workgroups to optimize group dynamics and distribute Committee work in an organized fashion. Because the charge from the Planning Committee included an ambitious start-to-finish timeline (September 2020 to June 2021), this structure allowed groups to work in parallel and delve more deeply into assigned tasks. Beyond the individual workgroup areas of focus, all workgroups also included four overall cross-cutting themes throughout their deliberations: diversity, equity, inclusion, and fairness; wellbeing; specialty focus; and the public good. Finally, the four original workgroups were asked to develop research questions and to consider next steps after the UGRC completed its charge, both of which were needed to help implement final recommendations and to inform future discussions out of scope of the UGRC. In February 2021, the co-chairs created a fifth workgroup to ensure that the UGRC appropriately addressed the critical issues of diversity, equity, and inclusion (DEI). Finally, in April 2021, the co-chairs tasked a sixth "bundling workgroup" to consolidate similar recommendations, sequence interdependent recommendations, and re-organize the final recommendations into more cogent themes.

The UGRC was assisted in its work process by generous staff support from Coalition member organizations, including a project manager, communications director, medical writer, survey analysts, and graphics designers. Medical librarians searched the literature to support an evidence-informed approach.

UGRC Workgroup Focus Areas
Workgroup A: Ensuring Residency Readiness
General competencies
Selection of residency/specialty field
Workgroup B: Mechanics of the Application/Selection Process from the UME Perspective
Information sharing
Application content
Application mechanics
Workgroup C: Mechanics of the Application/Selection Process from the GME Perspective
Information sharing
Application process
Interviewing
The Match
Workgroup D: Post-Match Optimization
Optimizing UME by enhancing residency readiness
Optimizing GME by ensuring patient safety
Information sharing
Feedback to UME
DEI Workgroup: Focus on Diversity, Equity, and Inclusion
Bundling Workgroup: Consolidation, Sequencing, and Reorganization of Themes

FOUNDATIONAL WORK PROCESS OF THE UGRC

Between September 2020 and June 2021, the entire UGRC met virtually on six separate occasions. Each of these meetings consisted of multiple sessions spread over two or three days. In addition, a special session of the UGRC occurred on April 5, 2021, to reconsider several initial recommendations. In between the full Committee meetings, each workgroup met intermittently to fulfill its tasks. A summary was widely distributed to the public after each Committee meeting to update the community on the UGRC's progress to date. Further, the UGRC issued three explicit calls for external stakeholder engagement. The first one occurred in December 2020 and focused on envisioning the ideal state of the UME-GME transition. The second occurred in March 2021 and focused on descriptions of current innovations to improve the UME-GME transition. The third opened in late April 2021 and specifically asked for feedback on the UGRC preliminary recommendations.

1 The first virtual meeting of the UGRC occurred in September 2020. Seven consensus ideas quickly emerged on how to manage the work of the Committee. First, the members agreed that the UME-GME transition encompassed far more than preparation, application, and selection for residency. This led to an **elaboration of the charge** to include both optimal preparation for caring for patients early in residency as well as considerations on how to leverage learners' time and experiences between the Match and the initial months of training. In other words, the successful transition requires adopting and valuing a growth mindset, accompanied by a dramatic change in focus where the emphasis shifts away from being student-centric and towards being patient-centric.

2 Second, it was evident that **level setting** was needed to ensure that all UGRC members had common understanding of the UME-GME transition because not all UGRC members were knowledgeable about each aspect and component of the transition ecosystem. To address this problem, the co-chairs called upon members of the UGRC, or in some cases employees of Coalition organizations, to create a series of video presentations (i.e., voice over power points) that members could watch asynchronously. The video presentations helped all the UGRC members reach a baseline level of understanding about the transition.

3 Third, there was a strong sentiment that the Committee should approach its work using the concept of backward design (i.e., first imagine an idealized desired state and then think about how to create a system that produces it). Each UGRC workgroup spent two months **envisioning an idealized state** for their area of focus, and then the workgroup leaders harmonized them into a single ideal state for the UME-GME transition. As described earlier in this report, the finished product included elements of the overall ecosystem and addressed wellness, specialty selection, learner selection, competence, continuum and handoff, technology, licensing and credentialing, life transition, residency launch, and residency environment. This exercise allowed the UGRC to articulate a blue-sky definition of success for an equitable, efficient, and transparent system across the UME-GME transition.

In December 2020, the UGRC released a survey designed to engage external stakeholder organizations about what should be included in the ideal state. Thirty-two organizations responded to the survey and the ideas they shared were organized into eight themes, each of which had been identified by the UGRC workgroup leads when creating the Committee's harmonized ideal state. Thus, this first call for stakeholder engagement did not result in any substantive changes to what the UGRC had created. The UGRC's shared vision of the ideal state has guided its ongoing work.

4 The fourth consensus idea was that the UGRC should approach the identified challenges in a systematic manner to unearth the root causes of problems with the current UME-GME transition. Thus, four workgroups spent many weeks discussing why identified challenges existed and why they persisted. This series of exercises produced workgroup-specific **Ishikawa diagrams (i.e., fishbones)** that identified myriad problems underlying the identified challenges associated with the transition. Each fishbone was presented to the entire Committee so that UGRC members could reflect on the problems found by each of the four workgroups. To ensure that the root cause analyses were sound, UGRC members responded to a series of provocative questions designed to challenge common assumptions about the transition, and they were then asked to rate which problems were most important to address. The Ishikawa diagrams are included in Appendix B of this report.

5 Importantly, the fifth consensus idea that the UGRC agreed upon was to avoid premature discussion or advocacy for any specific solution to the identified challenges of the UME-GME transition. The idea was simple: **articulate the desired outcome and understand the root problems before generating solutions**. Discussion about possible remedies was not permitted until the UGRC had created a shared ideal state for the UME-GME transition and each workgroup had completed its root cause analysis (i.e., Ishikawa diagram). Indeed, even after both exercises were finished, the UGRC took the time to examine the ecosystem for components of the current UME-GME transition that worked well. This exercise helped identify current aspects and processes that should be preserved.

6 In January 2021, the UGRC began to brainstorm solutions to the root causes identified by the workgroups. These brainstorming sessions occurred in both the workgroups and meetings of the entire Committee. The UGRC used a virtual white board to help with discussion, dissection, debate, and refinement of ideas before they could be incorporated into recommendations. At this stage, the UGRC's sixth consensus idea was set into motion, which was simply "to not reinvent the wheel." Thus, a concerted effort was made to **identify potential solutions and innovations** described in the literature or implemented by institutions across the country.

In February 2021, the UGRC released a second call for external stakeholder input. This effort to engage stakeholders asked individuals and organizations to share innovations that had been implemented to address concerns about the UME-GME transition. In total, 35 responses containing 39 self-described innovations were submitted for review to the UGRC. Of note, a majority of the innovations submitted through this process had previously been identified by the Committee.

7 Lastly, the seventh consensus idea was to **strive to be evidence-based whenever possible**. To that end, the UGRC secured the services of three research librarians who could search the literature and public databases when a member or a workgroup had a question about an issue. UGRC members had hopes of generating recommendations that were data-driven and evidence-based. However, relatively few aspects of the UME-GME transition have undergone systematic review. Similarly, many innovations described in the literature are descriptive in nature without generalizable outcomes. This led the co-chairs to embrace a consensus approach to endorsing recommendations, informed by available evidence, as opposed to identifying evidence-based recommendations.

GENERATION AND ADOPTION OF RECOMMENDATIONS

By February 2021, the workgroups had begun the process of forming preliminary recommendations for the entire UGRC to consider. As those efforts progressed, the workgroup leaders identified two issues that required attention by the co-chairs. The first was to provide a forum for contentious issues to be discussed by the full UGRC, and the second was to provide guidance regarding the level of granularity for the recommendations. To address the first concern, the co-chairs asked each workgroup leader to select a few recommendations that might generate disagreement, and the majority of the February UGRC meeting was devoted to discussion and debate about these topics. To address the second issue, a template was created that included instructions on how to frame each recommendation in broad terms, and to include specific examples on how a recommendation might be implemented.

The initial recommendation template was designed to be comprehensive and included the following ten fields: recommendation; narrative description; specific examples of how the recommendation might be implemented; questions for librarians; known citations or references; organizations or stakeholders that could help implement the recommendation; links to the ideal state and Ishikawa diagrams; cross-cutting themes that are impacted; potential desired outcomes and consequences; potential barriers to implementation; and future research questions. The co-chairs later created a streamlined version of the templates that accompany each of the UGRC's final recommendations. All 34 templates are included in Appendix C. Importantly, the templates provide essential background information, supporting evidence, important context, and the rationale for each UGRC recommendation.

As the groups worked to refine their recommendations and complete the templates, the co-chairs devised a process for sharing, presenting, adopting, reconsidering, and editing the preliminary recommendations from each workgroup. The co-chairs determined that **a super majority of 67% (two-thirds of the members present) would be required to adopt a recommendation**, and that the process would allow any member who had concerns to bring them forward and propose edits that would facilitate a vote to adopt. In other words, the underlying philosophy was for the Committee to "get to yes" and achieve a high degree of consensus. Importantly, each recommendation brought to the full Committee was sponsored by one of the workgroups, whose members had more thoroughly debated and thought through pertinent issues.

The UGRC met virtually in March 2021, to take decisional votes on each recommendation proposed by the four main workgroups. In total, the workgroup leaders presented 41 recommendations to the UGRC. Each presentation included (a) the recommendation, (b) the narrative description, (c) components that each recommendation required (i.e., "must haves") as well as those that would be "nice to have," and (d) a table outlining pros and cons of the recommendation. The presentation was followed by a facilitated discussion that allowed members to ask questions, seek clarifications and raise concerns about the proposed recommendation. Potential edits to the recommendation were also entertained, followed by a binding vote to either adopt or not adopt the recommendation as written. Of the 41 recommendations initially presented, 36 were adopted with at least a 67% majority, and five were not adopted.

Workgroups that had proposed a recommendation that was not adopted were given the option of altering the recommendation and asking for the modified recommendation to be reconsidered. In addition, every member was allowed to propose new recommendations. However, only the DEI workgroup used that mechanism to propose new recommendations. The new recommendations, together with the recommendations being reconsidered, were processed in the same manner as the original 41 recommendations (i.e., a preliminary vote, presentation of the recommendation, facilitated discussion, and entertainment of suggested edits). When the UGRC convened for a special session in April 2021, six more recommendations were adopted (three altered recommendations brought back for reconsideration and three new recommendations related to diversity, equity, and inclusion).

In total, the UGRC adopted 42 preliminary recommendations, organized under 12 themes: oversight; advising of learners; competencies and assessments; away rotations; diversity, equity, and inclusion in medicine; application process; interviewing; matching process; faculty support resources; post-match transition to residency; policy implications; and research questions. The preliminary recommendations and pertinent background material were presented to the Coalition in April 2021, followed one week later by their widespread release and a one-month call for public comment. The preliminary recommendations of the UGRC can be found in Appendix D.

The solicitation for public comment was facilitated by the creation of a digital survey instrument with a prominent link on the Coalition's website. The link was made widely available to interested parties and all stakeholder groups. The call for public comment was disseminated through numerous communication channels including social media platforms, email distribution lists, outreach presentations, and individual networks. In addition, periodic reminders were issued throughout the open call to increase the number of responses
.
In total, the survey instrument collected 2,673 comments from 768 distinct respondents during the period of time that the survey was administered. Of these responses, 13.7% were submitted on behalf of an organization or group in an official capacity, which accounted for 21.2% of the overall comments. The survey responses were analyzed as follows by a team from the NBME with expertise in qualitative and quantitative methods.

Prior to the survey administration window, UGRC stakeholders were asked to provide a list of potential codes or topics that would likely be discussed in the respondents' comments. After the first week of the survey administration window, four NBME staff members read portions of the response data and identified a list of potential thematic codes. The list of codes was presented to UGRC stakeholders for review and approval. The four NBME staff members then coded the first two weeks of comments using the initial codebook. Subsequently, through an iterative process, additional codes and tags were added, which resulted in a final set of agreed-upon codes and tags. The final codebook was used by the NBME staff members to code the remainder of responses in weekly batches. Two NBME staff members reviewed 10% of all coded comments from the first two weeks of

the survey window to ensure that codes were being adequately and accurately used. This review resulted in the application of additional codes to the comments and not to the deletion of previously applied codes. Through discussion, NBME staff members also attended to their reactions to the responses, their backgrounds, and their potential biases. To clarify relationships between associated codes, codes were organized using a parent-child code structure in which a parent code could include any number of subcategories, or "children." In all tables and figures in the results section, an asterisk was used to indicate which of the codes are parent codes. If a child code was applied to a free-text response, its parent code was also applied or "upcoded." All free-text responses were also assigned sentiment (*agree, disagree,* or *mixed*) when distinct sentiment was expressed in a comment. Additionally, a list of tags was applied to all free-text responses when applicable. The full report from the team was made available to all Committee members before the UGRC's recommendations were finalized. This report from the NBME team can be found in Appendix E.

To prepare for the June 2021 UGRC meeting, multiple members of the UGRC's Executive Committee read the survey report in full, and five workgroup leaders were assigned to summarize commentary about each of the preliminary recommendations. In addition to the information contained in the survey report, feedback from the organizational members of the Coalition and input obtained by the co-chairs through dialogue with students, program directors, DIOs, medical educators, medical school deans, and international medical graduates was shared with each member of the UGRC to inform the Committee's final recommendations. During the June meeting all stakeholder feedback, strategies for consolidating and sequencing the recommendations, and reconsidered themes were presented, discussed, and finalized. New language for the recommendation addressing application inflation was also proposed, discussed, and adopted. As a result of these efforts, the UGRC adopted 34 final recommendations organized around nine themes. Moreover, the recommendations within each theme are sequenced in chronologic order to guide their implementation.

FINAL STEPS

The Executive Committee was responsible for writing this final report on behalf of the UGRC. The report includes the templates created by the workgroups as well as input from all members of the Committee. There are ongoing discussions regarding possible opportunities for scholarly activity with the purpose of codifying and further sharing the work of the Committee. The UGRC co-chairs will deliver this final report to the Coalition in mid-July 2021, and the UGRC will disband shortly thereafter. The Coalition will then meet in late July to consider adoption of the recommendations and determine next steps towards implementation.

Future Ideal State

From the outset, the UGRC agreed to envision an idealized future state for the transition from UME to GME before developing any recommendations. The idea was to use the concept of backward design so that the UGRC could identify the characteristics of a system that would create that ideal state. What would success look like if the transition worked as a cohesive ecosystem that served all learners, faculty, clinical supervisors, and patients?

Beginning with the first virtual meeting of the UGRC in September 2020, four UGRC workgroups spent two months conceptualizing an idealized state for their area of focus:
- Ensuring Residency Readiness
- Mechanics of the Application/Selection Process from the UME Perspective
- Mechanics of the Application/Selection Process from the GME Perspective
- Post-Match Optimization

The workgroup leaders then harmonized each component into a composite ideal state for the UME-GME transition. Soon thereafter, a public comment period was opened to solicit additional ideas from external stakeholders. In total, 32 organizations responded. Overall, the stakeholder input affirmed the concepts developed by the UGRC and led to an improvement in clarity and wording but did not result in substantive content changes to the UGRC's proposed ideal state. The finalized composite ideal state for the UME-GME transition guided the UGRC's ongoing work and addressed the following areas: wellness, specialty selection, learner selection, competence, continuum, handoff, technology, licensing, credentialing, life transition, residency launch, and residency environment.

THE IDEAL STATE

Overall

The foundation of the ideal state as envisioned by the UGRC is a set of core values and concepts. The ideal UME-GME transition is equitable, coordinated, efficient, transparent, and cohesive. It is an ecosystem that supports each learner's growth, evidence-informed specialty selection, achievement of competence, and maintenance and improvement of wellness. Learners progress from medical school to a residency program in a manner that acknowledges each learner's unique strengths and learning needs and optimizes professional identity formation. The components of the transition balance the tension between individual freedoms and the public good and provide trustworthy documentation of competence across the continuum using reliable assessment tools that generate meaningful information for learners, educators, and where appropriate, regulators. Additionally, the UME-GME transition is flexible and adaptable to changes in medical education and the health care system, with a commitment to continuous quality improvement.

Key to the success of the ideal state is a commitment to the broad inclusion of students, educators, schools, programs, and the public in the design, evaluation, and continuous improvement of the UME-GME transition. Stakeholders are transparent and reliably provide necessary information to each other; stakeholders are trusting and trustworthy.

Costs, financial and otherwise, are right-sized throughout the process to maximize value, acknowledge conflicts of interest, and allocate resources to advance the public good. Learners are prepared to serve diverse patient populations, minimize disparities, and elevate equity as they execute the social mission of medicine and its contract

with the public. Diversity is present and valued throughout all specialties, programs, and geographic areas. Appropriate action is taken to mitigate racism and harmful bias throughout the medical education and health care systems. Faculty, learners, and the system structure cultivate inclusive learning environments that foster a growth mindset. Medical students are provided reliable, high quality advising, and are ultimately responsible for their own career progression after medical school.

Wellness

An ideal state for the UME-GME transition optimizes wellbeing for all involved. For learners, the financial challenges of applying and transitioning to residency and being a resident are minimized. Learners have adequate funding to establish and maintain their new living arrangements and focus on their training. There is adequate but not excessive time for the geographic move from medical school to residency. GME programs facilitate the creation of supportive social networks for each learner with special consideration of the needs of those from underrepresented backgrounds. A focus on health and wellbeing is integral throughout the transition.

Specialty selection

Specialty selection can be an especially fraught process for learners and impacts the effectiveness of the entire health system. In an ideal state, medical schools have a structured approach to career advising that begins early, is based on professional development frameworks and competencies, is integrated within an educational program, provides broad exposure, and aligns with the needs of society. The culture of career advising programs is inclusive, trustworthy, non-judgmental, and equitable for all students. Advising tools are high quality, interactive, honest, and readily available.

Educators determining the structure for UME and GME programs as well as those providing advice, mentorship, or coaching to learners recognize career indecision as a normal part of professional formation and permit flexibility for undecided learners at key transition points. This includes allowing non-standard timelines and nonclinical careers as necessary. Students are supported by both UME and GME to seek specialties based on a holistic assessment of their aptitude and goals that allows learners to be aspirational about their ambitions while pragmatic about their possibilities. This support includes access to trustworthy, data-driven resources. Students are informed about the workforce needs of society. They are advised against contributing to a culture of competition.

Learner selection

While learners are challenged by specialty selection, GME programs are challenged by learner selection. In an ideal state for learner selection that benefits GME programs, learners, and most importantly patients, all residency programs receive applications from individuals with a sincere interest in attending and who are academically prepared and aligned with the program and institutional mission. Every program receives enough applications to fill their class and has sufficient resources to conduct a holistic review of the applications received. Interviews are offered and scheduled to promote student wellness and minimize conflict with ongoing rotations. There are ample interview slots for those invited. Applicants interview only with programs they are likely to attend if accepted. Away electives broaden educational exposure but are not essential for successful residency selection.

Applicants are certified by their medical school as fully prepared and trustworthy for residency training. There is social accountability and transparency for medical schools in the validity of this certification. Residency programs have information regarding current competence of an applicant, the trajectory of their growth during medical school, and the accuracy of measurements. These details are available in some form for all applicants in the Match including U.S. medical graduates (MD and DO), U.S. citizen international medical graduates (IMGs), and non-U.S. IMGs. Programs receive early notice about any student performance concerns. These are described clearly, in context, and with a description of the resources required for remediation or ongoing support.

Competence

The ideal state for learner selection requires an ideal state for the definition, assessment, and assuredness of competence, wherein graduated medical students are prepared to serve as physicians in training. They are facile with the appropriate knowledge, skills, and efficiency and have advancing professional identity and a confident humility. They are prepared for the realities of residency and a physician's career. They are trustworthy to practice under supervision, asking for help when needed.

A shared mental model of competency across the medical education continuum exists in the ideal state that involves a standardized set of general competencies as well as specialty-focused competencies for certain domains such as patient care and medical knowledge. Faculty development clarifies expectations for faculty with learners at each level of training, teaches remediation strategies, and describes how patient safety is ensured. Educators define those competencies that programs believe, and data support, are the best predictors of a learner's abilities to succeed. Reliable and valid standardized assessment tools document competence. All medical students engage in specialty-aligned knowledge and skills training during the final year of medical school to achieve the defined general and specialty-focused competencies.

Continuum and Handoff

This ideal state for competence smooths a learner's way along the continuum of medical education and allows for seamless handoffs between stages. The timeline for this continuum prioritizes competence, and learners, along with educators and institutions, approach training with a growth mindset and value lifelong learning. Students have the time, space, and coaching to reflect on their growth and progress, grieve losses associated with the transition to residency, and emotionally prepare for the launch of residency.

Areas for growth and gaps in a learner's knowledge or skills are recognized and addressed by medical school educators and GME programs as well as by themselves. Educators and learners value a learner's competence in identifying knowledge and skills gaps and together enact interventions for improvement. Assessment data from the end of medical school are utilized to create an evidence-informed handover, engaging the learner in the process and establishing directed self-learning. These data do not negatively affect a learner's career.

Technology

An ideal UME-GME continuum is supported by useful technology that facilitates holistic review through a common, structured format that is trustworthy and searchable. Such technology allows programs to find applicants based on multiple academic metrics, details of clinical and life experiences, and additional attributes. The integration of information from schools, letter writers, and applicants allows programs to identify U.S. MD and U.S. DO students and IMGs who will succeed at their programs. Applicants are identified by what they desire in a program, including but not limited to a specific program, program experiences, or program mission. Evidence-based assessments are available, meaningful, trustworthy, and presented in a useful format.

Licensing and Credentialing

The ideal state for technology in the UME-GME transition supports an ideal state for licensing and credentialing, which is accomplished efficiently for all learner groups (U.S. MD, U.S. DO, and IMGs). Varying state requirements are addressed smoothly, creating a timely process without excessive cost. Necessary general and specialty specific credentialing and certification are facilitated. As appropriate, an ideal state for licensing and credentialing includes visa management.

Life Transition and Residency Launch

An ideal state for licensing and credentialling is one factor that optimizes the ideal launch of residency training. Other factors include program directors and residency faculty who have the training, resources, infrastructure, and perspective to approach the resident workforce as learners. Residency faculty welcome each learner as an

individual, knowing their strengths and weaknesses and trusting their competence appropriately. They are able to tailor the first months of the residency experience to the individual trainee, with appropriate supervision and learning tools in place to facilitate success.

Additionally, residency faculty and peers recognize and mitigate bias to ensure optimal entrustment and success for all learners in an inclusive environment. Special populations receive additional attention. This includes ensuring that those who are underrepresented in medicine are introduced to support networks. International medical graduates have focused training to prepare for success in the U.S.

Meaningful information about learners identified after the start of residency is also shared back to medical schools to continually improve the preparatory process.

The ideal UME-GME transition also includes the cooperation of patients who are appropriately oriented to a clinical environment that includes learners.

Residency Environment

Once residents start a GME program, the ideal residency environment includes adequate resources to support the pursuit of individual learning plans for every resident.

In the ideal state, program directors and faculty have protected time, educational support, administrative staff, professional development, and funding to support the ongoing individualized growth and wellbeing of residents. Sponsoring institutions and all other parties recognize the primary role of resident physicians as learners and fully support the educational environment. At the same time, the developmental path of resident physicians includes progressive responsibility, self-directed learning, and professional identity formation, which leads to readiness for independent practice at the time training is complete. Resources invested in medical education are appropriately allocated to address the demands of the continuum.

Conclusion

With the successful execution of the steps of the ideal state, learners achieve an optimal transition from the role of student to resident physician and are well prepared for the rigors of residency training.

Impact of Public Commentary

Stakeholder engagement has been a consistent priority for the UGRC. Ongoing updates about the Committee's work have been provided through the Coalition website and press releases, and through deliberate outreach and meetings with stakeholder groups including students, program directors, DIOs, medical educators, medical school deans, and international medical graduates. Eight of these meetings occurred after the release of the preliminary recommendations, facilitating discussion about individual recommendations.

There have been three formal opportunities for individuals and organizations to provide feedback to the UGRC.

In December 2020, a survey was released to stakeholder organizations asking for input on the ideal state of the UME-GME transition. Thirty-two organizations responded to the survey and the ideas they shared reinforced the shared vision created by the UGRC for the future ideal state of the transition.

In February 2021, the UGRC issued a second call, inviting individuals and organizations to share ongoing or piloted innovations that address concerns about the UME-GME transition. In total, 35 responses containing 39 self-described innovations were submitted for review. Of note, the majority of the innovations submitted had previously been identified by the Committee.

The most ambitious solicitation requested external stakeholder feedback on the UGRC preliminary recommendations and coincided with their public release on April 26, 2021. A digital survey instrument was created with a prominent link on the Coalition's website. The link was made widely available to interested parties and all stakeholder groups. The call for public comment was disseminated through numerous communication channels including social media platforms, email distribution lists, outreach presentations, and individual networks. In addition, periodic reminders were issued throughout the one- month open call to increase the number of responses.

The public comment survey responses were analyzed by a team from the NBME with expertise in qualitative and quantitative methods, and their full report can be found in Appendix E. This report, all survey comments, and the Coalition organizational responses were made available to all UGRC members before the Committee's recommendations were finalized. Multiple members of the UGRC's Executive Committee read the survey report in full, and five workgroup leaders were assigned to summarize and present commentary relevant to each of the preliminary recommendations at the June 2021 UGRC meeting.

During that meeting, a comprehensive discussion about stakeholder feedback regarding the preliminary recommendations occurred, which included 1) individual Coalition member feedback; 2) reactions from meetings with stakeholder groups; and 3) individual and organizational responses to the public comment survey, including statements from organizational members of the Coalition.

In response to stakeholder feedback during the public comment period, the UGRC made important changes to its preliminary recommendations. The changes included significant editing, clarification, and refinement of language; complete reworking of a recommendation addressing application inflation; judiciously combining similar ideas to reduce the overall number of recommendations from 42 to 34; and sequencing of recommendations to provide prioritization and a timeline for implementation. The feedback also helped clarify the concept of bottlenecks or critical recommendations that must be implemented to allow other downstream recommendations to move forward. The themes used to organize the recommendations were condensed from 12 to nine, with reconsideration of the descriptive theme titles. Of note, 32 of the preliminary recommendations were impacted by the feedback obtained through public commentary. Stakeholder input from individuals, stakeholder groups, and Coalition organizations was invaluable in informing the UGRC's final recommendations.

Consolidation and Sequencing

Early feedback about the UGRC's 42 preliminary recommendations suggested that the sheer number was somewhat overwhelming, that some recommendations were markedly similar to each other, and that critical recommendations might serve as upstream bottlenecks that could hinder downstream implementation of other recommendations. To address these concerns, the co-chairs created a sixth workgroup and tasked them to review the preliminary recommendations and determine which ones were interdependent. Once identified, these interdependencies would serve as the basis for deciding how the final recommendations might be organized, consolidated, and sequenced.

This new team – known as the "bundling workgroup" – considered the preliminary recommendations for the purpose of consolidation and reducing their total number. The workgroup also reviewed feedback from the public commentary to decide which recommendations could be grouped together, and in what sequence, to facilitate orderly and efficient implementation. This work led to the identification of four distinct bottlenecks: organizational collaboration and continuous quality improvement (Recommendation 1), the creation of an interactive database (Recommendation 6), developing consensus around a common outcomes framework (Recommendation 9), and away rotations (Recommendation 13).
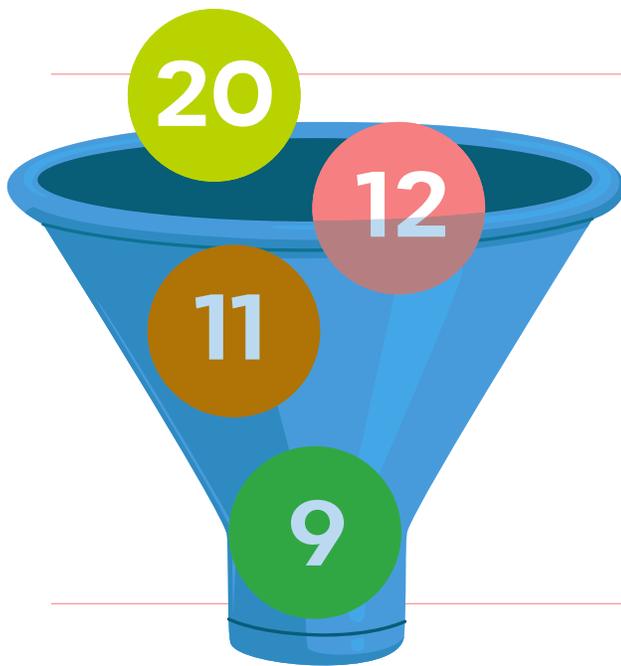
The figure depicts how Recommendation 9 acts as a bottleneck. Specifically, Recommendation 9 calls out the need for a common outcomes framework shared by both UME and GME. If no consensus is achieved on a common outcomes framework, progress in implementing the following three recommendations will be impeded: Recommendation 11 (related to assessment tools associated with the common framework); Recommendation 12 (related to faculty development for both teaching and assessment to optimally utilize the common framework), and Recommendation 20 (related to an electronic dashboard that shows each learner's assessment data within the framework).

Although each bottleneck is associated with a number of downstream recommendations, the most important bottleneck is Recommendation 1, which calls out the need to convene a national ongoing committee to manage continuous quality improvement of the entire process of the UME-GME transition. As shown in the table below, 27 of the final 34 recommendations depend on the implementation of Recommendation 1. Without organizational collaboration to convene a national committee focused on continuous quality improvement, the UGRC recommendations for comprehensive improvement of the UME-GME transition will fail for lack of implementation.

Bottleneck	Downstream, Dependent Recommendations for each Identified Bottleneck																										
1	2	3	4	5	6	7	8	11	12	14	15	16	17	18	19	20	23	24	25	26	28	29	30	31	32	33	34
6						7	8					16					23	24									
9								11	12							20											
13																	23	24									

As noted above, the bundling workgroup's discussions were informed by feedback obtained from the public comments. However, the tasks of organizing and sequencing the recommendations could not be finished until the UGRC had adopted final recommendations. After the public comment period closed and the analysis of the commentary was completed, most of the preliminary recommendations were modified and one was completely reworked. The workgroup then proposed that the Committee consolidate 13 preliminary recommendations into five, new bundled recommendations. The UGRC accepted this proposal, which reduced the number of final recommendations from 42 to 34. Further, the UGRC adopted the workgroup's proposal to re-organize the recommendations into the following nine themes:

- Collaboration and Continuous Quality Improvement
- Diversity, Equity, and Inclusion
- Trustworthy Advising and Definitive Resources
- Outcome Framework and Assessment Processes
- Away Rotations
- Equitable Mission-Driven Application Review
- Optimizing Application, Interview, and Selection Processes
- Educational Continuity and Resident Readiness
- Health and Wellness

Lastly, the UGRC adopted the bundling workgroup's proposal on sequencing the final recommendations within each theme. This organizational structure reflects the interdependence of the recommendations and is intended to help stakeholders, including the organizational members of the Coalition, consider next steps. As shown in the table on the next page, each recommendation has a proposed initial timeframe to help guide its implementation. Note that the UGRC considers certain recommendations (i.e., numbers 21 and 22) to be time sensitive and that these should be enacted immediately by the Coalition. In contrast, the Committee members understand that others may require several years of development before they can be fully implemented.

		July-21	2021-22	2022-23	2023-24	2024+
		Now	Immediate	Soon		Longer
Theme	**Collaboration and Continuous Quality Improvement**					
1	Committee to Manage CQI across Transition		▉	→	→	→
2	Residency Selection and Physician Workforce Research				▉	
3	IRP Reform					▉
Theme	**Diversity, Equity and Inclusion**					
4	Specialty Specific Practices to Increase Diversity			▉		
5	DEI Education Across the Continuum			▉	→	→
Theme	**Trustworthy Advising and Definitive Resources**					
6	Interactive GME Database		▉			
7	Career Advising Resources			▉		
8	Career Advising Curriculum					▉
Theme	**Outcome Framework and Assessment Processes**					
9	Common Competencies across Transition	▉				
10	CQI to Mitigate Bias across Transition		▉	→	→	→
11	Improved Assessment Tools			▉		
12	Competency Based Faculty Development Materials					
Theme	**Away Rotations**					
13	Review of Away Rotations		▉			
Theme	**Equitable Mission-Driven Application Review**					
14	MSPE Revision			▉	→	→
15	Structured Evaluative Letters			▉		
16	Sharing Applicant Demographics to Improve Diversity			▉	→	→
17	Electronic Application System Improvements			▉		
18	Reporting Licensure Exams in a Single Field			▉		
19	Review of Filter Content and Use				▉	→
20	Standardized Dashboard and Portfolio for Learners					▉
Theme	**Optimizing Application, Interview and Selection Processes**					
21	Virtual Interviews for 2021-2022	▉				
22	Standards for Interview Offer and Acceptance Process	▉				
23	Residency Application Process Innovations			▉		
24	Interview Limits				▉	
Theme	**Educational Community and Resident Readiness**					
25	Feedback from GME to UME	▉				
26	Centralized Resident Support Resources			▉		
27	Coaching for Professional Identity Formation				▉	
28	Specialty Specific Residency Preparation				▉	
29	Improved Residency Program Orientation				▉	
30	UME to GME ILP Handoff				▉	
Theme	**Health and Wellness**					
31	Wellness Resources for the Transition			▉		
32	Assured Time Between UME and GME				▉	
33	Equitable Access to Funding for Transition					▉
34	Standardized Process for Initial Licensing					▉

The UGRC faced a number of limitations to its work process, beginning with the allotted timeframe. Although the deadline for creation of the final recommendations was 10 months, the complexity of the problems intrinsic to the current UME-GME transition and the comprehensive scope of the charge were considerable.

In addition, a significant amount of time was devoted to the steps prior to generating recommendations, including the elaboration of the charge, level setting, envisioning an ideal future state, and generating Ishikawa diagrams (fishbone analyses) of root causes of the identified challenges to the transition. In the end, this effort was thought necessary, as the process goal was to articulate the desired outcomes and understand the root problems before generating solutions.

Due to time constraints it was also necessary to divide the charge between workgroups, and have work proceed in parallel. More opportunities to share information and explore revisions across workgroups may have allowed for earlier consolidation of recommendations.

Although the virtual format of the meetings caused some limitations with regards to the social norms of in person meetings, the ability to come together virtually had a positive impact on the efficiency of the work process. The chat function of the platform also enabled additional layers of interactions and an alternative modality of engagement. Managing a committee of 30 members can be challenging, but UGRC meetings were structured to include both small and large group sessions.

Although the UGRC had representation from across the continuum, there was an acknowledged desire for more diversity within the Committee and more representation from learners.

The workgroups and the librarians searched for medical literature supporting proposed solutions to the problems facing the transition, however there is currently limited evidence for many of the recommendations, and generating future research questions became an additional focus of the Committee's work.

Although many innovations to improve the UME-GME transition are being explored across the country, it is too early to draw conclusions regarding their overall effectiveness. As evidence accrues, a continuous quality improvement process will help to advocate for changes that are evidence based.

The number of comments received through the public comment survey was lower than expected. This was likely secondary to the large number of preliminary recommendations presented for feedback, and there was ongoing discussion on how to most effectively engage stakeholders. Received survey comments overall however were thoughtful and high quality, and significantly impacted the wording of the final recommendations.

Although there was the potential for conflict of interest from the inclusion of organizational leadership on the UGRC, members honored the explicit request to bring their experience and expertise to discussions, and to participate as individual members rather than as organizational representatives.

The scope of the UGRC was limited to the UME-GME transition, and therefore recommendation timeframes do not extend for the duration of residency or into fellowship training. The resources available to the UGRC also did not allow for a cost analysis of the recommendations.

Finally, the charge for the UGRC was to generate solutions in the form of recommendations to comprehensively improve the UME-GME transition. We look to the collaboration of the Coalition member organizations for implementation of the recommendations.

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APPENDICES

Coalition for
Physician
Accountability

Organizations:

ACCME: Accreditation Council for Continuing Medical Education

ACGME: Accreditation Council for Graduate Medical Education

AACOM: American Association of Colleges of Osteopathic Medicine

ABMS: American Board of Medical Specialties

AMA: American Medical Association

AOA: American Osteopathic Association

AAMC: Association of American Medical Colleges

CMS: Centers for Medicare and Medicaid Services

CMSS: Council of Medical Specialty Societies

COALITION: Coalition for Physician Accountability

ECFMG: Educational Commission for Foreign Medical Graduates

FSMB: Federation of State Medical Boards

LCME: Liaison Committee on Medical Education

NBME: National Board of Medical Examiners

NBOME: National Board of Osteopathic Medical Examiners

NRMP: National Resident Matching Program

OPDA: Organization of Program Director Associations

UGRC: Undergraduate Medical Education to Graduate Medical Education Review Committee

Terms:

Away Rotations: A clinical experience at a teaching hospital or clinic that is not affiliated with a student's medical school

Basic Advising: Common understanding of career advising, professional development, specialty selection, and application procedures.

CiM: Careers in Medicine

COMLEX-USA: Comprehensive Osteopathic Medical Licensing Examination of the United States

Competence: The array of abilities (knowledge, skills, and attitudes) across multiple domains or aspects of performance in a certain context. Statements about competence require descriptive qualifiers to define the relevant abilities, context, and stage of training. Competence is multi-dimensional and dynamic. It changes with time, experience, and setting. (Frank et al. 2010)

Competency: An observable ability of a health professional related to a specific activity that integrates knowledge, skills, values, and attitudes. Since competencies are observable, they can be measured and assessed to ensure their acquisition. Competencies can be assembled like building blocks to facilitate progressive development. (Frank et al. 2010)

CQI: Continuous Quality Improvement

DEI: Diversity, equity and inclusion

DIOs: Designated institutional officials

DO: Doctor of osteopathic medicine

Dual Applicants: Applicants applying to more than one specialty

Educational Continuum: Term that describes the span of a physician's education, from undergraduate medical education (medical school) to graduate medical education (residency and fellowship) to continuing medical education (ongoing during years in practice)

ERAS: Electronic Residency Application Service

General Career Advising: Assisting students in selecting an appropriate career path and specialty

GME: Graduate medical education (residency training)

Holistic Review: Mission aligned selection process that considers an applicant's experiences, attributes, and metrics

ILP: Individualized learning plan

IMG: International medical graduate

InCUS: Invitational Conference on USMLE Scoring

Initial Residency Period (IRP): Number of years it takes for a resident to become board eligible in the first medical specialty the resident entered, set when a physician enters residency

In-Training Examination: Annual specialty-specific standardized multiple choice question medical knowledge examination

Longitudinal Assessment: Measurement of a learner's knowledge, skills and attitudes that occur on an ongoing basis over a prolonged period of time

LOR: Letters of recommendation

Matched: A student that was able to secure a residency position to continue their medical education

Match Day: The day, typically occurring in March of each year, that students find out which residency program they have been assigned to for training after they graduate from medical school

MD: Doctor of medicine

MSPE: Medical Student Performance Evaluation

PCP: Primary care provider

PD: Program director

SELs: Structured evaluative letters

SOAP: Supplemental Offer and Acceptance Program

Specialty-Specific: Pertaining to a specific medical specialty (e.g., pediatrics, surgery, psychiatry, etc.)

Specialty-Specific Advising: Assisting students with strategies for optimal placement in their chosen specialty

SLOEs: Standardized letters of evaluation

Un-Matched: A student that was unable to secure a residency position to continue their medical education

USMLE: United States Medical Licensing Examination

Workgroup A

Student advising

Assessment tools and strategies

Culture

Lack of alignment: advising & stakeholder needs
- Advising misaligned with student preferences
- Advising not aligned with patient & population health needs

Lack of shared mental model
- Purpose of assessment; tension of formative vs. summative

Culture is competitive
- Students are competitive to get into medical school
- Residency selection is competitive
- Schools are competitive
- Lack of trust in other stakeholders
- Focus on individual achievement over social good
- Insufficient or ineffective attention to professional identity formation in training

Lack of trustworthy data to inform advising
- Lack of transparency — programs don't share all data
- Data not standardized across schools and programs

Varied approaches to assessment at schools
- Culture of individual ownership of approaches
- Lack of trust in available tools and strategies, users

Inadequate advisor preparation
- Lack of time
- Lack of funding
- Lack of institutional value placed on advising
- Lack of current advising resources

Varied, insufficient resources for assessment

Challenges of labeling unprofessional behavior
- Fear about impact of labeling unprofessional behavior
- Lack of understanding of professional development
- Generational Differences
- Legal risks

Lack of validity evidence for assessment tools and strategies
- Lack of expertise to generate evidence
- Inadequate resources

Fear of failure
- Risk of unmatched student
- Culture success

The current dysfunctional UME-GME transition system is characterized by mistrust and mismatch of expectations among learners, UME educators, and GME educators who use the wrong information to make wrong inferences

Lack of single coordinated system
- Health care financing uncoordinated
- System needs things that don't have a good business model

Variable definition of competence
- Competence has local meaning in the local context & culture
- Variable facility development
- Competence as achievement vs. a developmental progression
- Different definitions of competence in UME & GME

Transactional, high-stakes nature of match disconnected from educational priorities
- PDs are focused on comparative data rather than competence
  — *Inadequate time to review applications*
- Pressure to achieve high rankings and be perceived as excellent using familiar metrics
  — *Don't have a way to measure some important outcomes*

Each stakeholder has own financial interest
- Separate funding streams
- Rigid business model in US and international schools

Each stakeholder has own accountability structure
- All stakeholders are looking at different part of the problem
- All stakeholders are working in their own interest

Variable value placed on competence
- Variable faculty and institutional buy-in to CBME
- CBME doesn't provide maximally useful info in the Match

Public as stakeholder is undervalued
- Metrics of success focus on learners, schools & programs
- Accreditation is process-oriented rather than patient outcome-focused

Rigid, one size fits all approach
- Fixed timepoint for match
- Implicit assumption that all learners will progress at equal pace

Misaligned incentives
- Easier to advance a learner than stop them from advancing to ensure competence

Stakeholders

Match system

Definition of competence

Workgroup B

Applications

Applicants clinical experience and knowledge of specialty limited

Medical student reporting lacks consistent, comparable information from objective and universal reporting tools leading to mistrust by residency programs

Application inflation increasing program reliance on board scores

Application Mechanics: Lack of clarity with reporting required information (LOA, probation, etc.), costly, long application season, couples match process difficult to understand

Programs lack consistent data and resources for holistic review of applicants

Medical school advising challenges due to lack of feedback from programs to school, advisor experience, variation/lack of program data, variabilities in student clinical exposure, lack of clarity on application requirements

Letters of recommendation lack consistency among specialty requirements with confusion/bias to templates

Recruitment

The system of scheduling elective rotations is problematic for programs (duplicative scheduling of rotations, cancellations)

Medical school reliance on high residency match rates for their own recruitment may conflict with GME goals

The system lacks transparency and visibility of program requirements for away or audition rotations, including if these 'filters' differ from interview/residency application filters

The system lacks an easily accessible database for programmatic information that is accurate and comparable that includes the program's desired applicant, including 'filters' used by program to determine student eligibility

The UME/GME process for the applicant, medical school, and program requires improvement

For all 4 components-there is a lack of consistent definition and application of DEI practices

Interviews

Interviews lack standardization across programs and specialties, lack faculty development and education on appropriate questioning

Virtual interviewing:
• Bias to tech issues, perception of staging, and resource cost
• Tech limitations due to cost, availabilities and tech difficulties

Student interviewing- Preparation resource intensive

Chaotic Interview Process
• More interview offers than slots resulting in cancellation
• Insufficient opportunity to respond to interview invitation
• Holding interview slots

Cost- of interview high in both tangible costs (travel) and time away from rotations

Lack of real-time interview update to allow schools to intervene/counsel students appropriately

Assessment and Holistic Review

EPAs and other competency reporting requirements vary among schools and lack standardized tools that are measurable, reproducible, universal, and understood by students

Lack of professionalism information as definitions, faculty development and tools for reporting vary among schools

Inflexibility of med school curriculum to tailor educational experiences for successful residency transition

Day 1 Readiness/Later Transition lacks definition and consistent tools for measurement and reporting

Lack metrics in multiple key competencies to compare candidates leading to program reliability on board scores

Workgroup C

Fishbone diagram with main effect: **UME-GME transition process is inequitable, inefficient, wasteful, costly, and unnecessarily stressful for all involved**

Fear
- Fear of missed opportunity- PDs want "best" applicants, applicants want "best" programs, both think that one more interview or application will help
- Fear of not filling- pressure for programs to fill due to funding, clinical need, prestige, etc.
- Fear of not matching- Applicants have limited career options outside of the Match and perceive no flexibility to change specialty or the timeline
- Medical schools fear unmatched students, may limit their transparency
- Inflexible timeline
- Unfamiliar process

Lack of Trustworthy, Validated Information to Programs
- Lack of trustworthy assessment especially with respect to longitudinal, workplace-based and 360 degree assessment, including for IMGs
- Applicant information is not in a structured, validated format usable for large scale review
- Lack of understandable, plain language reporting of student assessment pre- and post-match, especially in longitudinal, workplace based and 360 degree assessments, especially for IMGs
- Unclear what data should be used for resident selection, or how we would define a successful resident

Lack of Trustworthy, Validated Information to Applicants
- Conflicting advice from multiple sources (peers, UME, GME, online)
- Yearly variability in residents matched, especially at smaller programs
- Programs are not always transparent in how they select applicants for interview and ranking, or who actually matches with the program
- Applicants do not seem to utilize or trust the information that is available.

Needs of Society Not Prioritized
- Student effort spent on transition instead of working toward the greater good (research, patient care, wellness)
- Students learn to hide their weaknesses, reinforcing unhelpful patterns for future practice
- Sufficient applicants do not go to underserved areas/specialties (FM, IM, and peds are the most unfilled specialties)
- Learner-centered educational requirements for residency programs may conflict with patient-centered health system needs
- DO, URM, and IMG applicants are underrepresented in certain specialties and geographic areas
- Significant waste due to redundant licensing exams (multiple steps of both COMLEX and USMLE, some applicants take both). Uncertain that these metrics are predictive of competence.

Program Director Stress (Expectations)
- ACGME requirements to address wellness, QI, diversity, and board pass rates increase documentation and stress
- Frequent Program director turnover, so new PDs must learn unfamiliar rules
- Hospital partners have clinical expectations for the program without a lot of backup if the program can't meet those expectations, which leads to significant risk aversion (for learners who could struggle) and fear of not filling (which also affects program funding)
- There are many applications per position, and many applicants have similar qualifications. PDs have little guidance on how to select applicants for interview as a part of holistic review

Program Director Stress (Limited Resources)
- Limited time and staffing for individual holistic review at initial application review, so may rely on simplistic filters
- Limited funding may fall further if program begins to struggle and can't fill
- Inadequate resources for trainees requiring additional support (educational to pass boards, psych, clinical backup if unable to care for patients, faculty development, etc.). Lack of resources means that learners who needed support previously are avoided
- Limited time and staffing for interviews
- Program director burnout and depression may lower their capacity further

Applicant Stress
- Financial burden, educational burden, and opportunity cost for time spent on application process
- Unfamiliarity with the process
- Obligation for away electives for more than broadening clinical diversity or learning about a program– some specialties required them for interest signaling and student assessment
- Process is very different for different groups of applicants (USMD, USDO, IMG, etc.), without clear expectations

Bias
- Any measurement technique (including standardized metrics) can hinder some applicants, but programs need some way to tell the difference among them, and applicants want a way to distinguish themselves
- Using biased metrics for selection leads to a more transparent, predictable process compared with holistic review
- Filters can cause bias without alerting programs (ie USMLE filters removing DO applicants)
- Bias favors certain applicants, schools, etc., who may resist complete equity

Workgroup D

Information Sharing - Handoffs
- No consequence to UME for inaccuracy
- Pressure for schools to advocate for applicants
- Discipline-specific curriculum linked to GME
- Meaningful data, ILPs
- FERPA

Optimizing UME: Residency Ready
- Conflict of interest for schools
- Few non-residency options
- CoreEPAs

Optimizing GME: Ensuring Patient Safety
- Bd pass rate as measure of success
- Cultural humility
- Boot camps — Skill building
- Lack of early assessment
- Lack of flexibility to make customized schedules
- Low risk capacity — Challenge of the struggling intern
- Appropriate supervision
- Importance of IPE

DEI
- Need for representative, inclusive community
- Need for bystander training
- Need for equity lens throughout process

Individual Attributes
- Diversity
- URM
- IMG
- MD/DO
- Support
- Partners
- Parenting
- Finances

Professional Identity Formation
- Mindset transition: student to worker & lifelong learner
- Life transitions
- Impact of mistreatment
- Specialty bias
- Life long learning
- Imposter syndrome
- Lack of coaching
- Graduation

Logistics of Transitioning
- Licensure
- Varied state requirements
- Finances
- Visa issues
- Moving
- Trainings (ACLS, etc.)

Feedback to UME
- GME performance data
- Curricular gaps
- MSPE utility & accuracy

Wellbeing
- Welcome & support
- Need for early assessment

Post Match Optimization Effect

Learning Environment
Cultural Differences | Mistreatment | Hidden Curriculum | Service/Education Balance | Specialty Disrespect

Clinical Environment
Patient Safety | Quality | Wellbeing | Professionalism | Supervision and Care Transition

Recommendation 1:

Convene a national ongoing committee to manage continuous quality improvement of the entire process of the UME-GME transition, including an evaluation of the intended and unintended impact of implemented recommendations.

Narrative description of recommendation:

One of the challenges in creating alignment and making improvements is the lack of a single body with broad perspective over the entire continuum. This creates a situation where organizations and institutions are unnecessarily and counterproductively isolated, without a shared mental model or mission. A convened committee, that includes learner and public representatives, should champion continuous improvement to the UME-GME transition, with the focus on the public good.

This recommendation creates the ideal state for the UME-GME transition because:

The ideal state requires an equitable, coordinated, efficient, and transparent system across the UME-GME transition. Further, the ideal state specifically endorses the idea that the transition ecosystem must adapt to changes in both medical education and health care, with a commitment to continuous quality improvement. An ongoing committee that is focused on the entire process will ensure that the efforts to implement all recommendations occur in a coordinated fashion, and that sufficient attention is given to doing so in a manner that is committed to continuous quality improvement.

How this recommendation links to the fishbone diagrams used to develop the ideal state:
- Much of the UME-GME transition occurs within clinical learning environments
- Inequitable, inefficient, wasteful, costly, and unnecessarily stressful

Implementation "must haves" include:
- Buy in from each constituency to allow for effective launch and operations
- Commitment to continue the work of implementing the UGRC recommendations
- Continuous quality improvement mindset

Implementation "nice to haves" include:
- Benchmarking and dashboards to show progress toward implementation
- Communications vehicles to disseminate future recommendations

Pros	Cons
Alignment	Reluctance to support central authority
Cost savings	Creation of a new organization or expansion of a current one with associated costs and turf/scope/boundary challenges
Focus on the public good	Risk of increasing expense or hassle
Iterative and evolving	

Specific examples on how this recommendation might be implemented:

- The Coalition for Physician Accountability is itself an example of an overarching organization that has self-organized into a body issuing recommendations on numerous topics. Similarly, a subset of organizations (i.e., American Association of Colleges of Osteopathic Medicine, Association of American Medical Colleges, Accreditation Council for Graduate Medical Education, Educational Commission for Foreign Medical Graduates/Foundation for Advancement of International Medical Education and Research) has recently provided resources to help graduates from the Class of 2021 make a successful transition from students to residents. Further, various organizations have collaborated on a number of projects such as professionalism (American Board of Medical Specialties, National Board of Medical Examiners) and USMLE Scoring (Association of American Medical Colleges, American Medical Association, Educational Commission for Foreign Medical Graduates, Federation of State Medical Boards, and National Board of Medical Examiners). Another example is the creation of steering committees that include individuals to provide guidance of specific initiatives (e.g., the AMA's Accelerating Change in Medical Education initiative). The Coalition for Physician Accountability could create a permanent committee or group to launch implementation, provide ongoing guidance, monitor progress, and recommend future action based on data and environmental factors.

- A subset of the Coalition for Physician Accountability (i.e., those organizations with the most interest in the UME-GME transition) could self-organize to create and support a central oversight body.

Research questions:

- Apart from accrediting agencies, are there descriptions in the health professions, law or business literature of ongoing, permanent oversight bodies that have been created to oversee the transition of professionals from learners to practitioners?

- What is the structure of such oversight bodies and is there any evidence that they have operationalized a continuous quality improvement mechanism?

- Are there examples of collaboration or public-private partnerships (e.g., government agencies and NGOs) that have successfully implemented oversight over a professional transition?

Recommendation 2:

In addition to supporting collaboration around the UME-GME transition, this national committee should: develop and articulate consensus around the components of a successful residency selection cycle; explore the growing number of unmatched physicians in the context of a national physician shortage; and foster future research to understand which factors are most likely to translate into physicians who fulfill the physician workforce needs of the public.

Narrative description of recommendation:

Currently, the medical education community lacks a shared mental model of what constitutes a successful transition from UME to GME, and also what factors predict that success. The lack of agreement leads to conflict over the content of applications as well as the resources required for a residency selection cycle. Success could include simple educational outcomes such as completing training, board certification, or lack of remediation. Alternatively, applicant-specific factors may be more important, such as likelihood of choosing the same program again. Success may be defined solely on the public good, based on the fill rate of programs and the number of physicians practicing in underserved areas. Or, it may be that successful residency selection is institutionally specific based on its mission and community served, with some institutions focused on research and others on rural communities. The committee should articulate the factors associated with a successful residency selection cycle so they can be appropriately emphasized in the UME-GME transition, especially as changes are made to the process.

The committee should report on data trends, implications, and recommended interventions to address the growing number of unmatched physicians. This analysis should include demographic data to examine diversity, specialty disparities in unmatched students, number of applications, grading systems, participation in SOAP, post-SOAP unmatched candidates, match rate in subsequent years of re-entering the match pool, and attrition rates of learners during residency. This recommendation is intended to urge UME programs and institutions to utilize a continuous quality improvement approach and review unmatched graduates by specialties, demographics, number of programs applied to, and clinical grading; to offer alternative pathways; and to add faculty development for clinical advising. Both UME and GME data would identify patterns within the continuum of medical education that negatively impact unmatched physicians and attrition rates of GME programs. Ideally, shared resources and innovation across the continuum would be identified and disseminated.

Graduates of U.S. medical schools fill many residency positions, which means GME is constrained by the decisions made by U.S. medical school admissions committees. However, international medical graduates are also considered at many programs and provide an opportunity to serve the public good. The committee should foster research to help program directors understand which applicant characteristics are useful indicators to address ongoing medical workforce issues. Further changes to the transition should be informed by evidence whenever possible.

This recommendation creates the ideal state for the UME-GME transition because:

A shared mental model for a successful transition will improve trust and allow the process to come into alignment with the agreed upon outcomes, balancing the tensions between all stakeholders. Understanding how best to meet the specialty-specific physician workforce needs of the public will assist program directors in designing selection strategies based on characteristics beyond academic metrics. Careful consideration is due to applicants who do not match to ensure they are receiving equitable treatment during the process.

How this recommendation links to the fishbone diagrams used to develop the ideal state:

· Needs of society not prioritized

· Wellness

Implementation "must haves" include:

· Longitudinal data access (Applicant characteristics, survey data, and practice outcomes)

- Access to match participants for data collection
- Broad participation among Coalition for Physician Accountability organizations and stakeholder groups

Implementation "nice to haves" include:

Pros	Cons
Use of data driven selection characteristics for residency	Consensus satisfactory to all groups may not be possible
Clearer definition of a successful match, its frequency, and how the selection process can support applicant and program alignment in educational goals and program mission	Research will reveal population-level predictors of practice patterns but may impact individual students whose interests don't fit the broader trends.
UME programs could implement continuous quality improvement regarding unmatched applicants.	Resources and funding will be needed to support innovation for decreasing unmatched applicants
Shared resources for common challenges and successful strategies	Guidelines and recommendations unavailable for alternative pathways
Shared resources regarding unmatched applicant data	
Innovation	
Regularly available UME program specific data on unmatched students and specialties, with demographic distribution and additional information, e.g., clinical grading, advising methods, alternative pathways	

Relevant examples from the literature (if applicable):

1. Association of American Medical Colleges. The Complexities of Physician Supply and Demand: Projections from 2018 to 2033. June 2020. https://www.aamc.org/media/45976/download. Accessed June 2, 2021.

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Specific examples on how this recommendation might be implemented:

- Convene a collaborative group with representation from key stakeholder organizations and the public charged to define a successful transition and understand which characteristics predict a successful match. The group would need cooperation from all key stakeholder organizations including access to existing data.
- Convene a research group with representation from key stakeholder organizations and the public, charged to support and conduct research aimed at determining which applicant characteristics (e.g., degree, demographic,

experiences, academic metrics, etc.) are most likely to result in physicians who fulfill the needs of the public in terms of medical specialty shortages, ethnic diversity, geographic distribution, and other important needs. The group would need cooperation from all key stakeholder organizations, including access to any existing data.

- Regularly available data on unmatched applicant by specialty, with demographic distribution and additional information, e.g., on clinical grading systems. Ideally, an unmatched graduate and UME program will have the resources and meaningful options for successful reapplication or alternative pathways with appropriate individualized advising.

- Committee formation with diverse representation, specialty organizations, and a timeline for reporting

Research questions:

1. Does providing data on unmatched applicants and feedback on institutional trends allow for continuous quality improvement?

2. Are attrition rates for GME programs affected by the pipeline of unmatched applicants or length of time before matching?

3. Existing demographic, socioeconomic/disadvantaged status, number of applications, and specialty data on unmatched applicants is needed.

4. Beyond the unmatched applicants, there are also individuals who did not apply to residency, applied but did not receive an interview, or interviewed but were not placed on the program's rank list. More information is needed about these people.

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Recommendation 3:

The U.S. Centers for Medicare and Medicaid Services (CMS) should change the current GME funding structure so that the Initial Residency Period (IRP) is calculated starting with the second year of postgraduate training. This will allow career choice reconsideration, leading to improved resident wellbeing and positive effects on the physician workforce.

Narrative description of recommendation:
Given the timing of the residency recruiting season and the Match, students have limited time to definitively establish their specialty choice. If a resident decides to switch to another program or specialty after beginning training, the hospital may not receive full funding due to the IRP and thus be far less likely to approve such a change. The knowledge that residents usually only have one chance to choose a specialty path increases the pressure on the entire UME-GME transition. Furthermore, educational innovation is limited without flexibility for time-variable training.

How this recommendation links to the fishbone diagrams used to develop the ideal state:
· Needs of society not prioritized

Pros	Cons
Use of data driven selection characteristics for residency that help to address ongoing medical workforce issues.	Research will reveal population-level predictors of practice patterns but may impact individual students whose interests don't fit the broader trends.

Relevant examples from the literature (if applicable):
1. Association of American Medical Colleges. The Complexities of Physician Supply and Demand: Projections From 2018 to 2033. June 2020. https://www.aamc.org/media/45976/download. Accessed June 2, 2021.

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Specific examples on how this recommendation might be implemented:
· Convene a research group with representation from key stakeholder organizations and the public, charged to support and conduct research aimed at determining which applicant characteristics (e.g degree, demographic, experiences, academic metrics, etc.) are most likely to result in physicians who fulfill the needs of the public in terms of medical specialty shortages, ethnic diversity, geographic distribution, and other important needs. The group would need cooperation from all key stakeholder organizations. including access to any existing data.

Recommendation 4:

Specialty-specific salutary practices for recruitment to increase diversity across the educational continuum should be developed and disseminated to program directors, residency programs, and institutions.

Narrative description of recommendation:

Recognizing that program directors, residency programs, and institutions have wide variability in goals, definitions, and community needs for increasing diversity, shared resources should be made available for mission-aligned entities, with specialty-specific contributions including successful strategies and ongoing challenges. This recommendation is intended for specialty organizations to perform workforce evaluations and specifically address diversity, equity, and inclusion (DEI) associated with specialty-specific disparities in recruitment.

Pros	Cons
Specialty societies absorbing the burden of compiling information to contribute to best practices	Resources and funding needed to support programs may be limited
Shared resources for common challenges	Guidelines and recommendations unavailable for implementation of diversity dashboards
Shared successful recruitment strategies Innovation	

Specific examples aligned with the overall thematic recommendation:

· Specialty organizations would provide best practices for recruiting for diversity to provide guidelines for program directors, programs, and institutions.

Organizations and stakeholder groups that could deploy this change:

· Specialty organizations

· American Association of Colleges of Osteopathic Medicine

· Accreditation Council for Graduate Medical Education

Research questions:

1. Are there specific specialties with challenges for recruiting for diversity that require more targeted resources?

2. What resources are available from specialty organizations for recruiting for diversity?

3. Are there existing or recommended diversity dashboards for program directors, programs, and institutions that may be helpful to disseminate for targeted recruitment programs?

4. Is the implementation of a specialty-specific approach to recruiting for diversity more impactful than overall diversity efforts?

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Recommendation 5:

Members of the medical educational continuum must receive continuing professional development regarding anti-racism, avoiding bias, and ensuring equity. Principles of equitable recruitment, mentorship and advising, teaching, and assessment should be included.

Narrative description of recommendation:

Inclusive excellence requires avoiding bias and improving racial equity; these are essential skills for faculty in today's teaching. Many physicians lack these skills, perpetuating health disparities, lack of diversity, and learner mistreatment. ACGME Common Program Requirements already include specific applicable requirements. This recommendation reinforces the importance of addressing issues related to DEI for all members of the educational community, including residents starting from orientation. This will ultimately promote belonging, eliminate bias, and provide social support.

This recommendation creates the ideal state for the UME-GME transition because:

In the ideal state for the UME-GME transition, residency faculty and peers will recognize and mitigate bias to ensure optimal entrustment and support for all learners in an inclusive environment. This training will help address entrenched inequities in medical training, with particular focus on developing support networks for those underrepresented in medicine. The application of anti-racism and bias mitigation throughout the UME-GME transition will help improve the diversity of our future physician workforce, which is also important in furthering the public good. Creating welcoming and inclusive environments for all residents requires intentional efforts by the institution. This is not created by accident and the explicit action of training the entire organization is a first step. This can begin to create an ongoing inclusive environment for all.

How this recommendation links to the fishbone diagrams used to develop the ideal state:

An overarching thread throughout all of the root problems in the post-match period is the need to address diversity, equity, and inclusion. In particular, opportunities identified in the fishbone exercise included improving bystander training, creation of a representative and inclusive community, and the application of an equity lens throughout the entire UME-GME transition period.

Implementation "must haves" include:
- Effective training for faculty in UME and GME programs, including how anti-racism strategies and bias mitigation can be applied to recruitment, mentorship, advising, teaching, and assessment.
- Orientation early in GME to the community of faculty, staff, and learners as well as the patient population served by the trainees.

Implementation "nice to haves" include:
- Feedback on faculty performance
- Evolution of training programs to reflect best practices

Pros	Cons
Improvement in the learning environment through development of inclusive practices	Cost of implementation of training modules for faculty
Public good through improved health equity through development of a representative workforce	Time required for training and questions of how to build accountability into training
Better retention and promotion of medical trainees underrepresented in medicine	
Health equity improvement	
Changing the system can start with educational programs	

Research questions:

1. What is the impact of robust anti-racism and bias mitigation faculty training on inclusiveness of the learning environment, including implicit and explicit microaggressions and learner experiences?

2. How does introduction of anti-racism and bias mitigation faculty training affect recruitment, retention, and promotion of trainees underrepresented in medicine?

Citations:

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UGRC Final Recommendations With Complete Templates

Recommendation 6:

Create an interactive database with verifiable GME program/track information and make it available to all applicants, medical schools, and residency programs and at no cost to the applicants. This will include aggregate characteristics of individuals who previously applied to, interviewed at, were ranked by, and matched for each GME program/track.

Narrative description of recommendation:
Verifiable and trustworthy GME program/track information should be developed and made available in an easily accessible database to all applicants. Information for the database should be directly collected and sources should be transparent. Each program's interviewed or ranked applicants reflect the program's desired characteristics more accurately than the small proportion of applicants the program matches. Data must be searchable and allow for data analytics to assist with program decision making (e.g., allowing applicants and their advisors to input components of their individual application to identify programs/tracks with similar current residents). Applicants and advisors should be able to sort the information according to demographic and educational features that may significantly impact the likelihood of matching at a program (e.g., geography, scores, degree, visa status, etc.). This database would also provide information on the characteristics of individuals who previously applied to and matched into various specialties.

This recommendation creates the ideal state for the UME-GME transition because:
This technology will allow applicants to identify what they want in a program, whether that means a specific program, program experiences, attributes, or something else. Additionally, all stakeholders will be committed to the inclusion of students, schools, programs, and the public in the design, evaluation, and continual improvement of the system. Applicants and advisers will have the information necessary to target applications toward specialties and programs where they are most likely to be considered and be successful, potentially decreasing application inflation. Automatic reporting on program selection data and universal availability for all applicants will promote trust and transparency within the system.

How this recommendation links to the fishbone diagrams used to develop the ideal state:
· Lack of reliable, program-specific selection information.

· The system lacks transparency and visibility of program requirements for away or audition rotations, including if these filters differ from interview/residency application filters.

· The system lacks an easily accessible database for programmatic information that is accurate and comparable and includes the program details desired by an applicant, including the filters used by the program to determine student eligibility.

· Trustworthy data to inform advising is lacking.

· Available data is not always meaningful.

· The system for how programs select candidates for interviews and ranking is opaque.

Implementation "must haves" include:
· Automatic reporting of selection data, not dependent on programs or applicants

· Allow comparison of applicants who apply with those who are interviewed/ranked and match for context

· Single source for all information important to applicants, including program-generated (such as mission and training site information) and applicant-generated (such as reviews)

· Available to all applicants without additional cost

Implementation "nice to haves" include:
· Stakeholder oversight board for continuous quality improvement and feedback to advisers, applicants, and programs

Pros	Cons
Applicants and their advisers will have reliable information about the type of applicant who receives an interview with each program. Because this information is automatically generated from the rank order list or interview invtation list, it will be transparent and reliable. Applicants will be able to more selectively ap-ply to programs that meet their educational objectives.	Small and selective programs are unable to be included because of short rank lists and the potential disclosure of individual data. This could be mitigated by including batched data over several years.
Programs will have a better understanding of who they interview through the real-time use of dashboards. This could lead to higher awareness of potential bias and helping to improve equity of the interview process.	Programs could rank applicants who are not interviewed or otherwise game the system. Programs with few applicants from certain groups may continue struggle to increase diversity (self-fulfilling prophecy).
The desirable features of other databases such as program aims from the programs and crowd-sourced input from applicants should be included into one platform.	Organizations that have residency program data unwilling to share data to database.
Student well-being with one source of truthful programmatic information	
Programs show aspirations with rank/interview invitation list instead of just who has decided to attend their program.	

Relevant examples from the literature (if applicable):

1. FREIDA. American Medical Association. https://freida.ama-assn.org/. Accessed June 25, 2021.

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Specific examples on how this recommendation might be implemented:

- One existing repository that approximates the characteristics of programs' interviewees is the "Rank Order List" submitted by programs to the National Resident Matching Program. Aggregated characteristics from the Electronic Residency Application Service® (ERAS) of deidentified students on this list, potentially pooled over several years, would approximate a program's desired applicant qualities. The unranked ID numbers of individuals appearing on this list linked to the information on their ERAS applications would create aggregated characteristics (potentially pooled over several years) that approximate those of the individuals interviewed by that program.

- If the National Resident Matching Program is not able to coordinate de-identified rank order list information sharing,

Electronic Residency Application Service® has a feature to select for interview and to rank applicants. Use of this feature could be encouraged through visual dashboards that demonstrate to programs how their selection process affects groups of interest. Statistics that will later be made publicly available could be visibly apparent on the dashboard for programs to monitor.

- A third way to collect this information is to contract with private interview scheduling vendors to automatically create a list for each program.

- A database utilizing significant applicant input and an oversight body of diverse stakeholders (including program directors from different types of programs) can be developed. The oversight body will be responsible for continual quality review and improvement based on stakeholder needs (i.e. incorporating applicant reviews post-interview, adding specialty-specific procedure data, ensuring confidentiality of aggregate data, etc.).

Research questions:

1. To what extent are offers to interview not accepted by applicants? This information may be available from the Electronic Residency Application Service® or from proprietary scheduling software. Are these offers of interest to applicants? To what extent are interviewees not listed in the rank order list?

2. Because each year the vast majority of individuals go through the UME-GME transition only once, it is difficult to know how well new resources are used. However, Residency Explorer should experience an increase in number of users, user satisfaction, adviser satisfaction, and the time spent by each user using this tool. Trust in outside resources should decrease.

3. Does the database improve residency recruitment of desired candidates?

4. Does a database with verifiable information affect programmatic match rates?

5. Does a database with verifiable information, including general details about program candidates interviewed and accepted, decrease the number of applications per student or applications received by a residency program? How does increased program transparency affect applicant well-being and stress during the application process?

Citations:

1. Rowley BD. AMA—Fellowship and Residency Electronic Interactive Database Access (AMA-FREIDA): A Computerized Residency Selection Tool. JAMA. 1988;260(8):1059.

2. Embi PJ, Desai S, Cooney TG. Use and utility of Web-based residency program information: a survey of residency applicants. J Med Internet Res. 2003;5(3):e22.

Recommendation 7:

Evidence-informed, general career advising resources should be available for all medical school faculty and staff career advisors, both domestic and international. All students should have free access to a single, comprehensive electronic professional development career planning resource, which provides universally accessible, reliable, up-to-date, and trustworthy information and guidance. General career advising should focus on students' professional development; inclusive practices such as valuing diversity, equity, and belonging; clinical and alternate career pathways; and meeting the needs of the public. Specialty-specific match advising should focus on the individual student obtaining an optimal match.

Narrative description of recommendation:
Centralized advising resources, developed in collaboration with specialty societies, should reflect a common core, with supplemental information as needed, and be evidence-informed and data-driven. This will fill an information gap and increase the transparency and reliability of information shared with students. Resources should support the unique needs of traditionally underrepresented, disadvantaged, and marginalized student groups. Guidance contained in the resources can support faculty in managing or eliminating conflicts of interest related to recruiting students to the specialty, advising for the Match, and advocating for students in the Match. Advising tools should incorporate strengths-based approaches to career selection. The resources should include the option of non-clinical careers without stigma. Three areas of focus are envisioned: basic advising information, general career advising, and specialty-specific match advising.

Clear and accurate information regarding clinical and nonclinical career choices should be available for all students. The AAMC's Careers in Medicine (CiM) platform achieves some of the aims of this recommendation. The strengths and limitations of CiM should be examined, expanding the content and broadening access to this resource, including to all students (U.S. MD, U.S. DO, IMG) at no cost throughout their medical school training, or at a minimum, at key career decision-making points, in order to support students' professional development. The public good can be prioritized within this resource with content emphasis on workforce strategies to address the needs of the public, including specialty selection and practice location as well as alternative nonclinical career choices. Links to specialty-specific medical student advising resources should also be incorporated.

Basic advising information should be created for all faculty and staff who interact with students to promote common understanding of career advising, professional development, specialty selection, and application procedures; introduce the role of specialty-specific advisors as distinct from other faculty teachers; and minimize sharing outdated or incorrect information with students. General career advising should be differentiated from specialty-specific match advising or specialty recruiting. General career advisors require expertise in career advising; incorporate strengths-based approaches to career selection including the option of nonclinical careers without stigma; focus on professional development; value diversity, equity, and belonging; incorporate the needs of the public; and introduce the role of specialty-specific match advisors. Specialty-specific match advisors should undergo a training process created as part of this resource development that includes equity in advising and mitigation of bias.

This recommendation creates the ideal state for the UME-GME transition because:
The culture of career advising will be inclusive, trustworthy, non-judgmental, and equitable for all students. Advising tools will be high quality, interactive, honest, and readily available. Both UME and GME will recognize career indecision as a normal part of professional formation and allow flexibility for undecided learners at key transition points including non-standard timelines as necessary. Students will be supported by both UME and GME and use trustworthy, data-driven resources to seek specialties based on a holistic assessment of fit that allows them to be aspirational about their ambitions while being pragmatic about the possibilities. Students will be informed about the workforce needs of society. Students and advisers will avoid contributing to a culture of competition.

How this recommendation links to the fishbone diagrams used to develop the ideal state:
· Student advising—lack of trustworthy data to inform advising

· Stakeholders—public as stakeholder is undervalued

- Culture—culture is competitive. More transparent sharing of information can help the culture to be more open and inclusive.
- Lack of alignment—advising and stakeholder needs
- Inadequate adviser preparation

Implementation "must haves" include:
- Career planning electronic resources must be available at no cost to students.
- Advising resources must be evidence-informed and data driven.
- GME program directors and specialty societies create specialty-specific medical student advising resources to link to from general advising resources.
- A process for regular updates to materials must be developed and implemented.
- The information on non-clinical careers must be useful and non-stigmatizing.

Implementation "nice to haves" include:
- This resource may be linked to existing data sources on disease burden, health disparities, and public health to show the potential public good impact of specialty selection and practice location.
- Some information on non-physician careers should be included.
- There may be a need for buy-in from Council of Deans/Board of Deans, regarding recognizing the value of advising through faculty time allocation and in promotions processes.
- Consider creating a certification process for those who complete training.

Pros	Cons
Can enhance consistency and trustworthiness of advising information	Ownership by one organization may be contro-versial or promote a specific organization's lens
Opportunity to strengthen attention to students' professional and personal development as part of career advising	One-size-fits-all may constrain depth of infor-mation/scope to address needs across all MD, DO, and international schools and clinical/non-clinical careers
Opportunity to align advising with workforce needs and needs of the public	Advising about non-clinical careers could limit physician workforce (minimally)
Single source of information for advisers	
Supports the professional development of students	
Increases quality, consistency, transparency, and reliability of advising	
Promotes evidence-informed, student-centered advising	
Advising materials attentive to issues of equity and minimizing bias can support faculty in learner-focused advising and minimize faculty conflicts of interest.	
Opportunity to focus on specialty selection as separate from recruitment to a field	
Advising about non-clinical careers decreases pressure on schools to match all learners	
Advising about non-clinical careers is a cost-effective strategy to address students changing priorities and encourage student self-actualization	

Relevant examples from the literature (if applicable):

1. General: Careers in Medicine®

2. Specialty specific:
   - Anesthesiology: https://www.asahq.org/education-and-career/asa-medical-student-component/guide-to-a-career-in-anesthesiology
   - Emergency medicine: https://www.cordem.org/resources/professional-development/ascem/
   - Family medicine: https://www.aafp.org/students-residents/medical-students/explore-career-in-family-medicine/why-choose-family-medicine.html
   - Internal medicine: https://www.acponline.org/membership/medical-students/residency
   - Neurosurgery: https://www.aans.org/Trainees/Medical-Students
   - OB/GYN: https://www.acog.org/career-support/medical-students/medical-student-toolkit
   - Ophthalmology: https://www.aao.org/medical-students
   - Otolayngology: https://www.cordem.org/resources/professional-development/ascem/
   - Neurology: https://www.aan.com/tools-and-resources/medical-students/how-to-apply-for-residency/
   - Pathology: https://www.cap.org/member-resources/residents/cap-for-medical-students
   - Psychiatry: https://www.psychiatry.org/residents-medical-students/medical-students/apply-for-psychiatric-residency
   - Pediatrics: https://services.aap.org/en/career-resources/medical-students/
   - Surgery: https://www.facs.org/Education/Resources/Residency-Search

3. Johns Hopkins University School of Medicine Colleges Advisory Program: Faculty development on content, skills incorporated. https://www.hopkinsmedicine.org/som/education-programs/md-program/our-students/colleges-advisory.html

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5. The University of Washington Medical School Colleges System

6. Council of Residency Directors in Emergency Medicine, Advising Up: A Guide for Medical School Deans Regarding the Emergency Medicine Applicant. https://www.cordem.org/globalassets/files/committees/student-advising/2020-updates/asc-em-advising-up.pdf.

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10. Jobs for Physicians Without Residency. Non Clinical Doctors. http://www.nonclinicaldoctors.com/careers-for-physicians-without-residency.html

Specific examples on how this recommendation might be implemented:

- Convene a group of representatives of UME faculty and/or staff advisers and leaders, GME residency program educators, individuals with physician workforce expertise, students, and residents to review the Careers in Medicine® (CiM) platform to identify its strengths and limitations and to review other resources commonly used by students for career planning to understand how CiM could be improved. Diversity, equity, and inclusion concerns and goals should be included in this analysis, with attention to ensuring the needs of the public good. This same group should review the professional development opportunities for medical school career advisers.

- Based upon the above analysis, resources should be revised, updated, expanded, developed, and placed within one centralized resource. A plan for periodic review is needed to ensure the materials remain current. Recommendations for standardized and/or expanded adviser training and professional development should also be developed.

- This resource could be incorporated in and linked to existing data sources on disease burden, health disparities, and public health to allow students to gauge the potential public good impact of specialty selection and practice location.

- To ensure a process for universal access by all medical school career advisers (domestic and international), key stakeholders should be convened to establish fiscal strategy for the long-term support of this shared resource.

- UME and GME educators in each specialty, either in collaboration with or separate from specialty societies and/or boards, could be convened to identify and build consensus on the foundational content for specialty-specific advising to be understood and delivered by advisers. GME program directors would be engaged to identify specialty-specific medical student advising resources to link to the general resource.

- Associations that provide application, assessment, and Match services would be partners to ensure trusted, updated information. A plan for periodically (i.e., annually) updating information would be needed to ensure advising is data-informed and maintains relevance to the needs of the public.

Research questions:

1. How and when do students use a career advising resource?

2. What value do students perceive from a career advising resource, and how does it change their career planning behavior?

3. Do faculty development participants transfer the knowledge, skills, and attitudes into their general career advising practice and/or specialty-specific advising practice?

4. What benefits and limitations do faculty identify from participating in faculty development about general career advising and/or specialty-specific advising?

5. What is the landscape of alternative career pathways for medical school graduates who choose not to practice clinical medicine?

6. How prevalent is not practicing clinical medicine among medical school graduates versus other professions (law, dentistry, veterinary medicine, nursing)?

Citations:

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Recommendation 8:

Educators should develop a salutary practice curriculum for UME career advising.

Narrative description of recommendation:
Guidelines are needed to inform U.S. MD, U.S. DO, and international medical schools in developing their career advising programs. Standardized approaches to advising along with career advisor preparation (both general and specialty-specific) can enhance the quality, equity, and quantity of advising and improve student trust in the advice. Educators can improve medical student career advising by developing formal guidelines with key recommendations based upon professional development frameworks and competencies. Implementation of such guidelines will result in greater consistency, thoroughness, effectiveness, standardization, and equity of medical school career advising programs to better support students in making career decisions and will lay the foundation for career planning across the continuum.

This recommendation creates the ideal state for the UME-GME transition because:
Medical schools will use a structured approach to career advising that begins early, is based on professional development frameworks and competencies, is integrated within an educational program, provides broad exposure to both clinical specialties and alternative career paths, supports early opportunities for exploration, and educates medical students to consider the school's social accountability mandate and public good.

How this recommendation links to the fishbone diagrams used to develop the ideal state:
· Student Advising—lack of alignment of advising and stakeholder needs (i.e., advising not aligned with patient and population health needs)

· Inadequate advisor preparation—lack of current advising resources

· Culture—lack of trust in other stakeholders

Implementation "must haves" include:
· The best practice curriculum for undergraduate medical education career advising will be available online along with supporting resources allowing access by medical school faculty in the U.S. and internationally.

· This curriculum will be aligned with other key career advising resources such as the Association of American Medical Colleges' Careers in Medicine® online tool.

· This curriculum will be created with attention to fairness, equity, and public good.

· Medical school faculty and other advisors will be equipped with the skills, resources, training, and time to implement the recommendations of this curriculum.

Implementation "nice to haves" include:
· The best practice curriculum for undergraduate medical education career advising will be available at no cost to individual faculty and its creation and distribution will be supported by institutions and organizations that comprise the Coalition for Physician Accountability.

Pros	Cons
Can improve quality and consistency of advising for students across schools.	May be resource intensive to develop and implement into curricula.
Allows for broad focus of career advising to include but not be limited to the GME application cycle.	Schools could feel constrained regarding ability to focus on desired school-specific missions. A one-size-fits-all approach may not be the best choice for this recommendation to be successful.

Relevant examples from the literature (if applicable):

1. Howse K, Harris J, Dalgarno N. Canadian National Guidelines and Recommendations for Integrating Career Advising Into Medical School Curricula. Acad Med. 2017; 92:1543-8.

2. Navarro AM, Taylor AD, Pokorny, AP. Three innovative curricula for addressing medical students' career development. Acad Med. 2011; 86:72-76.

3. Cooke M, Irby DM, O'Brien BC. Educating Physicians: A Call for Reform of Medical School and Residency. 1st edition. San Francisco, CA: Jossey-Bass; 2010.

4. Welch B, Spooner JJ, Tanzer K, Dintzner MR. and Implementation of a Professional Development Course Series. Am J Pharm Educ. 2017 Dec; 81(10): 6394

Specific examples on how this recommendation might be implemented:

- A task force comprised of representatives from UME, GME, medical students, and the public could be convened to develop consensus guidelines and recommendations for career advising in medical schools. Ideally the recommendations will address the factors that have been associated with effectively integrated career advising programs: structured, timely, standardized, resourced, and based on professional development frameworks and competencies. Diversity, equity, inclusion, fairness, and public good should be included in their charge.

- National guidelines and recommendations that would be published in a key academic medical journal or through stakeholder publications, as well as be presented at national medical education meetings.

- The content of ongoing training opportunities (e.g., Association of American Medical Colleges Careers in Medicine®) could be reviewed to ensure content alignment with the recommendations and guidelines.

Research questions:

1. What are the facilitators and barriers to medical schools implementing guidelines for professional development and career advising?

2. Does student participation in a guideline-informed career advising curriculum improve student satisfaction with support for and outcomes of their own career decision making?

Citations:

1. Howse K, Harris J, Dalgarno N. Canadian National Guidelines and Recommendations for Integrating Career Advising Into Medical School Curricula. Acad Med. 2017; 92:1543-8.

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Recommendation 9:

UME and GME educators, along with representatives of the full educational continuum, should jointly define and implement a common framework and set of outcomes (competencies) to apply to learners across the UME-GME transition.

Narrative description of recommendation:

A shared mental model of competence facilitates agreement on assessment strategies used to evaluate a learner's progress, and the inferences that can be drawn from assessments. Shared outcomes language can convey information on learner competence with the patient/public trust in mind. For individual learners, defining these outcomes will facilitate learning and may promote a growth mindset. For faculty, defining outcomes will allow for the use of assessment tools aligned with performance expectations and faculty development. For residency programs, defining outcomes will be useful for resident selection and learner handovers from UME, resident training, and resident preparation for practice.

This recommendation creates the ideal state for the UME-GME transition because:

An equitable, coordinated, efficient, and transparent system across the UME-GME transition will support each learner's growth, evidence-informed specialty selection, achievement of competence, and wellness. There will be a shared mental model of competency across the continuum. This could entail a standardized set of general competencies and specialty-focused competencies in certain domains (for example, patient care and medical knowledge). Professionalism of students will be accurately and transparently reported to future program administrators. Educators will define those competencies that programs believe, and data support, are the best predictors of a student's abilities to succeed

How this recommendation links to the fishbone diagrams used to develop the ideal state:

· Student advising—better data on learner competence allows better advice.

· Assessment tools and strategies—harmonized mental model of outcomes allows development of appropriate tools and more standardized faculty development in their use.

· Culture—builds a culture of trust and valuing of medical education. If properly defined, desired attributes would include elements of professionalism so that there is less ambiguity in defining unprofessional behavior.

· Definition of competence—more precise definition of competence allows more clarity for schools, for advisers, for curriculum development, and for the Accreditation Council for Graduate Medical Education.

· Match system—the more robust data available for program directors and presumably a parallel in terms of robust program data available to learners should result in fewer applications as they can be more targeted.

· Stakeholders—the competencies can become elements in the Electronic Residency Application Service (ERAS®) through which they can be searched and filters constructed.

Implementation "must haves" include:

· The language of outcomes must be shared from UME to GME.

· Accountability must be ensured through adoption by accreditors (Liaison Committee on Medical Education, Commission on Osteopathic College Accreditation, Accreditation Council for Graduate Medical Education).

Implementation "nice to haves" include:

· Shared outcomes language may be expanded so that it is applicable to fellowship training and practice.

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Pros	Cons
Transparency and consistency of expectations for students, faculty, schools, and residency programs	Schools could feel constrained regarding ability to focus on desired school-specific outcomes
Strengthens attention to UME–GME continuum	Challenging for international schools to adopt
Facilitates shared assessment tools and strategies	Likely to require extended time to develop based on similar prior efforts; could slow efforts at other changes for the UME-GME transition

Relevant examples from the literature (if applicable):

- American Board of Pediatrics/Accreditation Council for Graduate Medical Education pediatrics milestones project, with progression from novice to expert

- Transitional year milestones

- American Association of Medical Colleges Core Entrustable Professional Activities for Entering Residency

- Physician Competency Reference Set

- Accreditation Council for Graduate Medical Education competencies and harmonized milestones

- Consensus Statement on a Framework for Professional Competence by the Coalition for Physician Accountability https://physicianaccountability.org/wp-content/uploads/2020/05/Coalition-Competencies-Consensus-Statement-FINAL.pdf

Specific examples on how this recommendation might be implemented:

1. Convene a group of educators and public representatives to define the general competencies that are relevant to all of medicine.

2. After #1 is done, convene groups representing each discipline (medicine, surgery, pediatrics, etc.) to use the general competencies to define specialty-specific competencies necessary at the UME-GME transition.

3. In collaboration with accrediting bodies (Liaison Committee on Medical Education, Commission on Osteopathic College Accreditation, Accreditation Council for Graduate Medical Education), develop mechanisms to ensure the use of the outcomes language across the education continuum.

Research questions:

1. What are facilitators and barriers to UME and GME programs incorporating shared outcomes language into their curricula?

2. What are student or resident-sensitive quality measures that capture performance on the competency-based outcomes?

Citations:

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UGRC Final Recommendations With Complete Templates

Recommendation 10:

To eliminate systemic biases in grading, medical schools must perform initial and annual exploratory reviews of clinical clerkship grading, including patterns of grade distribution based on race, ethnicity, gender identity/expression, sexual identity/orientation, religion, visa status, ability, and location (e.g., satellite or clinical site location), and perform regular faculty development to mitigate bias. Programs across the UME-GME continuum should explore the impact of bias on student and resident evaluations, match results, attrition, and selection to honor societies.

Narrative description of recommendation:

Recognizing that inherent biases exist in clinical grading and assessment in the clinical learning environment, each UME and GME program must have a continuous quality improvement process for evaluating bias in clinical grading and assessment and the implications of these biases, including honor society selection. This recommendation is intended to mitigate bias in clinical grading, transcript notations, MSPE reflections of remediation, and residency evaluations. This recommendation is not intended to create requirements for reporting race, ethnicity, gender identity, sexual identity, religion, or ability of learners as data analysis must be limited to data readily available to each school.

Pros	Cons
Shared resources for methods of assessment of bias in clinical grading and existing faculty development to eliminate bias	Need for exploratory resources and funding to examine extent and impact
Eliminating bias in clinical grading	Variations in assessments limiting collaboration and shared approaches, e.g., tiered grading, pass/fail, milestones across the UME-GME continuum
Equitable access for students and residents to honor society selection	Variations in institutions' selection processes for honor societies
Increased awareness and reporting of inherent biases in clinical grading	

Specific examples on how this recommendation might be implemented:

1. Each medical school will perform a validated analysis of clinical grading and implement targeted faculty development to eliminate bias in the clinical learning environment.

2. UME and GME programs will explore the impact of bias at their institutions on student and resident evaluations, match results, attrition, remediation processes, and student or resident selection for honor societies.

Research questions:

1. What are the established methods for examining bias in clinical grading by race, ethnicity and gender?

Citations:

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Recommendation 11:

The UME community, working in conjunction with partners across the continuum, must commit to using robust assessment tools and strategies, improving upon existing tools, developing new tools where needed, and gathering and reviewing additional evidence of validity.

Narrative description of recommendation:
Educators from across the education continuum should use shared competency outcomes language to guide development or use of assessment tools and strategies that can be used across schools to generate credible, equitable, value-added competency-based information. Assessment information should be shared in residency applications and a post-match learner handover. Licensing examinations should be used for their intended purpose to ensure requisite competence.

This recommendation creates the ideal state for the UME-GME transition because:
An equitable, coordinated, efficient, and transparent system across the UME to GME transition will provide trustworthy documentation of competence across the continuum using reliable assessment tools that generate meaningful information for learners, educators, and where appropriate, regulators. Graduated medical students will be ready to serve as physicians in training. They will be facile with the appropriate knowledge, skills, and attitudes and will be equipped with an advancing professional identity and a confident humility. They will be prepared for the realities of residency and a lifelong career as well as trustworthy to practice under supervision, asking for help when needed. Professionalism of students will be accurately and transparently reported to future program administrators. Reliable and valid standardized assessment tools will document competence

How this recommendation links to the fishbone diagrams used to develop the ideal state:
· Assessment tools and strategies — lack of validity evidence for assessment tools and strategies; varied approaches to assessment across schools; fostering of mistrust between UME and GME

Implementation "must haves" include:
· Assessment tools must address multiple competencies needed for practice.

· There needs to be a plan for study to gather validity evidence.

· Attention to fairness, equity, and minimizing bias is critical.

Implementation "nice to haves" include:
· The use of assessment tools within systems for programmatic assessment may need to be optimized.

· There may be a need for a strategy to encourage longitudinal learner-educator relationships and some continuity in education setting.

· An evaluation of the usefulness and risks of a mechanism for aggregate assessment data feeding into a database used for evaluating learner success in programs and practice may be necessary.

Pros	Cons
Improve the quality of assessment data to provide meaningful information in resident selection	Excess focus on assessment data as well as ranking and sorting learners inhibits learning, heightens student stress
Use assessment tools to promote students' achievement of competence and readiness for GME	Risk of drawing inferences from assessment data that do not predict performance in GME — based on small differences in performance that are not clinically meaningful
	Risk of focus on small differences in performance that are not educationally or clinically meaningful (non-significant differences, standard error of mean)

Relevant examples from the literature (if applicable):

· Accreditation Council for Graduate Medical Education toolbox of assessment methods

· CanMEDS assessment tools http://canmeds.royalcollege.ca/en/tools

Specific examples on how this recommendation might be implemented:

1. In GME, the example of harmonized milestones across all disciplines is a model encouraging consistent language for outcomes across a broad range of programs and institutions.

2. Where possible, use of existing assessment tools that have evidence of validity, which could come from the Accreditation Council for Graduate Medical Education or programs, is recommended rather than creating new tools. With the discontinuation of the United States Medical Licensing Examination® Step 2 Clinical Skills examination, the National Board of Medical Examiners may be able to work with schools to improve the reliability and standards of school-based Objective Structured Clinical Examinations and other simulations.

3. Convene a group of education and assessment leaders to ensure that implementation of shared assessments would be achievable for schools; beneficial, fair, and equitable for students; and helpful to program directors at the UME to GME transition.

Research questions:

1. What are facilitators and barriers to implementation of recommended assessment tools in UME and GME programs?

2. Are recommended assessment tools perceived by program directors and residency selection committees as useful in the resident selection process?

3. What is the validity evidence for assessments of performance measured with any of the assessment tools?

Citations:

1. Bouriscot K, Kemp S, Wilkinson T, et al. Performance assessment: Consensus statement and recommendations from the 2020 Ottawa Conference. Med Teach. 2021;43:58-67.

2. McConville JF, Woodruff JN. A shared evaluation platform for medical training. N Engl J Med. 2021;384:491-3.

3. Van der Vleuten et al. A model for programmatic assessment fit for purpose. Med Teach. 2012:34:205-14.

4. Lockyer J, Carraccio C, Chan MK, et al. Core principles of assessment in competency-based medical education. Med Teach. 2017;39:609-16.

Recommendation 12:

Using the shared mental model of competency and assessment tools and strategies, create and implement faculty development materials for incorporating competency-based expectations into teaching and assessment.

Narrative description of recommendation:
Faculty must understand the purpose of outcomes-focused education, specific language used to define competence, and how to mitigate biases when assessing learners. They must understand the purpose and use of each assessment tool. The intensity and depth of faculty development can be tailored to the amount and type of contact that individual faculty have with students. Clerkship directors, academic progress committees, student competency committee members, and other educational leaders require a more in-depth understanding of the assessment system and how determinations of readiness for advancement are made. This faculty development requires centralized electronic resources and training for trainers within institutions. Review of training materials, and completion of any required activities to document review and/or understanding, should be required on a regular basis.

This recommendation creates the ideal state for the UME-GME transition because:
An equitable, coordinated, efficient, and transparent system across the UME to GME transition will support each learner's growth, evidence-informed career and specialty selection, achievement of competence, and wellness. It also will provide trustworthy documentation of competence across the continuum using reliable assessment tools that generate meaningful information for learners, educators, and where appropriate, regulators. Faculty, learners, and the structure of the system will cultivate inclusive learning environments that foster a growth mindset. The medical education and health care systems will minimize the effects of racism and harmful bias. Faculty development will clarify expectations at each level of training, teach remediation strategies, and describe how patient safety is ensured (direct vs. indirect supervision, schedule variation, etc.)

How this recommendation links to the fishbone diagrams used to develop the ideal state:
· Assessment tools and strategies—consistent, fair, and equitable use of assessment tools across programs in UME and GME
· Definition of competence—faculty assessment of learners is based on a shared outcomes language and understanding of the purpose and use of assessment tools

Implementation "must haves" include:
· Faculty development materials must be available electronically at MD, DO, and international schools.
· Content addressing competency-based assessment, direct observation and feedback, purpose and use of assessment tools, minimizing bias, and promoting equity are essential.
· A process needs to be developed and implemented to confirm faculty understanding such as required mastery questions.

Implementation "nice to haves" include:
· Materials intended to train the trainer may be developed for participants to train additional local faculty.
· There may be a need for a specific plan for periodic review and updating of these resources.

Pros	Cons
Promotes appropriate use of a shared mental model and assessment tools and strategies	Training may be perceived to be too resource-intensive
Can promote consistent, fair, and equitable assessment	Faculty may dislike training on assessment or resent requirements for training
Enhances shared language, expectations, and assessment approaches across the UME-GME transition	
Can standardize approaches across MD, DO, international schools	

Relevant examples from the literature (if applicable):

· Association of American Medical Colleges Core Entrustable Professional Activities Curriculum Developers' Guide and Faculty and Learners' Guide

· Accreditation Council for Graduate Medical Education Assessment Guidebook

· Royal College of Physicians and Surgeons of Canada. Competence by Design. Faculty Development. https://www.royalcollege.ca/rcsite/cbd/cbd-faculty-development-e

· University of Virginia Keeley M, Gusic M, Morgan H, et al. Moving Toward Summative Competency Assessment to Individualize the Post Clerkship Phase.Acad Med.December 2019;94:1858-1864.

Specific examples on how this recommendation might be implemented:

1. After the development of shared outcomes language and selection of assessment tools and strategies, assessment experts from UME and GME convene to develop online modular faculty development materials that would be available in MD, DO, and international schools.

2. Educators develop a plan to evaluate the effectiveness of the online faculty development materials.

3. Educators develop a plan to update the online faculty development materials periodically as needed.

Research questions:

1. Do faculty development participants transfer the knowledge, skills and attitudes into their assessment practice?

2. What benefits and limitations do faculty identify from participating in faculty development about assessment?

3. What faculty training interventions help to mitigate bias and improve equity in assessment?

Citations:

1. Sirianni G, Takahashi SG, Myers J. Taking stock of what is known about faculty development in competency-based medical education: A scoping review paper. Med Teach. 2020;42:909-15.

Recommendation 13:

Convene a workgroup to explore the multiple functions and value of away rotations for applicants, medical schools, and residency programs. Specifically, consider the goals and utility of the experience, the impact of these rotations, and issues of equity including accessibility, assessment, and opportunity for students from groups underrepresented in medicine and financially disadvantaged students.

Narrative description of recommendation:
Away rotations can be cost prohibitive yet may allow a student to get to know a program, its health system, and surrounding community. Some programs are reliant on away rotations to showcase their unique strengths to attract candidates. Given the multifactorial and complex role that away rotations fulfill, a committee should be convened to conduct a thorough and comprehensive review of cost versus benefit of away rotations, followed by recommendations from that review. Non-traditional methods of conducting and administering away rotations should be explored (e.g., offering virtual away rotations, waiving application fees, or offering away stipends particularly for financially disadvantaged students). Questions explored by the workgroup should include:

· The circumstances when a learner should complete an away rotation
· How the learner's medical school offerings or lack of offerings predicates the basis for completing away rotations
· Identification of learners who would most benefit from away rotations despite cost
· The probability that completion of away rotations will lead to a residency position at the program where the away rotation was completed
· Should there be a limit on the number of away rotation and under what circumstances
· The cost of completing away rotations
· Alternatives to away rotation
· Student impact when home institutions cannot provide specific clinical experiences

This recommendation creates the ideal state for the UME-GME transition because:
Away electives will be purposed for broadening educational exposure and not essential for successful matching.

How this recommendation links to the fishbone diagrams used to develop the ideal state:
· Applicants clinical experience and knowledge of specialty is limited
· Financial burden
· Opportunity cost for time spent on application process

Specific examples on how this recommendation might be implemented:
Convene a group of stakeholders to review any data and explore away rotation benefits that includes ACGME, specialty colleges, student organizations, residency program representation from all types of organizations, specialties and program types: university-based, independent academic medical center, community, military, MD and DO-granting medical schools as well as ECFMG.

Research questions:
1. Did the lack of away rotations negatively impact any particular subset of medical students' ability to match into a desired program compared to previous years?
2. Did the lack of away rotations negatively impact any types of residency programs (community, university, etc.) or residency specialties in matching their desired candidates when compared to previous years?

Citations:

1. Winterton M, Ahn J, Bernstein J. The prevalence and cost of medical student visiting rotations. BMC Med Educ. 2016;16(1):291. Published 2016.

2. Higgins E, Newman L, Halligan K, Miller M, Schwab S, Kosowicz L. Do audition electives impact match success?. Med Educ Online. 2016;21:31325. Published 2016 Jun 13.

Recommendation 14:

A convened group including UME and GME educators should reconsider the content and structure of the MSPE as new information becomes available to improve access to longitudinal assessment data about applicants. Short-term improvements should include structured data entry fields with functionality to enable searching.

Narrative description of recommendation:
The development of UME competency outcomes to apply across learners and the continuum is essential in decreasing the reliance on board scores in the evaluation of the residency applicant. These will take time to develop and implement and may be developed at different intervals. As new information becomes available to improve applicant data, the MSPE should be utilized to improve longitudinal applicant information. In addition, improvements in the MSPE, such as structured data entry fields with functionality to enable searching, should be explored.

This recommendation creates the ideal state for the UME-GME transition because:
A reconsidered Medical Student Performance Evaluation will provide trustworthy documentation of competence across the continuum using reliable assessment tools that generate meaningful information for learners, educators, and where appropriate, regulators. It will also create a foundation of trust, transparency, and reliability among students, schools, programs, and the communities served. Applicants will be certified by their medical school as fully prepared, appropriate, and trustworthy for residency training. There will be social accountability and transparency for medical schools in the validity of this certification, and programs will have information regarding an applicant's current competence, the trajectory of growth during medical school, and measurement accuracy.

How this recommendation links to the fishbone diagrams used to develop the ideal state:
· Lack of a shared mental model

· Varied approaches to assessment at schools

· Varied and insufficient resources for assessment

· Medical student reporting lacks consistent, comparable information from objective and universal reporting tools leading to mistrust by residency programs.

· Lack of consistent data and resources for holistic review of applicants

· Lack of metrics in multiple key competencies to compare candidates leading to program reliability on board scores

· Lack of trustworthy, validated, bidirectional information

· There are no consequences to UME for inaccuracy

Pros	Cons
Utilizing an established means of communication between UME/GME for any newly developed applicant outcome/competencies	Medical school noncompliance with the Medical Student Performance Evaluation
Consistent formatting of the Medical Student Performance Evaluation if fillable document is established	Mistrust by programs of information provided
Improved communication between UME and GME on candidate performance	

Relevant examples from the literature (if applicable):

1. Giang D. Medical Student Performance Evaluation (MSPE) 2017 Task Force Recommendations as Reflected in the Format of 2018 MSPE. J Grad Med Educ. 2019;11(4):385-388.

2. Swide C, Lasater K, Dillman D. Perceived predictive value of the Medical Student Performance Evaluation (MSPE) in anesthesiology resident selection. J Clin Anesth. 2009 Feb;21(1):38-43.

Specific examples on how this recommendation might be implemented:

· A group of stakeholders could be convened to develop and implement MSPE improvement.

Research questions:

1. Do Medical Student Performance Evaluation (MSPE) improvements increase residency program reliance on MSPE information?

2. Is the MSPE an accurate representation of medical student performance?

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Recommendation 15:

Structured Evaluative Letters (SELs) should replace all Letters of Recommendation (LORs) as a universal tool in the residency program application process.

Narrative description of recommendation:
A Structured Evaluative Letter (SEL), which would include specialty-specific questions, would provide knowledge from the evaluator on student performance that was directly observed versus a narrative recommendation. The template should be based on an agreed upon set of core competencies and allow equitable access to completion for all candidates. The SEL should be based on direct observation and must focus on content that the evaluator can complete. Faculty resources should be developed to improve the quality of the standardized evaluation template and decrease bias.

This recommendation creates the ideal state for the UME-GME transition because:
Increased standardization of letters of recommendation will reduce unnecessary variability in the materials residency programs consider when reviewing candidates' applications and will help streamline the selection process. These letters will work toward mitigating racism and other biases that should not be a part of the learner selection process.

How this recommendation links to the fishbone diagrams used to develop the ideal state:
· Letters of recommendation lack consistency among specialty requirements with confusion/bias to templates

· Applicant info not in a structured, validated format usable for large scale review

· Lack of understandable plain language reporting of a student assessment

· Varied, insufficient resources for assessment

Pros	Cons
Applicant information shared with potential residency programs on observed outcomes and performance	Template that is difficult to complete by an evaluator (process or content)
Applicants ability to obtain the structured evaluative letter	Residency programs not utilizing the structured evaluative letter as a means of applicant evaluation
Convenient, fillable document for the evaluator	
Decreased bias in applicant evaluations	

Relevant examples from the literature (if applicable):
1. Official Cord Standardized Letter of Evaluation (SLOE). Council of Residency Directors in Emergency Medicine. https://www.cordem.org/resources/residency-management/sloe/. Accessed June 7, 2021.

2. SLOE – IM: DOM Summary Letter. Internal Medicine Letter of Evaluation Template https://higherlogicdownload.s3.amazonaws.com/IM/fecab58a-0e31-416b-8e56-46fc9eda5c37/UploadedImages/Documents/resources/SLOE_DOM_Summary_Letter_Template.pdf. Accessed June 7, 2021.

Specific examples on how this recommendation might be implemented:
· A template can be developed by convening a group of learners, schools, and programs with input from specialty colleges.

· Decisions need to be made on the appropriate location of the structured evaluative letters to enable electronic completion and submission. Housing the document within the application system should be considered.

· Faculty development tools to support structured evaluative letters should be developed.

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Research questions:

1. Search and review additional articles on the outcomes of present emergency medicine standardized letter of evaluations or other templated letters of recommendation.

2. Does the addition of a structured evaluative letter assist the program in the evaluation of an applicant greater than the letter of recommendation?

3. Does the addition of a structured evaluative letter decrease bias in the evaluation of an applicant?

Citations:

1. Jackson JS, Bond M, Love JN, Hegarty C. Emergency Medicine Standardized Letter of Evaluation (SLOE): Findings From the New Electronic SLOE Format. J Grad Med Educ. 2019;11(2):182-186.

2. Katirji L, Smith L, Pelletier-Bui A, et al. Addressing Challenges in Obtaining Emergency Medicine Away Rotations and Standardized Letters of Evaluation Due to COVID-19 Pandemic. West J Emerg Med. 2020;21(3):538-541.

3. Negaard M, Assimacopous E, Harland K, Van Heukelom J. Emergency Medicine Residency Selection Criteria: An Update and Comparison. AEM Education and Training 2018: 2: 146-153

Recommendation 16:

To raise awareness and facilitate adjustments that will promote equity and accountability, self-reported demographic information of applicants (e.g., race, ethnicity, gender identity/expression, sexual identity/orientation, religion, visa status, or ability) should be measured and shared with key stakeholders, including programs and medical schools, in real time throughout the UME-GME transition.

Narrative description of recommendation:

Inequitable distribution of applicants among specialties is not in the best interest of programs, applicants, or the public good. Bias can be present at any level of the UME-GME transition. A decrease in diversity at any point along the continuum provides an important opportunity to intervene and potentially serve the community in ways that are more productive. An example of accountability and transparency in an inclusive environment across the continuum is a diversity dashboard for residency applicants. A residency program that finds bias in its selection process could go back in real time to find qualified applicants who may have been missed, potentially improving outcomes

How this recommendation links to the fishbone diagrams used to develop the ideal state:

· Bias

· Needs of society not met (underrepresented in medicine applicants excluded from some programs/specialties)

· Program director stress

Pros	Cons
Increased attention and support to trainees underrepresented in medicine (due to race, ethnicity, gender, sexual orientation/identity, visa status, or ability) moving through medical school and the transition.	Medical schools with discrepancies in grading could change academic expectations instead of ensuring all students have support and resources to excel. This could make it more difficult for students to demonstrate academic excellence (e.g. if honor societies are removed from medical schools), or result in applicants beginning residency less prepared.
More underrepresented in medicine applicants (due to race, ethnicity, gender, sexual orientation/identity, visa status, or ability) into competitive areas and subspecialties.	Fewer applicants into primary care specialties, since curricula may increase exposures to sub-specialties.
	Medical schools in less diverse areas may be penalized if compared to national means instead of the applicant pool or population served.
	Self-fulfilling prophecy, that less diverse institutions may struggle to increase diversity in the absence of a track record of success.

Relevant examples from the literature (if applicable):

1. Lattanza LL, Maszaros-Dearolf L, O'Connor MI, Ladd A, Bucha A, Trauth-Nare A, Muchley JM. The Perry Initiative's Medical Student Outreach Program recruits women into orthopaedic residency. Clin Orthop Relat Res (2016) 474:1962-1966

2. Nellis JC, Eisele DW, Francis HW, Hillel, AT, Lin SY. Impact of a mentored student clerkship on underrepresented minority diversity in otolaryngology-head and neck surgery. Laryngoscope, 126:2684-2688, 2016

3. Vajapey S, Cannada LK, Samora JB. What proportion of women who received funding to attend a Ruth Jackson Orthopaedic Society meeting pursued a career in orthopedics? Clin Orthop Relat Res (2019) 477:1722-1726

4. Yoon JD, Ham SA, Reddy, ST, Curlin FA. Role models' influence on specialty choice for residency training: a national longitudinal study. J Grad Med Educ. April 2018. 149

Specific examples on how this recommendation might be implemented:
- Medical schools and residency programs are provided with "dashboards" which give them rapid feedback on the status of underrepresented groups within their student and applicant population. These dashboards should interact with the level of detail provided in the electronic application platform, so that it is apparent when bias is present in a specific metric/search term/filter (for medical schools and residency programs) or overall selection strategy (for residency programs).
- Application management is reported for medical schools (i.e. proportion of a specific population entering competitive subspecialties, selected for honor societies, earning honors in each clerkship) and residency programs (i.e. proportion of applications received from populations of interest, and how many of those applicants were interviewed and ranked), creating accountability.
- A pop-up warning appears to a program director that a certain group has been removed 50% by a certain filter. Similarly, a letter writer or student affairs representative could receive a pop-up alert that a certain keyword being entered has significant bias.

Research questions:
1. Have any medical schools already started monitoring their underrepresented in medicine (UiM) pipeline in the UME-GME transition? What programs are already in place to promote success of UiM in medical school? What programs are in place to increase recruitment into competitive subspecialties?

2. How do dashboards alone, without reporting, affect behavior? Does behavior change with internal accountability (i.e. to the dean, designated institutional official), or is public reporting required? What are the reasons applicants choose a specialty, and how much do curricular choices and mentorship in medical school affect that decision?

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Recommendation 17:

To optimize utility, discrete fields should be available in the existing electronic application system for both narrative and ordinal information currently presented in the MSPE, personal statement, transcript, and letters. Fully using technology will reduce redundancy, improve comprehensibility, and highlight the unique characteristics of each applicant.

Narrative description of recommendation:

Optimally, each applicant will be reviewed individually and holistically to evaluate merit. However, some circumstances may require rapid review. The 2020 NRMP program directors' survey found that only 49% of applications received an in-depth review. The application system should utilize modern technology to maximize the likelihood that applications are evaluated in a way that is holistic, mission-based, and equitable.

Currently, applications are assessed based on the information that is readily available, which may place undue emphasis on scores, geography, medical school, or other factors that perpetuate bias. Adding specific data gives an opportunity for applicants to demonstrate their strengths in a way that is user-friendly for program directors. Maximizing the amount of accurate information readily available in the application will increase capacity for holistic review of more applicants and improve trust during the UME to GME transition. Although not all schools and programs will align on which information should be included, areas of agreement should be identified and emphasized.

How this recommendation links to the fishbone diagrams used to develop the ideal state:

· Lack of trustworthy, validated, and bidirectional information — improved reporting of the Medical Student Performance Evaluation and re-designing Electronic Residency Application Service® to include a central report of the applicant's medical school attributes helps the reviewer to better process data and make informed decisions.

· Program Director stress — streamlining and aggregated data succinctly along with searchable data will improve program director stress and efficiency in reviewing applications.

· Program Director Fear of Missing Out – improved transparency to program directors who will have a better understanding of the applicants selected.

· Bias – increased holistic review, even when resources do not allow detailed individual application review

Pros	Cons
Maximize breadth and variety of information (including personal background and medical school evaluation data) available to program directors in a user-friendly format for rapid, wide-scale review.	UME institutions have different grade reporting systems (H/HP/P/F vs A/B/C/D/E) that are not easily translatable from one institution to another, which may limit the utility of a single data field for grades. May need to focus on non-metric entries.
Standardize and streamline the information available about all applicants (U.S. and international applicants) applying to U.S. residency programs.	Letter writers may be hesitant to report data that negatively affects the applicant.
Aggregate accessible, easily processed data with searchable data fields to reduce time and stress spent on processing applicant data.	Reporting of data could decrease the competency-based mindset and decrease wellness for medical students.
Improve an equitable application process for all students including those underrepresented in medicine, international, and DO applicants.	Will require additional faculty development for program directors to maximally utilize the new application functions.

Pros	Cons
Increase transparency in reporting applicant data and increase trust in the system.	Program directors may become over reliant on automated searches, leading to a decrease in detailed reading of applications and holistic review.
Students can easily demonstrate excellence in multiple domains, aligned with program mission.	

Relevant examples from the literature (if applicable):

1. Hammoud MM, Standiford T, Carmody B. Potential implication of COVID-19 for the 2020-2021 Residency Application Cycle. JAMA. 2020;321(1):29-30.

2. Geary A, Wang V, Cooper J, et al. Analysis of Electronic Residency Application Service (ERAS) Data Can Improve House Staff Diversity. J Surg Res. 2021 Jan;257:246-251.

3. Kang HP, Robertson DM, Levine WN, et al. Evaluating the Standardized Letter of Recommendation Form in Applicants to Orthopaedic Surgery Residency. J Am Acad Orthop Surg. 2020 Oct 1;28(19):814-822.

Specific examples aligned with the overall thematic recommendation (up to 3 granular examples of how the recommendation could be applied/implemented):

- Allow applicants to prioritize lists of extracurricular activities within Electronic Residency Application Service®. Incorporate drop-down menus for role, location, and area of interest to align applicant entries with program search options.

- Integrate some aspects of the standardized letters (such as the Standardized Letter of Evaluation and Medical Student Performance Evaluation[MSPE]) into the application system. Data and reported metrics from these letters are entered into discrete, searchable fields, potentially also with keywords based on areas of excellence (currently captured as "three key points" in the MSPE), to promote holistic review. Information about the letter writer (location, community vs. university setting, clinical volume, etc.) is automatically collected and searchable.

- Optional structured fields for schools to enter awards, honor societies, clerkship examination scores, and other metrics used in a student's summative evaluation. These structured data fields could include search options and reference statistics to streamline information retrieval. Areas of concern (professionalism, remediation, etc.), could also be available in searchable fields. The filters for these sensitive topics can be monitored to ensure they are not being used for immediate rejections. Although not all schools will use these fields, they may be very important for some schools trying to help students display excellence.

- Discrete field is added for the personal statement so programs can perform a free text search filter for their program name, suggesting an individualized personal statement.

Research questions:

1. What available on the current Standardized Letters of Evaluation used by the emergency medicine, orthopedic, and other specialties?

2. Is there any data on which part of the Medical Student Performance Evaluation is most useful?

3. Is there any data on which metrics in the Electronic Residency Application Service® are most useful? (Will help us understand what we should keep and what can be eliminated.)

4. Was there improved efficacy of reviewing applications using this recommendation? (more applications reviewed, more detailed review, more components considered)

5. Does this recommendation improve honest reporting and depiction of an applicant?

6. How does transparent reporting affect the number of interviews an applicant may receive?

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Recommendation 18:

To promote equitable treatment of applicants regardless of licensure examination requirements, comparable exams with different scales (COMLEX-USA and USMLE) should be reported within the electronic application system in a single field.

Narrative description of recommendation:
Osteopathic medical students make up 25% of medical students in U.S. schools and these students are required to complete the COMLEX-USA examination series for licensure. Residency programs may filter out applicants based on their USMLE score leading many osteopathic medical students to sit for the USMLE series. This creates substantial increase in cost, time, and stress for osteopathic students who believe duplicate testing is necessary to be competitive in the Match. A combined field should be created in the Electronic Residency Application Service (ERAS) that normalizes the scores between the two exams and allows programs to filter based only on the single normalized score. This will mitigate structural bias and reduce financial and other stress for applicants

How this recommendation links to the fishbone diagrams used to develop the ideal state:
Fear:
- Fear of not matching — Applicants have limited career options outside of the Match and perceive no flexibility to change specialty or the timeline.
- Financial burden, educational burden, and opportunity cost for time spent on application process

Applicant Stress:
- Process is very different for different groups of applicants (U.S.MD, U.S.DO, IMG, etc.), without clear expectations

Bias:
- Filters can cause bias without alerting programs (ie USMLE filters removing DO applicants)
- Bias favors certain applicants, schools, etc., who may resist complete equity
- Lack of Trustworthy, validated information to applicants
- Conflicting advice from multiple sources (peers, UME, GME, online)

Needs of Society not prioritized:
- Student effort spent on transition instead of working toward the greater good (research, patient care, wellness)
- Significant waste due to redundant licensing exams (multiple steps of both COMLEX and USMLE, some applicants take both). Uncertain that these metrics are predictive of competence.

Pros	Cons
This change will decrease the number of programs that inadvertently filter out DOs or who do not understand the equivalency of the licensure examinations. As a result, fewer DO applicants will feel compelled to take the USMLE. Currently, over 70% of osteopathic medical students believed they must take the USMLE to be competitive in the Match resulting in over 4000 students wasting time, enduring additional stress, and paying over $5M out of pocket that is not needed.	If filtering based on exam is a manifestation of program bias against osteopathic students, this may persist through other avenues.

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Pros	Cons
	Students may continue to have a fear that they will be discriminated against if they don't take the USMLE and continue to take additional examinations
	Promoting equity for osteopathic students may decrease match rates for students from other groups

Relevant examples from the literature (if applicable):

1. American Medical Association Officially Recognizes COMLEX-USA's Equality with USMLE. National Board of Osteopathic Medical Examiners. Published December 3, 2018. https://www.nbome.org/news/american-medical-association-officially-recognizes-comlex-usas-equality-with-usmle/. Accessed June 2, 2021.

2. Sandella JM, Gimpel JR, Smith LL, Boulet RJ, PhD. The Use of COMLEX-USA and USMLE for Residency Applicant Selection. J Grad Med Educ (2016) 8 (3): 358–363.

3. COMLEX-USA and Acceptance for ACGME Fellowship Program Applications. NBOME Update. Published January 18, 2016. https://www.nbome.org/docs/NBOME_COMLEX_ACGME_Fellowships.pdf. Accessed June 2, 2021.

4. COMLEX-USA for Residency Program Directors. National Board of Osteopathic Medical Examiners. Published March 2020. https://www.nbome.org/Content/Exams/COMLEX-USA/COMLEX-USA_Residency_Program_Directors_Guide.pdf. Accessed June 2, 2021.

5. Freida. American Medical Association. https://freida.ama-assn.org, Accessed June 2, 2021.

6. Hasty RT, Snyder S, Suciu GP, Moskow JM. Graduating osteopathic medical students' perceptions and recommendations on the decision to take the United States Medical Licensing Examination. J Am Osteopath Assoc. 2012 Feb;112(2):83-9.

7. Performance Data. USMLE®. https://www.usmle.org/performance-data/. Accessed June 2, 2021.

8. AACOM Reports on Student Enrollment. American Association of the Colleges of Osteopathic Medicine. https://www.aacom.org/reports-programs-initiatives/aacom-reports/student-enrollment. Accessed June 2, 2021.

9. Convert Your COMLEX-USA 3-Digit Score. National Board of Osteopathic Medicine Examiners. https://www.nbome.org/cbt_score_conv/. Accessed June 2, 2021.

10. Carmody B. The USMLE for DO Students: How to Stop Fleecing Osteopathic Medical Students. The Sheriff of Sodium. Published December 13, 2019. https://thesheriffofsodium.com/2019/12/13/the-usmle-for-dos-how-to-stop-fleecing-osteopathic-medical-students/. Accessed June 2, 2021.

Specific examples on how this recommendation might be implemented:

· Electronic Residency Application Service® (ERAS) combines the fields for licensure exams and reports dates and percentiles (or pass/fail) for COMLEX/USMLE together. Alternatively, ERAS could apply a conversion formula so that all scores are reported in a comparable manner.

· Discrete fields in Electronic Residency Application Service® for clerkship exams report National Board of Medical Examiners and National Board of Osteopathic Medical Examiners together similar to the process above.

· Electronic Residency Application Service® will only allow programs to filter based on the percentile or converted score and will remove any ability to filter applicants by the specific exam taken.

Research questions:

1. Is there any data to suggest the accuracy of the conversion tool currently being utilized to convert COMLEX scores to the USMLE scoring convention?

2. Has there been any published information as to why the National Board of Osteopathic Medical Examiners would

want to continue using their current scoring convention versus the one used by the National Board of Medical Examiners?

3. Any data on how many programs currently refuse to accept the COMLEX or will not consider applicants with only the COMLEX and not the USMLE?

4. Will this change in exam score reporting reduce the numbers of osteopathic medical students taking the USMLE?

Recommendation 19:

Filter options available to programs for sorting applicants within the electronic application system should be carefully created and thoughtfully reviewed to ensure each one detects meaningful differences among applicants and promotes review based on mission alignment and likelihood of success at a program.

Narrative description of recommendation:
Currently, residency programs receive more applications than they can meaningfully review. For this reason, filters are sometimes used to identify candidates that meet selection criteria. However, some commonly used filters may exclude applicants who are not meaningfully different from ones who are included (e.g., students who took a different licensure examination, students with statistically insignificant differences in scores, students from different campuses of the same institution, etc.). The use of free text filters increases the risk of not identifying, or mischaracterizing applicant characteristics. All applications should be evaluated fairly, independent of software idiosyncrasies. Filters should be developed in conjunction with all stakeholders. Each filter that is offered should align with the missions and requirements of residency programs.

How this recommendation links to the fishbone diagrams used to develop the ideal state:

· Program director stress/limited resources

· Bias

· Lack of trustworthy, validated, bidirectional information

Pros	Cons
Program directors decrease utilization of score filters and increase the use of a broader set of mission-based filters.	Applicants feel pressure to indicate interests that they do not hold in order to maximize likelihood of match in a specific program or specialty.
Applicants identify what qualities they most want to display to residency programs.	Residency programs use workarounds outside of the application system, which will limit monitoring.
Medical schools thoughtfully identify the important qualities of each applicant, including which ones truly standout academically, and pursue transparency in reporting.	Students without clinical opportunities for letters are at a disadvantage.

Relevant examples from the literature (if applicable):

1. Garber AM, Kwan B, Williams CM, et al. Use of Filters for Residency Application Review: Results From the Internal Medicine In-Training Examination Program Director Survey. J Grad Med Educ. 2019;11(6):704-707.

2. Prober CG, Kolars JC, First LR, Melnick DE. A plea to reassess the role of United States Medical Licensing Examination Step 1 Scores in Residency Selection. Acad Med. 2016;91(1):12-15.

Specific examples on how this recommendation might be implemented:

· Point-based score filters are replaced by filters which identify applicants who performed with statistical equivalence on either USMLE or COMLEX. Similarly, filters accommodate for test date variability among applicants as licensure examinations convert to pass/fail score reporting.

· Electronic Residency Application Service® tabulates grades entered by medical schools or standardized letters of evaluation to allow programs to identify applicants by percentile tiers across different schools.

· Instead of free text filters, missional keywords for filters are developed, which allow applicants to select a limited number of focus areas, e.g. geographical locations, academic pursuits, patient populations, or other areas

of potential alignment with programs. Keywords would be a less detailed addition to the three noteworthy characteristics in the Medical Student Performance Evaluation, but would allow programs to identify applicants out of a large applicant pool based on factors other than academic metrics. They would be more transparent than free text filters.

- Filters are added to classify letters of recommendation by their writer (i.e. chair, program director, institution, and geographic location) and underlying clinical site (i.e. academic vs. rural, number of patient encounters). In this way, a program could identify applicants who rotated at their institution, at a rural community program, or in a particular state, or if the letter was from a writer who observed the applicant in more than 5 patient encounters per day. This would be especially useful for evaluating international medical graduates who have variable clinical experiences or for community programs that need to gauge applicant interest in their program.

Research questions:

1. How do mission-based filters affect vulnerable populations of applicants?

2. Do the new filters identify applicants who are able to succeed at a program?

3. How does the use of any filter affect the system — should our goal be to have individual thorough holistic review of each application?

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Recommendation 20:

Convene a workgroup of educators across the continuum to begin planning for a dashboard/portfolio to collect assessment data in a standard format for use during medical school and in the residency application process. This will enable consistent and equitable information presentation during the residency application process and in a learner handover.

Narrative description of recommendation:
Key features of a dashboard/portfolio in the UME-GME transition, and across the continuum, should include competency-based information that aligns with a shared mental model of outcomes, clarity about how and when assessment data were collected, and narrative data that uses behavior-based and competency-focused language. Learner reflections and learning goals should be included. Dashboard development will require careful attention to equity and minimizing harmful bias, as well as a focus on the competencies and measurements that predict future performance with patients. Transparency with students about the purpose, use, and reporting of assessments, as well as attention to data access and security, will be essential.

How this recommendation links to the fishbone diagrams used to develop the ideal state:
· Assessment tools and strategies

Implementation "must haves" include:
· The platform for this dashboard must be electronic.
· This dashboard must include competency-based performance data.
· This dashboard must include numerical, qualitative, and narrative information

Implementation "nice to haves" include:
· An interesting option for this dashboard would be to include student learning goals and reflections.
· Once this dashboard is developed, there may be interest in devising a plan to gather evidence of validity regarding predictors of successful educational and patient care outcomes.

Pros	Cons
Uniform data display of performance information for potential comparison of students within and across schools	Risk of assessment data being used to draw inferences about future performance that are not supported by evidence
Could enhance or replace the medical student performance evaluation letter	Could encourage learners' focus on scores and performance orientation at expense of fostering a growth mindset
Group performance data from the dashboard could inform predictive analytics, research, advising	Challenging to implement at international schools

Relevant examples from the literature (if applicable):

· Vanderbilt Student Dashboard VSTAR. https://vstar.app.vanderbilt.edu/

· University of Cincinnati internal medicine residency

· Sidney Kimmel Medical College JEFF CAT. https://www.ama-assn.org/system/files/2019-06/spring-consortium-meeting-poster-sidney-kimmel-jefferson.pdf

Specific examples on how this recommendation might be implemented:

1. Convene a group of UME and GME educators with expertise in competency-based medical education and assessment and information technology experts with expertise in data visualization.

2. Create mockups of potential dashboard learner performance data and collect feedback from UME educators and residency program directors about the usefulness for summarizing competency-based performance.

Research questions:

1. How do residency selection committee members interpret information in a learner performance dashboard/portfolio and use that information in candidate selection?

2. How does a learner performance dashboard/portfolio affect learners' self-reflection and approach to their learning?

3. How can a learner performance dashboard/portfolio provide learning analytics to shape teaching, learning and curricular design?

Citations:

1. Boscardin CK, Fergus KB, Hellevig B, Hauer KE. Twelve tips to promote successful development of a learner performance dashboard within a medical education program. Med Teach. 2018;40:855-61.

2. Carey R, Wilsoon G, Bandi V, et al. Developing a dashboard to meet the needs of residents in a competency-based training program: A design-based research project. Can Med Educ J. 2020;11:e31-45.

Recommendation 21:

All interviewing should be virtual for the 2021-2022 residency selection season. To ensure equity and fairness, there should be ongoing study of the impact of virtual interviewing as a permanent means of interviewing for residency.

Narrative description of recommendation:
Virtual interviewing has had a significant positive impact on applicant expenses. With elimination of travel, students have been able to dedicate more time to their clinical education. Due to the risk of inequity with hybrid interviewing (virtual and in person interviews occurring in the same year or same program), all interviews should be conducted virtually for the 2021-2022 season. Hybrid interviewing (virtual combined with onsite interviewing) should be prohibited.

A thorough review of the data around virtual interviewing is also recommended. Candidate accessibility, equity, match rates, and attrition rates should be evaluated. Residency program feedback from multiple types of residencies should be solicited. In addition, the separation of applicant and program rank order list deadlines in time should be explored, as this would allow students to visit programs without pressure and minimize influence on a program's rank list.

This recommendation creates the ideal state for the UME-GME transition because:
Interviews will be offered and scheduled to promote student wellness and minimize conflict with ongoing rotations. There will be ample interview slots for those invited. Applicants will interview only with programs they are likely to attend. This life transition will be accomplished in a manner supporting wellness.

How this recommendation links to the fishbone diagrams used to develop the ideal state:
· Interviews lack standardization across programs and specialties.
· There is a lack of faculty development and education.
· Virtual interviewing bias to technical issues, staging, and resource cost.
· Cost of interview is high in both tangible costs and time away from rotations
· Limited time and staffing for interviews

Pros	Cons
Public safety and reduced anxiety for some in 2021 with an ongoing global pandemic	If virtual interviewing was not beneficial for certain applicants or programs, the applicants/programs would be disadvantaged.
Equity for applicants for the upcoming recruitment cycle	Increased anxiety and perception of disadvantage for some applicants with the virtual format
Significant cost savings for applicants and programs	Implicit bias could be magnified in virtual interviewing formats, reducing diversity, equity, and inclusion
Data-driven decision making for future recruitment cycles	Programs without technologic support for virtual interviews may have limited success.
Diversity in educational milieu at programs if expanded applicant pool and interview/ranked/matched applicants includes a wide array of MD and DO granting medical schools as well as international graduates.	Students without technologic support for virtual interviews may have limited success.

Pros	Cons
	Programs may weigh other factors (e.g., numeric exam scores, geographic familiarity) more substantially in completing rank order lists if virtual interview formats show limitations.
	Applicants may apply to more programs, contributing to increases in applications to programs and reducing a program's ability for holistic review
	Higher transfer rate or levels of unhappiness if applicants match in a program that had a culture that was inconsistent with their desired setting.

Specific examples on how this recommendation might be implemented:

· Convene a diverse committee of stakeholders to review the data from virtual and in-person interviews. The workgroup must contain representation from student organizations and diverse residency program representation (university and community programs).

· Request comprehensive review and recommendation by this group by June 30, 2022 for subsequent interviewing cycles.

Research questions:

1. Do virtual interviews negatively affect the matching of any candidates?

2. Do virtual interviews negatively affect the match rate in any programs?

3. Do virtual interviews impact specialty choice, match rates, or the composition of the workforce?

Recommendation 22:

Develop and implement standards for the interview offer and acceptance process, including timing and methods of communication, for both learners and programs, to improve equity and fairness, to minimize educational disruption, and to improve wellbeing.

Narrative description of recommendation:
The current process of extending interview offers and scheduling interviews is unnecessarily complex and onerous, with little to no regulation. Applicant stress and loss of rotation education while attempting to conform to some elements (e.g., obsessively checking emails to accept short-timed interview offers) can be improved with changes to the application platform, policies, and procedures. Development of a common interview offering/scheduling platform and creating policies (e.g., forbidding residency programs to over offer/over schedule interviews and from setting inappropriate time-based applicant replies), would result in important improvements. While these processes are being developed, residency programs involved in the 2021-2022 residency selection season should allow applicants 24 to 48 hours to accept or decline an interview offer. In addition, for the 2021-2022 residency selection season, programs should not offer more interviews to applicants than available interview positions. Likewise, applicants should not accept multiple interviews that are scheduled at the same time.

This recommendation creates the ideal state for the UME-GME transition because:
Developing and implementing standards for the interview offer and acceptance process will support learner growth, evidence-informed specialty selection, achievement of competence and wellness. Interviews will be offered and scheduled to promote student wellness and minimize conflict with ongoing rotations. There will be ample interview slots for those invited. Applicants will interview only with programs they are likely to attend. This life transition will be accomplished in a manner supporting wellness.

How this recommendation links to the fishbone diagrams used to develop the ideal state:
· The cost of interviewing is high in both tangible costs and time away from rotations.
· Lack of real-time interview update to allow schools to intervene/counsel students appropriately
· Chaotic interview process of offering more slots, insufficient opportunity to respond
· Student effort not spent toward the greater good
· Opportunity cost for time spent on application process
· Culture is competitive

Pros	Cons
A consistent and fair approach to interview offers/acceptances	Inaccessibility to candidates and programs
A common, consistent platform for interview offers/acceptances	Costly for candidates or programs
Preservation of learning and concentration on student rotations during residency interview season	

Specific examples on how this recommendation might be implemented:

· A diverse group of stakeholders could be convened to develop a platform as well as relevant policies and procedures to improve interview scheduling. Stakeholders would include students, residency programs, Association of American Medical Colleges, American Association of Colleges of Osteopathic Medicine, and medical schools.

Research questions:

1. What is the student satisfaction with the new process and how does it compare to the previous version?

2. What is the program satisfaction with the new process and how does it compare to the previous version?

Citations:

1. Shreffler J, Platt M, Thé S, Huecker. Planning virtual residency interviews as a result of COVID-19: insight from residency applicants and physicians conducting interviews. Postgrad Med J. Published Online First: 27 January 2021. doi: 10.1136/postgradmedj-2020-139182. Accessed June 7, 2021.

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Recommendation 23:

Innovations to the residency application process should be piloted to reduce application numbers and concentrate applicants at programs where mutual interest is high, while maximizing applicant placement into residency positions. Well-designed pilots should receive all available support from the medical community and be implemented as soon as the 2022-2023 application cycle; successful pilots should be expanded expeditiously toward a unified process.

Narrative description of recommendation:

Application inflation is a major problem in the current dysfunction in the UME-GME transition. The 2020 NRMP program director's survey found that only 49% of applications received an in-depth review; an unread application represents wasted time and expense for applicants. Yet doubling the program resources available for review is not practical. Informational interventions – like improved career advising and transparency – are unlikely to reduce application numbers significantly in the context of a high stakes prisoner's dilemma. In sum, the current process is costly to applicants and program directors and does not optimally serve the public good.

To address this dysfunction, Coalition organizations and other groups in the medical community should utilize all available logistic, analytic, and financial resources to lead and support innovative pilots to reduce application numbers and concentrate applicants at programs where mutual interest is high, while maximizing applicant placement into residency positions. Pilots should be based on best available evidence, specialty-specific needs, potential impact (both positive and negative), and collaboration among stakeholders. Pilot innovations, some of which are ongoing, could include, but are not limited to, the following: expanding integrated UME-GME pathways, preference signaling, application caps, and/or additional application or match rounds.

Groups sponsoring pilots should be accountable for using a continuous quality improvement approach to gather and monitor evidence of effectiveness and equity across applicant groups with historically distinct application behaviors and outcomes, including United States MD and DO graduates, international medical graduates, couples applicants, previously unmatched applicants, and individuals belonging to groups that are underrepresented in medicine.

While pilot studies may vary across specialties, ultimately the redesigned residency application process should be as consistent as possible across specialties, recognizing that applicants, advisors, and program directors may be subject to the rules of multiple specialties in the context of combined tracks, couples, and dual applicants.

This recommendation creates the ideal state for the UME-GME transition because:

Piloting these innovations will determine which ones should be implemented more broadly because they balance the tension between individual freedoms and the public good to provide a learner-centered experience that is sustainable for program directors and institutions. A successful intervention will also be flexible and adaptable to changes in medical education and health care systems, with a commitment to continuous quality improvement. These innovations will mean each residency program receives applications from individuals who are likely to attend and aligned with the institutional mission. Additionally, every program will receive enough applications to fill their class and will have sufficient resources to conduct holistic review on the applications received. Financial challenges will be minimized. Learners will have adequate funding to establish their living arrangement and support a focus on their work in residency.

Pros	Cons
Pilot innovations will aim to reduce application numbers and concentrate applicants at institutions where mutual interest is high, while maximizing applicant placement into available residency positions.	Lengthening the overall duration of the application and recruitment season for applicants and programs, respectively
	Reduction in the applicant evaluative information available to programs at the time of review (for early application or match rounds)
Measurable positive outcomes could include: • Fewer applications submitted per position, with a target reduction of 20% (i.e., from ~132 to 102 applications per position, which are the 2010 levels) • Stabilization of the percent of applicants matching outside their top three ranks to 2020 levels or better	**Other undesired consequences that are possible but of uncertain likelihood include:** • Mismatch of supply (positions available) and demand (applications permitted) if additional constraints are added to the application process • Increasing overall stress in the process and difficulty accommodating some applicant groups, such as couples and applicants applying to more than one specialty • Fear by applicants and programs of "missing the great for the good" • Loss of cohesive application strategy due to multiple pilots and different preferred interventions in different fields. Increased complication in the application process overall
Several additional outcomes that are difficult to measure include: • Increase the number of applications (and applicants) that undergo holistic review • Concentrate applicants and interviewees at institutions with which they have a high level of mutual interest • Reduce time and money spent by both applicants and programs • Increase applicants' and programs' satisfaction with the application process and match, while reducing stress • Provide an opportunity for some students to signal their preference for specific programs, potentially improving equity	
The following outcomes must be monitored and should be unaffected: • The Match continues to have stable match rates within +/- 2% of 2020 rates — For example, 2020 PGY-1 match rates by group were: U.S. MD seniors (94%), U.S. DO seniors (91%), and IMG (61%) • The Match continues to have a stable pre-SOAP position fill rate of >93% and post-SOAP fill rate of >98% • The average number of ranked specialties remains stable (U.S. MD/DO ~1.2, IMG ~1.4)	

Specific examples on how this recommendation might be implemented:

Pilot innovations could include (ongoing examples in parentheticals):

1. Expanding integrated UME-GME pathways (New York University 3-year pathway with guaranteed residency placement, Penn State University 3+3 Family Medicine pathway)

2. Preference signaling (Otolaryngology preference signaling)

3. Application caps (no known pilots)

4. Additional application rounds (no known pilots)

5. Additional match rounds (Obstetrics and Gynecology Early Result Acceptance Program)

Research questions:

1. Conduct experimental game theory modeling using incentivized scenarios to assess and compare different commonly cited pilot innovations according to specialty-specific parameters

Citations:

1. Zastrow RK, Burk-Rafel J, London DA. Systems-Level Reforms to the US Resident Selection Process: A Scoping Review. J Grad Med Educ. 2021;13(3):355–370.

Integrated UME-GME Pathways

2. Wong BJ. Reforming the match process - early decision plans and the case for a consortia match. JAMA Otolaryngol Head Neck Surg. 2016;142(8):727-728.

3. Cangiarella J, Fancher T, Jones B, Dodson L, Leong SL, Hunsaker M, Pallay R, Whyte R, Holthouser A, Abramson SB. Three-year MD programs: perspectives from the consortium of accelerated medical pathway programs (CAMPP). Acad Med. 2017;92(4):483-90.

4. Andrews JS, Bale JF, Soep JB, Long M, Carraccio C, Englander R, Powell D. Education in pediatrics across the continuum (EPAC): first steps toward realizing the dream of competency-based education. Acad Med. 2018;93(3):414-20.

5. Pereira AG, Williams CM, Angus SV. Disruptive innovation and the residency match: The time is now. J Grad Med Educ. 2019;11(1):36-38.

6. Cangiarella J, Cohen E, Rivera R, Gillespie C, Abramson S. Evolution of an accelerated 3-year pathway to the MD degree: the experience of New York University Grossman School of Medicine. Acad Med. 2020;95(4):534-9.

Preference Signaling

7. Bernstein J. Not the last word: Want to match in an orthopaedic surgery residency? Send a rose to the program director. Clin Orthop Relat Res. 2017;475(12):2845-2849.

8. Salehi PP, Benito D, Michaelides E. A novel approach to the national resident matching program - the star system. JAMA Otolaryngol Head Neck Surg. 2018;144(5):397-398.

9. Chen JX, Deng F, Gray ST. Preference signaling in the national resident matching program. JAMA Otolaryngol Head Neck Surg. 2018;144(10):951.

10. Whipple ME, Law AB, Bly RA. A computer simulation model to analyze the application process for competitive residency programs. J Grad Med Educ. 2019;11(1):30-35.

Application Caps

11. Naclerio RM, Pinto JM, Baroody FM. Drowning in applications for residency training: A program's perspective and simple solutions. JAMA Otolaryngol Head Neck Surg. 2014;140(8):695-696.

12. Weissbart SJ, Kim SJ, Feinn RS, Stock JA. Relationship between the number of residency applications and the yearly match rate: Time to start thinking about an application limit? J Grad Med Educ. 2015;7(1):81-85.

13. Pereira AG, Chelminski PR, Chheda SG, Angus SV, Becker J, Chudgar SM, et al; Medical Student to Resident Interface Committee Workgroup on the Interview Season. Application inflation for internal medicine applicants in the match: Drivers, consequences, and potential solutions. Am J Med. 2016;129(8):885-891.

14. Putnam-Pite D. Viewpoint from a former medical student/now intern playing the game - balancing numbers and intangibles in the orthopedic surgery match. J Grad Med Educ. 2016;8(3):311-313.

15. Kraeutler MJ. It is time to change the status quo: Limiting orthopedic surgery residency applications. Orthopedics. 2017;40(5):267-268.

16. Ward M, Pingree C, Laury AM, Bowe SN. Applicant perspectives on the otolaryngology residency application process. JAMA Otolaryngol Head Neck Surg. 2017;143(8):782-787.

17. Zhao H, Freedman A, Lerman S. Reforming the urology match application process: A role for the residency programs. J Urol. 2020;203(1):44-45.

Additional Application Rounds

18. Ward M, Pingree C, Laury AM, Bowe SN. Applicant perspectives on the otolaryngology residency application process. JAMA Otolaryngol Head Neck Surg. 2017;143(8):782-787.

Additional Match Rounds

19. Wong BJ. Reforming the match process - early decision plans and the case for a consortia match. JAMA Otolaryngol Head Neck Surg. 2016;142(8):727-728.

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21. Hueston WJ. A proposal to address the increasing number of residency applications. Acad Med. 2017;92(7):896-897.

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24. Arnold L, Sullivan C, Okah FA. A free-market approach to the Match: A proposal whose time has not yet come. Acad Med. 2018;93(1):16-19.

25. Monir JG. Reforming the match: A proposal for a new 3-phase system. J Grad Med Educ. 2020;12(1):7-9.

26. Hammoud MM, Andrews J, Skochelak SE. Improving the residency application and selection process: An optional early result acceptance program. JAMA. 2020;323(6):503-504.

Recommendation 24:

Implement a centralized process to facilitate evidence-based, specialty-specific limits on the number of interviews each applicant may attend.

Narrative description of recommendation:
Identify evidence-based, specialty-specific interview caps, envisioned as the number of interviews an applicant attends within a specialty above which further interviews are not associated with significantly increased match rates, across all core applicant types. Create a centralized process to operationalize interview caps, which could include an interview ticket system or a single scheduling platform.

This recommendation creates the ideal state for the UME-GME transition because:
A centralized process of evidence-based, specialty-specific applicant interview caps will balance the tension between individual freedoms and the public good to provide a learner-centered experience that is sustainable for program directors and institutions. Interviews will be offered and scheduled to promote student wellness and minimize conflict with ongoing rotations. There will be ample interview slots for those invited. Applicants will interview only with programs they are likely to attend

Pros	Cons
Implementation of interview caps is intended to ensure every interview represents genuine mutual interest between an applicant and program, with capping mostly impacting the strongest applicants who occupy a disproportionate number of interview slots.	Challenges accommodating unique groups, such as couples
A more equitable distribution of interviews among matched applicants, with a target reduction of the interview distribution Gini coefficient by 20%	Increased numbers of applicants applying to multiple specialties
Lower average number of interviews attended per applicant, with a target reduction of 20%	
Stabilizing the percent of applicants matching outside their top three ranks to 2020 levels	
Concentrate interviewees at institutions with which they have a high level of mutual interest	
Reducing late cancelation of interviews	
Increase applicants' and programs' satisfaction with the interview process, while reducing stress	
The following outcomes must be monitored and should be unaffected: · The Match continues to have stable match rates within +/- 2% of 2020 rates — For example, 2020 PGY-1 match rates by group were: U.S. MD seniors (94%), U.S. DO seniors (91%), and IMG (61%) · The Match continues to have a stable pre-SOAP position fill rate of >93% and post-SOAP fill rate of >98%	

Pros	Cons
· The average number of ranked special-ties remains stable (U.S. MD/DO ~1.2, IMG ~1.4)	

Relevant examples from the literature (if applicable):

1. Katsufrakis PJ, Uhler TA, Jones LD. The residency application process: Pursuing improved outcomes through better understanding of the issues. Acad Med. 2016;91(11):1483-1487.

2. Frush BW, Byerley J. High-Value Interviewing: A Call for Quality Improvement in the Match Process. Acad Med. 2019;94(3):324-327.

3. Gruppuso PA, Adashi EY. Residency Placement Fever: Is It Time for a Reevaluation? Acad Med. 2017;92(7):923-926.

4. Hammoud MM, Standiford T, Carmody JB. Potential Implications of COVID-19 for the 2020-2021 Residency Application Cycle. JAMA. 2020;324(1):29–30.

5. Burk-Rafel J, Standiford TC. A Novel Ticket System for Capping Residency Interview Numbers: Reimagining Interviews in the COVID-19 Era. Acad Med. 2021;96(1):50-55.

Specific examples on how this recommendation might be implemented:

· A centralized interview ticket system that would permit use of multiple interview scheduling platforms could be created.

· A single interview scheduling platform across all programs within each specialty, with caps built into the scheduling platform could be implemented.

Research questions:

1. Are there examples of modeling interview caps under different constraints?

2. What data exist regarding propensity for matching by applicant characteristics and numbers of interviews attended, including for individuals who do not match?

3. Conduct modeling to examine different interview cap numbers and their impact on applicant and program behaviors as measured by the intended outcomes.

Recommendation 25:

Early and ongoing specialty-specific resident assessment data should be automatically fed back to medical schools through a standardized process to enhance accountability and to inform continuous improvement of UME programs and learner handovers.

Narrative description of recommendation:
IInstruments for feedback from GME to UME should be standardized and utilized to inform gaps in curriculum and program improvement. UME institutions should respond to the GME feedback on their graduates' performance in a manner that leads to quality improvement of the program.

This recommendation creates the ideal state for the UME-GME transition because:
The ideal state for the UME-GME transition is enhanced by a shared mental model on the continuum with standardized competencies. This shared model allows for a mutually understood learner handoff. Bidirectional information sharing enhances trust and accountability.

How this recommendation links to the fishbone diagrams used to develop the ideal state:
Feedback from GME to UME builds trust and enhances accountability. Additionally, this can illustrate curricular gaps to UME providers to allow for continuous quality improvement.

Implementation "must haves" include:
· Meaningful GME feedback to UME on all competency domains of their graduates' performance

Implementation "nice to haves" include:
· Comparison between assessment from the GME side to the MSPE descriptions from the UME side

· Sharing data with the public to hold medical schools accountable

Pros	Cons
Build trust between GME and UME	Cost
	High stakes assessment and its effect on well-being
	Incorrect inference regarding data – medical school preparation is not the only thing that influences residency performance

Specific examples on how this recommendation might be implemented:
· Patient safety reports that are shared regarding hospitals

· Physician evaluation data that is now being shared online by the ACGME as milestone data is collected

· Board pass rate that is shared in evaluation of programs

Research questions:
· What examples exist of GME programs providing feedback to UME programs on how their graduates are doing?

· Specifically, are there examples of using data from GME and beyond, such as board pass rates, in-training exams, patient safety reports, quality of care data, used by medical schools to inform their curriculum needs?

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Recommendation 26:

Develop a portfolio of evidence-based resident support resources for program directors, designated institutional officials (DIOs), and residency programs. These will be identified as salutary practices, and accessible through a centralized repository.

Narrative description of recommendation:
A centralized source of resident support resources will assist programs with effective approaches to address resident concerns. This will be especially relevant for competency-based remediation and resident wellbeing resources in the context of increased demand for support around the UME-GME transition. Access for programs and program directors will be low/no cost, confidential, and straightforward.

How this recommendation links to the fishbone diagrams used to develop the ideal state:
· Targets program director stress/limited resources

Pros	Cons
Decreased time and effort for program directors, improved well-being	Risk establishing one organization as the primary source of resources, stifling innovation by other organizations/institutions
Easier for program directors to consider learners with prior difficulties or those viewed for other reasons as potentially at risk	Some resources still optimally managed at program/institution level, e.g. mental health collaborations, coaching, and this system may divert resources away from local level
Consistent, standardized approach to recurrent resident issues is reassuring for learners/programs	If this portfolio is housed at university centers, which already have this infrastructure, this may worsen the dynamic of the existing inequitable power distribution.
Centralized repository of resources to address unusual resident concerns will be helpful for smaller/community programs.	
Cost efficiency	
Offload faculty development	
Normalizes asking for support early, for both learner and faculty.	
Demonstration by health care systems of increased engagement in the well-being and success of their future workforce (culture change)	
When paired with student portfolios, would identify areas for immediate focus during the transition to residency.	
A more resilient, well supported workforce that has had individualized coaching and mental health prioritized throughout the continuum	

Relevant examples from the literature (if applicable):

- I.M. Emotional Support Hub, American College of Physicians. https://www.acponline.org/practice-resources/physician-well-being-and-professional-fulfillment/im-emotional-support-hub (including free therapists)

- Alliance for Academic Internal Medicine Program Resources:
  — Faculty development toolkit: https://www.im.org/resources/ume-gme-program-resources/faculty-development-resources

  — Wellness/Resiliency: https://www.im.org/resources/wellness-resiliency

  — Diversity Equity and Inclusion resources: https://www.im.org/resources/diversity-inclusion/dei-resources

Specific examples on how this recommendation might be implemented:

1. Create remediation resources aligned with specialty-specific competencies, some of which may be applicable across specialties and developed based on a shared educational framework, with defined follow up plan. For example, a video-based curriculum on communication barriers followed by quizzes that are scored centrally, with a competency report sent to the program director when it is completed.

2. Create specialty-specific resident resources for issues of concern relevant to individual specialties

3. Develop well-being resources e.g creation of a wellness curriculum

4. Bring in online specialists who can meet with residents to assist with educational and psychological support, including creating individual learning plans, providing following up, and checking in with the program director on resident progress.

5. Launch national online resident support group meetings (similar to the sacred vocation program, art in medicine, narrative medicine, etc.), that are offered across specialties, linked to the medical school of origin, or specialty society

Research questions:

1. Are there published examples of competency-based resident remediation portfolios or well-being resources, especially examples that cross specialties?

2. How frequently are program directors using resources? Are they useful to program directors? To residents? Do they improve learning outcomes? Clinical outcomes? Do they save time, reduce stress, or promote wellness among program directors and residents?

3. Continuous quality improvement. Can the outcomes of interventions be tracked anonymously in order to reassess quality/effectiveness of the resources?

Recommendation 27:

Targeted coaching by qualified educators should begin in UME and continue during GME, focused on professional identity formation and moving from a performance to a growth mindset for effective lifelong learning as a physician. Educators should be astute to the needs of the learner and be equipped to provide assistance to all backgrounds.

Narrative description of recommendation:
Coaching can benefit a student's transition to become a master adaptive learner with a growth mindset. While this transition should begin early in medical school, it should be complete by the time that the student moves from UME to GME. If a learner does not transition to a growth mindset, their wellness and success will be compromised. The addition of specific validated mentoring programs (e.g., Culturally Aware Mentoring) and formation of affinity groups to improve sense of belonging should be considered.

This recommendation creates the ideal state for the UME-GME transition because:
In the ideal state, graduated medical students will be ready to serve as physicians in training, with evolving professional identity formation that includes confident humility in skills. Through targeted coaching by trained faculty, new residents will also be challenged to identify areas for growth and gaps in their competency with a growth mindset appropriate for training. This coaching could also include tailored experiences for trainees based upon their existing skills and knowledge and identified gaps. Finally, effective coaching groups could help build community that can develop resilience necessary to thrive in residency.

How this recommendation links to the fishbone diagrams used to develop the ideal state:
· Transitioning from the role of a medical student into a licensed physician providing direct patient care requires significant evolution as a professional and an individual. This transition also carries threats of imposter syndrome and mistreatment as new graduates progress in their training.

Implementation "must haves" include:
· Naming and recognition of this phenomenon (i.e. growth mindset and the role of growth mindset in the setting of evaluation during medical school)

· Time and expectations for completion of this — should begin early in medical school and be complete by the time the learner begins residency

Implementation "nice to haves" include:
· Training for optimal coaching

· Ratios that allow meaningful relationships between coach and learner

· Career goal match

Pros	Cons
Learner centered focus with emphasis on professional identity formation	Expense in faculty/programmatic time for this investment
Addresses imposter syndrome proactively	GME educators already overextended
Improves wellness of learners by creating a safe approach toward addressing areas for growth and developing resilience skills	Perceived by some as an unnecessary support of maturing learner/impression that learners should not need this support
Potential for improved performance in residency	
Opportunity to develop UME-GME handoff through beginning coaching in UME during the post-match period	

Relevant examples from the literature (if applicable):

1. https://med.nyu.edu/departments-institutes/innovations-medical-education/research-scholarship/grants/transition-to-residency-advantage/coaches/coaching-curriculum

2. https://med.stanford.edu/peds/prospective-applicants/coaching.html

Specific examples on how this recommendation might be implemented:

· Newly matched medical students could meet with trained UME faculty to discuss application of growth mindset to training and reflect upon areas of strength and opportunities for improvement in their own training. Such sessions could form the basis for development of individual learning plans. These coaching interactions could be new or built into existing capstone rotations at medical schools.

· Trained GME faculty could coach new residents as they navigate changes in professional identity and goal setting in residency.

Research questions:

1. What is the impact of coaching focused on growth mindset and professional identity formation on early resident performance, well-being, and burnout?

2. What are the effective practices of positive coaching relationships in the post-match period?

Citations:

1. Lovell B. What do we know about coaching in medical education? A literature review. Med Educ. 2018 Apr;52(4):376-390. doi: 10.1111/medu.13482. Epub 2017 Dec 11. PMID: 29226349.

2. Wolff M, Hammoud M, Santen S, Deiorio N, Fix M. Coaching in undergraduate medical education: a national survey. Med Educ Online. 2020 Dec;25(1):1699765. PMID: 31793843; PMCID: PMC6896497.

Recommendation 28:

Specialty-specific, just-in-time training must be provided to all incoming first-year residents, to support the transition from the role of student to a physician ready to assume increased responsibility for patient care.

Narrative description of recommendation:
The intent of this recommendation is to level set incoming resident preparation regardless of medical school experience. Recent research has shown that residents reported greater preparedness for residency if they participated in a medical school "boot camp," and participation in longer residency preparedness courses was associated with high perceived preparedness for residency. This training must incorporate all six specialty competency domains and be conducive to performing a baseline skills assessment. These curricula might be developed by specialty boards, specialty societies, or other organized bodies. To minimize costs, specialty societies could provide centralized recommendations and training could be executed regionally or through online modules.

This recommendation creates the ideal state for the UME-GME transition because:
All medical students will engage in specialty-aligned knowledge and skills training during the final year of medical school in order to achieve the defined general and specialty-focused competencies. Graduated medical students will be ready to serve as physicians in training, facile with the appropriate knowledge, skills, and efficiency and be equipped with advancing professional identity and a confident humility.

How this recommendation links to the fishbone diagrams used to develop the ideal state:
· Boot camps and skill building are not standardized and vary by program, medical school, and specialty.
· The service needs and structure of the many GME programs creates a situation where there is a lack of flexibility to make customized schedules that are tailored to learner's unique strengths and learning needs.

Implementation "must haves" include:
· Meaningful content in each competency area

Implementation "nice to haves" include:
· Nationally standardized curriculum

Pros	Cons
Emphasis on the non-medical knowledge pieces	Expense in time and money, especially on the GME side which is already overstretched
Can be utilized nationally for data sharing and public accountability after some experience	
Can be used for feedback to UME	

Relevant examples from the literature (if applicable):
· There are many outstanding models of transition to residency courses, including Association of Professors of Gynecology and Obstetrics' Right Resident, Right Program, Ready Day One.

Specific examples on how this recommendation might be implemented:
1. Specialty societies could provide centralized recommendations, and training could be executed regionally or through online modules.

Research questions:

1. Is there any information in the published literature on intern performance/preparedness when participating in a boot camp or other residency preparedness course?

2. Is there any information in the published literature on ideal length of residency preparedness courses?

3. Is there any information in the published literature on the efficacy of what entity is providing the bootcamps/residency preparedness course (med school, professional organization, or program)?

Recommendation 29:

Residents must be provided with robust orientation and ramp up into their specific program at the start of internship. In addition to clinical skills and system utilization, content should include introduction to the patient population, known health disparities, community service and engagement, faculty, peers, and institutional culture.

Narrative description of recommendation:
Improved orientation to residency has the potential to enhance trainee wellbeing and improve patient safety. Residents should have orientation that includes not only employee policies, but also education that optimizes their success in their specific clinical environment. Residents, like other employees, should be paid for attending orientation.

This recommendation creates the ideal state for the UME-GME transition because:
In the ideal state, an equitable, coordinated, efficient, and transparent system across the UME-GME transition will progress learners from medical school to an ideal residency program that acknowledges the learner's unique strengths and learning needs, and will ensure optimized professional identity formation. Residency faculty will welcome each learner as an individual, knowing their strengths and weaknesses, and trusting their competency appropriately. Residency faculty and peers will recognize and mitigate bias to ensure optimal entrustment and support for all learners in an inclusive environment. The first months of the residency experience will be tailored to the individual trainee. Patients will be appropriately oriented to a clinical environment that includes learners. Feedback will be delivered from GME to UME to continually improve the preparatory process.

How this recommendation links to the fishbone diagrams used to develop the ideal state:
· Lack of flexibility to make customized schedules tailored to learner's unique strengths and learning needs

Implementation "must haves" include:
· Community building and familiarity with the clinical site and its resources

Implementation "nice to haves" include:
· A patient care, systems, and community service month to provide a thorough orientation with trainee formative assessments and a specialty specific competency focus

Pros	Cons
Patient safety should be improved with a more robust orientation	Expense
Improved resident wellness and sense of community	Current calendar/block rotation constraints

Relevant examples from the literature (if applicable):
· Some programs, such as those in family medicine and emergency medicine, have an entire month rotation of patient care, systems, and community orientation before the intern is launched into regular block rotations.

Specific examples on how this recommendation might be implemented:
1. Many family medicine and emergency medicine programs have implemented an entire orientation month beginning in July.

Research questions:
1. Is there any information in the published literature on the ideal length of residency orientation (1 month, 2 weeks, etc.)?

2. Is there any information in the published literature that includes the typical length of orientation by specialty?

UGRC Final Recommendations With Complete Templates

Recommendation 30:

Meaningful assessment data based on performance after the MSPE must be collected and collated for each graduate, reflected on by the learner with an educator or coach, and utilized in the development of a specialty-specific, individualized learning plan to be presented to the residency program to serve as a baseline at the start of residency training.

Narrative description of recommendation:
Guided self-assessment by the learner is an important component in this process and may be all that is available for some international medical graduates. This recommendation provides meaning and importance for the assessment of experiences during the final year of medical school (and possibly practice for some international graduates), helps to develop the habits necessary for life-long learning, and holds students and schools accountable for quality senior experiences. It also uses the resources of UME to prepare an individualized learning plan (ILP) to serve as a baseline at the start of GME. This initial ILP will be refined by additional assessments envisioned as an "In-Training Examination" (ITE) experience early in GME. The time for this experience should be protected in orientation, and the feedback should be formative similar to how most programs manage the results of ITEs. This assessment might occur in the authentic workplace and based on direct observation or might be accomplished as an Objective Structured Clinical Exam using simulation. This assessment should inform the learner's ILP and set the stage for the work of the clinical competency committee of the program.

This recommendation creates the ideal state for the UME-GME transition because:
Medical education is a continuum of learning. Even after the MSPE is provided to residency programs during the application process, students continue to develop mastery. Areas of strength and areas in need of special attention can be identified during the last year of medical school and the resources within UME can be utilized to set the stage for resident as learner in GME. This information can prove invaluable to both learners and their residency program faculty as learners seek to achieve entrustability and competency. Learners will come into residency with an ILP that can then be compared to early assessment based on the other 5 competencies, rather than just medical knowledge, to enhance trust between GME and UME, and to specify learner progress on the continuum.

How this recommendation links to the fishbone diagrams used to develop the ideal state:
· Information sharing from UME to GME optimizes learning and allows for individualization of residency experiences.
· Continuing to collect data during MS4 with the goal of creating an Individualized Learning Plan helps the student transition from a performance mindset to a growth mindset.
· Early assessment in GME compared to UME descriptors will build trust between GME and UME.

Implementation "must haves" include:
· Standardized specialty-specific handover instrument to assess learner performance at the end of medical school and launch of residency ILP.
· Meaningful formative assessment to promote ILPs and growth mindset.
· Feedback to UME to enhance trust and confidence.
· Nationally standardized toolkit from specialty resources.
· Workplace assessment/direct observation with feedback.
· "Milestone Zero" measurement of all competency domains.
· Cost to learners must be minimized

Implementation "nice to haves" include:
· A "warm hand off" from UME educators to GME educators with the learner present might optimize this experience but may only be feasible if PD shares this responsibility with other program faculty.

Pros	Cons
More complete information transfer	Risk of perpetuated bias in evaluating performance
Enhance trust in the system	Risk of lack of trust to enter a growth mindset with the ILP as typically UME assessment is summative not formative
Establish habits of lifelong learning	Attribution bias to the med school when other factors could influence resident early performance
Emphasis on all competencies	
Data could be fed back to med schools and/or used to support accountability to the public	

Relevant examples from the literature (if applicable):

· Many of the 3+3 programs' learners benefit from this already

1. Schiller JH, Burrows HL, Fleming AE, Keeley MG, Wozniak L, Santen SA. Responsible Milestone-Based Educational Handover With Individualized Learning Plan From Undergraduate to Graduate Pediatric Medical Education. Acad Pediatr. 2018 Mar;18(2):231-233. doi: 10.1016/j.acap.2017.09.010. Epub 2017 Sep 20. PMID: 28939503.

2. Morgan HK, Mejicano GC, Skochelak S, Lomis K, Hawkins R, Tunkel AR, Nelson EA, Henderson D, Shelgikar AV, Santen SA. A Responsible Educational Handover: Improving Communication to Improve Learning. Acad Med. 2020 Feb;95(2):194-199.

3. Warm EJ, Englander R, Pereira A, Barach P. Improving Learner Handovers in Medical Education. Acad Med. 2017 Jul;92(7):927-931.

Specific examples on how this recommendation might be implemented:

· Schools may choose to assess their MS4 students using the ACGME Milestones format in order to inform the transition to GME.

· Graduating medical students, working together with their advisor, could produce an Individualized Learning Plan to focus the learner's experiences during the early part of their residency education.

· Specialty societies may develop assessment tools and/or handover tools.

Research questions:

1. What is the current state of handoffs between medical schools and residency programs? Is the MSPE the last official communication (beyond the final transcript and degree verification)?

2. Does a framework for a student to develop an ILP currently exist? What is the evidence for its utility?

3. Is there any evidence that data obtained after submission of the MSPE is in any way different than that obtained before the MSPE?

Citations:

1. Chitkara MB, Satnick D, Lu W-H, Fleit H, Go RA, Chandran L. Can Individualized Learning Plans in an advanced clinical experience course for fourth year medical students foster Self-Directed Learning? BMC Medical Education. 2016;16(1). doi:10.1186/s12909-016-0744-8

2. Schüttpelz-Brauns K, Karay Y, Gehlhar K, Arias J, Zupanic M. Comparison of the evaluation of formative assessment at two medical faculties with different conditions of undergraduate training, assessment and feedback. GMS Journal for Medical Education. 2020;37(4):1-23. doi:10.3205/zma001334

3. Tewksbury LR, Carter C, Konopasek L, Sanguino SM, Hanson JL. Evaluation of a National Pediatric Subinternship Curriculum Implemented Through Individual Learning Plans. Academic Pediatrics. 2018;18(2):208-213. doi:10.1016/j.acap.2017.11.009

4. Li S-TT, Tancredi DJ, Co JPT, West DC. Factors Associated with Successful Self-Directed Learning Using Individualized Learning Plans During Pediatric Residency. Academic Pediatrics. 2010;10(2):124-130. doi:10.1016/j.acap.2009.12.00720.

5. Svrakic M, Bent JP. Individualized Learning Plan (ILP) Is an Effective Tool in Assessing Achievement of Otology-related Subcompetency Milestones. Otology and Neurotology. 2018;39(7):816-822. doi:10.1097/MAO.0000000000001855

6. Schiller JH, Burrows HL, Fleming AE, Keeley MG, Wozniak L, Santen SA. Responsible Milestone-Based Educational Handover With Individualized Learning Plan From Undergraduate to Graduate Pediatric Medical Education. Academic Pediatrics. 2018;18(2):231-233. doi:10.1016/j.acap.2017.09.010

7. Shepard ME, Sastre EA, Davidson MA, Fleming AE. Use of individualized learning plans among fourth-year sub-interns in pediatrics and internal medicine. Medical Teacher. 2012;34(1):e46-e51. doi:10.3109/0142159X.2012.638013

8. Lockspeiser TM, Kaul P. Using Individualized Learning Plans to Facilitate Learner-Centered Teaching. Journal of Pediatric and Adolescent Gynecology. 2016;29(3):214-217. doi:10.1016/j.jpag.2015.10.020

Recommendation 31:

Anticipating the challenges of the UME-GME transition, schools and programs should ensure that time is protected, and systems are in place, to guarantee that individualized wellness resources – including health care, psychosocial supports, and communities of belonging – are available for each learner.

Narrative description of recommendation:
Given that the wellness of each learner significantly impacts learner performance, it is in the program and public's best interest to ensure the learner is optimally prepared to perform as a resident. There should be a focus on applying resources that are already available rather than depending on the creation of new resources. Examples of wellness resources include enrollment in health insurance, establishing with a primary care provider and dentist, securing a therapist if appropriate, identifying local communities of belonging, and other supports that optimize wellbeing. These resources may especially benefit the most vulnerable trainees.

This recommendation creates the ideal state for the UME-GME transition because:
The difficulty of moving to a new setting, often for one's first employed position, is stressful. The transition from learner to employee-learner is difficult, and one's individual wellness might not be a top priority. Easing that transition with access to resources will enable individuals to focus on the clinical work and learning that is necessary as a resident.

How this recommendation links to the fishbone diagrams used to develop the ideal state:
· Logistics of transition

· Well-being

Implementation "must haves" include:
· Access to resources to support learner wellness

Implementation "nice to haves" include:
· One on one wellness coaching

Pros	Cons
Allows learner to focus on residency	Perceived by some as coddling of interns
	Cost may be a barrier
	GME programs are already overextended regarding resource utilization

Specific examples on how this recommendation might be implemented:
1. Vertical "families" for mentorship

2. Availability of wellness coaches

3. "Taking Care of our Own" programs

4. Affinity groups

Research questions:
1. For interns who are starting a residency, what are the characteristics of excellent onboarding programs that promote wellness?

2. How might the strength/quality of these program be measured?

Recommendation 32:

Adequate and appropriate time must be assured between graduation and learner start of residency to facilitate this major life transition.

Narrative description of recommendation:
The transition from medical school to residency typically marks a concrete transition from paying for education to becoming a fulltime employee focused on the lifelong pursuit of professional improvement. This transition is life changing for many. It often requires a move from one location to another, sometimes across the world. There must be time for licensing and in some cases, visa attainment. Often this life transition is accompanied by other major life events such as partnering or childbearing. Once residency starts, the learner may work many hours each week and may have little time to establish a home. Thus, it is important for wellness and readiness to practice that adequate time be provided to accomplish this major life transition.

The predictability of this transition must be recognized by both UME and GME institutions, and cooperation on both sides is required for this transition to be accomplished smoothly. There is a desire to overall better prepare learners for the start of residency, and an assured transition time would allow related recommendations to be more easily accomplished.

This recommendation creates the ideal state for the UME-GME transition because:
The transition from medical school to residency is a major life transition, and those transitions are ideally accomplished in a manner supporting wellness. Adequate but not excessive time for moving is built into the process in order to allow time for a move if necessary and also to allow time for supports for health and well-being to be established before residency starts. Ideally a supportive social network will be in place for each trainee, especially considering the needs of those from underrepresented backgrounds, before residency starts.

How this recommendation links to the fishbone diagrams used to develop the ideal state:
· The logistics of the transition sometimes challenge the post-match optimization.

Implementation "must haves" include:
· Required orientation for incoming interns must not begin until those interns have had enough time to establish their homes.

Implementation "nice to haves" include:
· A minimum of 6 weeks between graduation and residency start would be ideal

Pros	Cons
Reasonable work-life integration for residents	Schools on a quarter system often have a late graduation.
	Universities are unlikely to move graduation for one of their schools.
	Many learners need a paycheck as soon as possible.
	Learners staying at their home institution may feel ready to start early

Specific examples on how this recommendation might be implemented:
1. Many programs already have this, but it is dependent on medical school graduation date.

Research questions:

1. The optimum time of transition between medical school and residency should be studied. It is influenced by many individual factors, and these factors should be evaluated in an evidence-informed manner.

2. Does learner performance vary based on time between medical school graduation and internship orientation start?

3. Does learner wellness vary based on time between medical school graduation and internship orientation start?

4. What do learners and program directors want regarding timing of the start of internship?

5. Are there any studies that look at the transition time between medical school graduation and orientation to internship?

6. Is there any literature more broadly describing the ideal time of transition for schooling to work initiation?

Recommendation 33:

All learners need equitable access to adequate funding and resources for the transition to residency prior to residency launch.

Narrative description of recommendation:
As almost every learner graduating from medical school transitions to residency, the need to fund a geographic move and establishment of a new home is predictable. This financial planning should be incorporated into medical school expenses, for example through equitable low interest student loans. Options to support the transitional expenses of international medical graduates should also be identified. These costs should not be incurred by GME programs.

This recommendation creates the ideal state for the UME-GME transition because:
In the ideal state costs (financial, educational, patient care, well-being, and otherwise) will be rightsized throughout the process to maximize value. Life transitions will be accomplished in a manner supporting wellness. Financial challenges will be minimized. Learners will have adequate funding to establish their living arrangements in order to support a focus on their work in residency. Supports for health and well-being are established before residency starts.

How this recommendation links to the fishbone diagrams used to develop the ideal state:
· Managing the logistics of transitioning is a root cause of some of the current challenges
· Adequate funding availability would allow logistics to be managed more smoothly.

Implementation "must haves" include:
· Moving and living costs through July 1 as part of the student loan/aid package for the graduating year

Implementation "nice to haves" include:
· None specified

Pros	Cons
Cost saving for students	Schools on a quarter system often have a late graduation.
	Most educational loans only cover the time the student is specifically registered in school.

Specific examples on how this recommendation might be implemented:
1. Some programs provide "signing bonuses" or other means to cover relocation expenses. We do not recommend that all programs do this because of the additional costs to GME.

Research questions:
1. Do changes in the transition to internship process lessen the financial burden on learners?

2. How much does the transition to internship process cost applicants?

3. How much does the typical incoming intern invest in personal startup costs (obtaining and establishing housing, funding the move, funding licensing, etc.) after match and before internship launch?

4. How do current interns dependent on financial aid support cover these expenses?

Recommendation 34:

There should be a standardized process throughout the United States for initial licensing at entrance to residency to streamline the process of credentialing for both residency training and continuing practice.

Narrative description of recommendation:
To benefit the public good, costs to support the U.S. healthcare workforce should be minimized. To this end, all medical students should be able to begin licensure earlier in their educational continuum to better distribute the work burden and costs associated with this predictable process. When learners are applying to programs in many different states, the varied requirements are unnecessarily cumbersome. Especially for states where a training license is required, the time between the Match and the start of the first year of residency is often inadequate for this purpose. This is a potential cost saving measure.

This recommendation creates the ideal state for the UME-GME transition because:
In the ideal state licensing and credentialing will be accomplished efficiently for all learner groups. This should include visa management as needed and be accomplished in a timely manner without excessive cost.

How this recommendation links to the fishbone diagrams used to develop the ideal state:
- The varied state licensure requirements force learners to wait until after match to advance the work of establishing their credentials for work.
- The varied state requirements set up unnecessary barriers to practice readiness.

Implementation "must haves" include:
- Single process for U.S. graduates
- Single process for international graduates

Implementation "nice to haves" include:
- Earlier start to the licensing process than Match Day

Pros	Cons
Simplicity	Political feasibility
Clarity	
Cost effectiveness	

Specific examples on how this recommendation might be implemented:
- The Federation of State Medical Boards could work to align state requirements and establish a process.

Research questions:
1. Does a single licensing system lessen the burden on learners in the post-match period before internship start?

2. What are the barriers to a single licensing system for incoming interns in U.S. training programs?

3. Which states currently require a training license?

The Coalition for Physician Accountability recommends the following, organized around 12 themes:
Theme: Oversight
Recommendation:
1. Convene a national ongoing committee to manage continuous quality improvement of the entire process of the UME-GME transition, including an evaluation of the intended and unintended impact of implemented recommendations.
Narrative description of recommendation:
One of the challenges in creating alignment and making improvements is the lack of a single body with broad perspective over the entire continuum. This creates a situation where organizations and institutions are unnecessarily and counterproductively isolated, without a shared mental model or mission. A convened committee, that includes learner and public representatives, should champion continuous improvement to the UME-GME transition, with the focus on the public good.
Recommendation:
2. Educators should develop a best-practice curriculum for UME career advising, including guidelines for equitable curriculum delivery and outcomes.
Narrative description of recommendation:
Guidelines are needed to inform U.S. allopathic, osteopathic or international medical schools in developing their career advising programs. Standardized approaches to advising along with career advisor preparation (both general and specialty-specific) can enhance the quality and quantity of advising and improve student trust in the advice that is received. Educators can enhance medical student career advising by developing formal guidelines with key recommendations based upon professional development frameworks and competencies. Implementation of such guidelines will result in greater consistency, thoroughness, effectiveness, standardization, and equity of medical school career advising programs to better support students in making career decisions and will lay the foundation for career planning across the continuum.
Recommendation:
3. A single, comprehensive electronic professional development career planning resource for students will provide universally accessible, reliable, up-to-date, and trustworthy information and guidance.
Narrative description of recommendation:
The AAMC's Careers in Medicine (CiM) platform achieves some of the aims of this recommendation. It is recommended to examine the strengths and limitations of CiM, expanding the content and broadening access to this resource, including to all students (MD, DO, IMG) at no cost, throughout their medical school training, or at a minimum, at key career decision-making points, in order to support students' professional development. The comprehensive, interactive resource should address both clinical and non-clinical career paths. The public good can be prioritized within this resource with content emphasis on workforce strategies to address the needs of the public, including specialty selection and practice location. Links to specialty-specific medical student advising resources should also be incorporated.

Theme: Oversight

Recommendation:
4. Advising about alternative career pathways should be available for those individuals who choose not to pursue clinical careers. National career awareness databases such as Careers in Medicine should include information on these alternative pathways.

Narrative description of recommendation:
The financial and educational burden on learners is significant, and advising of learners should include alternative career pathways. This advice should be available to all learners, including students who choose not to pursue a career in clinical medicine, students who go unmatched, as well as the struggling student who may not be able to graduate from medical school. Centralized resources to support these efforts should be developed and should also include information available to international medical graduates.

Recommendation:
5. Evidence-informed, general career advising resources should be available for all medical school faculty and staff career advisors, both domestic and international. General career advising should focus on students' professionalization; inclusive practices such as valuing diversity, equity, and belonging; clinical and alternate career pathways; and meeting the needs of the public.

Narrative description of recommendation:
Centralized advising resources should reflect a common core, with supplemental information as needed. General advising should be differentiated from specialty-specific match advising or specialty recruiting. Advising tools should incorporate strengths-based approaches to career selection. The resources should include the option of non-clinical careers without stigma. Basic advising information should be created for all faculty who interact with students to promote common understanding of career advising, professional development, specialty selection, and application procedures; introduce the role of specialty-specific advisors as distinct from other faculty teachers; and minimize sharing misinformation that is outdated or incorrect with students. All advisors, both faculty and staff, who routinely perform general career advising should undergo a training process created as part of this resource development. Completing training and demonstrating needed knowledge and skill could lead to a certification as a trained general career advisor.

Recommendation:
6. To support evidence-informed, student focused, specialty-specific advising for all medical students, advising resources should be available for and used by advisors, both domestic and international.

Narrative description of recommendation:
Creation of evidence-informed, data-driven specialty-specific resources for advisors will fill an information gap and increase the transparency and reliability of information shared with students. Guidance contained in the resources can support faculty in managing or eliminating conflicts of interest related to recruiting students to the specialty, advising for the Match, and advocating for students in the Match. Resources should also assist UME programs in supporting the unique needs of traditionally underrepresented, disadvantaged, and marginalized student groups. Basic advising information should be created for all faculty who interact with students to promote common understanding of career advising, professional development, specialty selection, and application procedures; emphasize the role of specialty-specific advisors as distinct from other faculty teachers; and minimize sharing misinformation that is outdated or incorrect with students.

All advisors, both faculty and staff, who routinely perform specialty-specific advising should undergo a training process created as part of this resource development that includes equity in advising and mitigation of bias. Completing training and demonstrating needed knowledge and skill could lead to a certification as a trained specialty-specific advisor.

Theme: Competencies and Assessments

Recommendation:

7. UME and GME educators, along with representatives of the full educational continuum, should jointly define and implement a common framework and set of outcomes (competencies) to apply to learners across the continuum from UME to GME.

Narrative description of recommendation:

A shared mental model of competence facilitates agreement on assessment strategies used to evaluate a learner's progress in those competencies and the inferences which can be made from assessments. Shared outcomes language can convey information on learner competence with the patient/public trust in mind. For individual learners, defining these outcomes will facilitate learning and may promote a growth mindset. For faculty, defining outcomes will allow for the use of assessment tools aligned with performance expectations and faculty development. For residency programs, defining outcomes will be useful through resident selection and learner handovers from UME, resident training, and resident preparation for practice.

Recommendation:

8. The UME community, working in conjunction with partners across the continuum, must commit to using robust assessment tools and strategies, improving upon existing tools, developing new tools where needed, and gathering and reviewing additional evidence of validity.

Narrative description of recommendation:

Educators from across the education continuum should use the shared competency outcomes language to guide development or use of assessment tools, and strategies that can be used across schools to generate credible, equitable, value-added competency-based information. Assessment information could be shared in residency applications and a post-match learner handover. Licensing examinations should be used for their intended purpose to ensure requisite competence.

Recommendation:

9. Using the shared mental model of competency and assessment tools and strategies, create and implement faculty development materials for incorporating competency-based expectations into teaching and assessment.

Narrative description of recommendation:

Faculty must understand the purpose of outcomes-focused education, specific language used to define competence, and how to mitigate biases when assessing learners. They must understand the purpose and use of each assessment tool. The intensity and depth of faculty development can be tailored to the amount and type of contact that individual faculty have with students. Clerkship directors, academic progress committees, student competency committee members, and other educational leaders require more in-depth understanding of the assessment system and how determinations of readiness for advancement are made. This faculty development requires centralized electronic resources and training for trainers within institutions. Review of training materials, and completion of any required activities to document review and/or understanding, should be required on a regular basis to be determined by the development group.

Theme: Competencies and Assessments
Recommendation:
10. A convened group including UME and GME educators should reconsider the content and structure of the MSPE as new information becomes available in order to improve access to longitudinal assessment data about applicants. Short term improvements should include structured data entry fields with functionality to enable searching.
Narrative description of recommendation:
The development of UME competency outcomes to apply across learners and the continuum is essential in decreasing the reliance on board scores in the evaluation of the residency applicant. These will take time to develop and implement and may be developed at different intervals. As new information becomes available to improve applicant data, the MSPE should be utilized to improve longitudinal applicant information. In addition, improvements in the MSPE, such as structured data entry fields with functionality to enable searching should be explored.
Recommendation:
11. Meaningful assessment data based on performance after the MSPE must be collected and collated for each graduate, reflected on by the learner with an educator or coach, and utilized in the development of a specialty-specific individualized learning plan to be presented to the residency program for continued utilization during training. Guided self-assessment by the learner is an important component in this process and may be all that is available for some international medical graduates.
Narrative description of recommendation:
This recommendation provides meaning and importance for the assessment of experiences during the final year of medical school (and possibly practice for some international graduates), helps to develop the habits necessary for life-long learning, and holds students and schools accountable for quality senior experiences. It also uses the resources of UME to prepare an individualized learning plan (ILP) for interns to be utilized in the handover.
Recommendation:
12. Targeted coaching by qualified educators should begin in UME and continue during GME, focused on professional identity formation and moving from a performance to a growth mindset for effective lifelong learning as a physician. Educators should be astute to the needs of the learner and be equipped to provide assistance to all backgrounds.
Narrative description of recommendation:
Coaching can benefit a student's transition to become a master adaptive learner with a growth mindset. While this transition should begin early in medical school, it should be complete by the time that the student moves from UME to GME. If a learner does not transition to a growth mindset their wellness and success will be compromised. Consider adding specific validated mentoring programs (e.g., Culturally Aware Mentoring) and formation of affinity groups to improve sense of belonging.

Theme: Competencies and Assessments
Recommendation:
13. Structured Evaluative Letters (SELs) should replace all Letters of Recommendation (LOR) as a universal tool in the residency program application process.
Narrative description of recommendation:
A Structured Evaluative Letter, which would include specialty-specific questions, would provide knowledge from the evaluator on student performance that was directly observed versus a narrative recommendation. The template should be based on an agreed upon set of core competencies and allow equitable access to completion for all candidates. The SEL should be based on direct observation and must focus on content that the evaluator can complete. Faculty resources should be developed to improve the quality of the standardized evaluation template and decrease bias.
Recommendation:
14. Convene a workgroup of educators across the continuum to begin planning for a dashboard/portfolio to collect assessment data in a standard format for use during medical school and in the residency application process. This will enable consistent and equitable information presentation during the residency application process and in a learner handover.
Narrative description of recommendation:
Key features of a dashboard/portfolio in the UME-GME transition, and across the continuum, should include competency-based information that aligns with a shared mental model of outcomes, clarity about how and when assessment data were collected, and narrative data that uses behavior-based and competency-focused language. A mechanism should include learner reflections and learning goals. Dashboard development will require careful attention to equity and minimizing harmful bias, as well as a focus on the competencies and measurements that predict future performance with patients. Transparency with students about the purpose, use, and reporting of assessments, as well as attention to data access and security, will be essential.
Theme: Away Rotations
Recommendation:
15. Convene a workgroup to explore the multiple functions and value of away rotations for applicants, medical schools, and residency programs. Specifically, consider the goals and utility of the experience, the impact of these rotations, and issues of equity including accessibility, assessment, and opportunity for students from groups underrepresented in medicine and financially disadvantaged students.
Narrative description of recommendation:
Away rotations can be cost prohibitive yet may allow a student to get to know a program, its health system, and surrounding community. Some programs are reliant on away rotations to showcase their unique strengths in order to attract candidates. Given the multifactorial and complex role that away rotations fulfill, a committee should be convened to conduct a thorough and comprehensive review of cost versus benefit of away rotations, followed by recommendations from that review. Non-traditional methods of conducting and administering away rotations should be explored (e.g., offering virtual away rotations, waiving application fees, or offering away stipends particularly for financially disadvantaged students).

Theme: Diversity, Equity, and Inclusion (DEI) in Medicine
Recommendation:
16. To raise awareness and facilitate adjustments that will promote equity and accountability, demographic information of applicants (race, ethnicity, gender identity/expression, sexual identity/orientation, visa status, or ability) should be measured and reported to key stakeholders, including programs and medical schools, in real time throughout the UME-GME transition.
Narrative description of recommendation:
Inequitable distribution of applicants among specialties is not in the best interest of programs, applicants, or the public good. Bias can be present at any level of the UME-GME transition. A decrease in diversity at any point along the continuum provides an important opportunity to intervene and potentially serve the community in more productive ways. An example of accountability and transparency in an inclusive environment across the continuum is a diversity dashboard for residency applicants. A residency program that finds bias in its selection process (perhaps due to an Alpha Omega Alpha filter) could go back in real time to find qualified applicants who may have been missed, potentially improving outcomes.
Recommendation:
17. Specialty-specific best practices for recruitment to increase diversity across the educational continuum should be developed and disseminated to program directors, residency programs, and institutions.
Narrative description of recommendation:
Recognizing that program directors, programs, and institutions have wide variability in goals, definitions, and community needs for increasing diversity, shared resources should be available for mission-aligned entities, with specialty-specific contributions including successful strategies and ongoing challenges. This recommendation is intended for specialty organizations to specifically address diversity, equity, and inclusion in specialty-specific disparities in recruitment.
Recommendation:
18. In order to eliminate systemic biases in grading, medical schools must perform initial and annual exploratory reviews of clinical clerkship grading, including patterns of grade distribution based on race, ethnicity, gender identity/expression, sexual identity/orientation, visa status, ability, and location (e.g., satellite or clinical site location), and perform regular faculty development to mitigate bias. Programs across the UME-GME continuum should explore the impact of bias on student and resident evaluations, match results, attrition, and selection to honor societies, such as Alpha Omega Alpha and the Gold Humanism Honor Society.
Narrative description of recommendation:
Recognizing that inherent biases exist in clinical grading and assessment in the clinical learning environment, each UME and GME program must have a continuous quality improvement process for evaluating bias in clinical grading and assessment and the implications of these biases, including honor society selection. This recommendation is intended to mitigate bias based on clinical grading, transcript notations, MSPE reflections of remediation, and residency evaluations that may be influenced by bias.

Recommendation:

19. A committee must be formed to explore the growing number of unmatched physicians in the context of a national physician shortage, including root causes, and disparities in unmatched students based on specialty, demographic factors, and grading systems. The committee should report on data trends, implications, and recommended interventions.

Narrative description of recommendation:

The growing number of unmatched physicians necessitates analysis and strategic planning to address root causes. This analysis should include demographic data to examine diversity, specialty disparities in unmatched students, number of applications, grading systems, participation in SOAP, post-SOAP unmatched candidates, and match rate in subsequent years of re-entering the Match pool. This recommendation is intended to urge UME programs and institutions to have a continuous quality improvement approach by reviewing unmatched graduates for specialties, demographics, number of programs applied to, and clinical grading; to offer alternative pathways; and add faculty development for clinical advising. Ideally shared resources and innovation across the continuum would be identified and disseminated.

Theme: Application Process

Recommendation:

20. A comprehensive database with verifiable residency program information should be available to all applicants, medical schools, and residency programs and at no cost to the applicants.

Narrative description of recommendation:

Verifiable and trustworthy residency program information should be developed and made available in an easily accessible database to all applicants. Information for the database should be directly collected and sources should be transparent. Data must be searchable and allow for data analytics to help with program decision making (e.g., allowing applicants to input components of their individual application to identify programs with similar current residents).

Recommendation:

21. Create a widely accessible, authoritative, reliable, and searchable dataset of characteristics of individuals who applied, interviewed, were ranked, and matched for each GME program/track to be used at no cost by applicants, and by their advisors. Sort data according to medical degree, demographics, geography, and other characteristics of interest.

Narrative description of recommendation:

The Residency Explorer tool currently allows applicants to compare their characteristics to those of recent residents attending each GME program. These data could be more robust by providing users with more detailed information about each program's selection process. Each program's interviewed or ranked applicants reflect the program's desired characteristics more accurately than the small proportion of applicants the program matches. Applicants and advisors should be able to sort the information according to demographic and educational features that may significantly impact the likelihood of matching at a program (e.g., geography, scores, degree, visa status, etc.).

Recommendation:
22. To optimize utility, discrete fields should be available in the existing electronic application system for both narrative and ordinal information currently presented in the MSPE, personal statement, transcript, and letters. Fully using technology will reduce redundancy, improve comprehensibility, and highlight the unique characteristics of each applicant.
Narrative description of recommendation:
Optimally, each applicant will be reviewed individually and holistically to evaluate merit. However, some circumstances may require rapid review. The 2020 NRMP program directors' survey found that only 49% of applications received an in-depth review. The application system should utilize modern technology to maximize the likelihood that applications are evaluated in a way that is holistic, mission-based, and equitable. Currently, applications are assessed based on the information that is readily available, which may place undue emphasis on scores, geography, medical school, or other factors that perpetuate bias. Adding concrete data gives an opportunity for applicants to demonstrate their strengths in a way that is user-friendly for program directors. Maximizing the amount of accurate information readily available in the application will increase capacity for holistic review of more applicants and improve trust during the UME to GME transition. Although not all schools and programs will align on which information should be included, areas of agreement should be found and emphasized.
Recommendation:
23. Filter options available to programs for sorting applicants within the application system should be carefully created and thoughtfully reviewed to ensure each one detects meaningful differences among applicants and promotes review based on mission alignment and likelihood of success at a program.
Narrative description of recommendation:
Residency programs receive more applications than they can meaningfully review, and applications may lack details that would help to differentiate between similar candidates. For this reason, filters are sometimes used to identify candidates that meet selection criteria. However, some commonly used filters may exclude applicants who are not meaningfully different from ones who are included. All applications should be evaluated fairly, independent of software idiosyncrasies. Each filter that is offered should align with the missions and requirements of residency programs. Filters with known bias (such as honor society and score filters) should be carefully monitored, especially as score reporting changes put some applicants at risk of inequitable consideration due to the timing of their test administration.
Recommendation:
24. To promote equitable treatment of applicants regardless of licensure examination requirements, comparable exams with different scales (COMLEX-USA and USMLE) should be reported within the ERAS filtering system in a single field.
Narrative description of recommendation:
Osteopathic medical students make up 25% of medical students in U.S. schools and these students are required to complete the COMLEX-USA examination series for licensure. Residency programs may filter out applicants based on their USMLE score leading many osteopathic medical students to sit for the USMLE series. This creates substantial increase in cost, time, and stress for osteopathic students who believe duplicate testing is necessary to be competitive in the Match. A combined field should be created in ERAS which normalizes the scores between the two exams and allows programs to filter based only on the single normalized score. This will mitigate structural bias and reduce financial and other stress for applicants.

Theme: Interviewing
Recommendation:
25. Develop and implement standards for the interview offer and acceptance process, including timing and methods of communication, for both the learners and programs to improve equity and fairness, to minimize educational disruption, and improve wellbeing.
Narrative description of recommendation:
The current process of extending interview offers and scheduling interviews is unnecessarily complex and onerous, and there is little to no regulation of this process. Applicant stress and loss of rotation education while attempting to conform to some processes (e.g., obsessively checking emails to accept short-timed interview offers) can be improved by implementing process improvements to the application platform, policies, and procedures. Development of a common interview offering/scheduling platform and setting policies to this platform, such as a residency programs inability to over offer/over schedule interviews and set inappropriate time-based applicant replies, would result in important improvements.
Recommendation:
26. Interviewing should be virtual for the 2021-2022 residency recruitment season. To ensure equity and fairness, there should be ongoing study of the impact and benefits of virtual interviewing as a permanent means of interviewing for residency.
Narrative description of recommendation:
Virtual interviewing has been a phenomenal change to control applicant expenses. With elimination of travel, students have been able to dedicate more time to their clinical education. Due to the risk of inequity with hybrid interviewing (virtual and in person interviews occurring in the same year or same program), all interviews should be conducted virtually for the 2021-2022 season. The committee also recommends a thorough exploration of the data around virtual interviewing. Candidate accessibility, equity, match rates, and attrition rates should be evaluated. Residency program feedback from multiple types of residencies should be explored. In addition, the separation of applicant and program rank order list deadlines in time should be explored, as this would allow students to visit programs without pressure and minimize influence on a program's rank list.
Recommendation:
27. Implement a centralized process to facilitate evidence-based, specialty-specific limits on the number of interviews each applicant may attend.
Narrative description of recommendation:
Identify evidence-based, specialty-specific interview caps, envisioned as the number of interviews an applicant attends within a specialty above which further interviews are not associated with significantly increased match rates, across all core applicant types. Standardize the interview offer, acceptance, and scheduling workflow. Create a centralized process to operationalize interview caps, which could include an interview ticket system or a single scheduling platform.

Theme: Matching Process

Recommendation:

| **28.** To promote holistic review and efficiency, utilize the best available modeling and data to redesign the mechanics of the residency application process. The redesigned process – such as an optional early decision application cycle and binding match – must reduce application numbers while concentrating applicants at programs where mutual interest is high. |

Narrative description of recommendation:

| Application inflation is a root cause of the current dysfunction in the UME-GME transition. The current high cost of the application process (to applicants and program directors) does not serve the public good. The 2020 NRMP program director survey found that only 49% of applications received an in-depth review. An unread application represents wasted cost to the applicants and doubling the resources available for review is not practical. Optimal career advising may not be sufficient to reduce application numbers in the context of a very high stakes process. Despite increased transparency in characteristics of matched applicants, the number of applications per applicant continues to rise.

 Following careful review of all available data and modeling information, one of several potential options must be taken to reduce the number of applications submitted per position. Outcomes must be carefully monitored. For example, a new optional "early decision" application cycle and binding match is envisioned where applicants may apply in only one specialty, and application numbers and available positions are constrained. An iterative, continuous quality improvement approach is envisioned that begins relatively conservatively, and is adjusted annually as needed, based on process and outcome measures (i.e., stakeholder experience, match rate, rank list position to match for both applicants and programs, equity for underrepresented groups and programs). An early match may be preferable to other interventions, especially if a conservative initial approach is used, to limit legal challenges and impact on special populations. |

Theme: Faculty Support Resources

Recommendation:

| **29.** Develop a portfolio of evidence-based resident support resources for program directors (PDs), designated institutional officials (DIOs), and residency programs. These will be identified as best practices, and accessible through a centralized repository. |

Narrative description of recommendation:

| A centralized source of resident support resources will assist programs with effective approaches to address resident concerns. This will be especially relevant for competency-based remediation and resident wellbeing resources in the context of increased demand for support around the UME-GME transition. Access for programs and program directors will be low/no cost, confidential, and straightforward. |

Recommendation:

| **30.** Educators across the continuum must receive faculty development regarding anti-racism; avoiding bias; and improving equity in student and resident recruitment, mentorship and advising, teaching, and assessment. |

Narrative description of recommendation:

| Avoiding bias and improving racial equity are essential skills for faculty in today's teaching. Many faculty lack these skills, and that lack perpetuates health disparities, lack of diversity, and learner mistreatment. This faculty development must be longitudinal and repeated annually. |

Theme: Post-Match Transition to Residency
Recommendation:
31. Anticipating the challenges of the UME-GME transition, schools and programs should ensure that time is protected, and systems are in place, to ensure that individualized wellness resources – including health care, psychosocial supports, and communities of belonging – are available for each learner.
Narrative description of recommendation:
Given that the wellness of each learner significantly impacts learner performance, it is in the program and public's best interest to ensure the learner is optimally prepared to perform as a resident. This should be focused on applying resources that are already available and not dependent on the creation of new resources. Examples of wellness resources include: enrollment in insurance, establishing with a primary care provider and dentist, securing a therapist if appropriate, identifying local communities of belonging, and other supports that optimize wellbeing. These resources may especially benefit the most vulnerable trainees.
Recommendation:
32. Using principles of inclusive excellence, program directors, programs, and institutions must incorporate activities in diversity, equity, and inclusion for faculty, residents, and staff beginning in orientation and ongoing, in order to promote belonging, eliminate bias, and provide social support.
Narrative description of recommendation:
Recognizing that the ACGME Common Program Requirements already have specific requirements in this area, this recommendation is intended to specifically state how important it is to address issues related to DEI for all members of the educational community.
Recommendation:
33. Specialty-specific, just-in-time training must be provided to all incoming first-year residents, to support the transition from the role of student to a physician ready to assume increased responsibility for patient care.
Narrative description of recommendation:
The intent of this recommendation is to level set incoming intern performance regardless of medical school experience. Recent research has shown that residents reported greater preparedness for residency if they participated in a medical school "boot camp," and participation in longer residency preparedness courses was associated with high perceived preparedness for residency. This training must incorporate all six specialty milestone domains and be conducive to performing a baseline skills assessment. These curricula might be developed by specialty boards, specialty societies, or other organized bodies. To minimize costs, specialty societies could provide centralized recommendations and training could be executed regionally or through online modules.
Recommendation:
34. Residents must be provided with robust orientation and ramp up into their specific program at the start of internship. In addition to clinical skills and system utilization, content should include introduction to the patient population, known health disparities, community service and engagement, faculty, peers, and institutional culture.
Narrative description of recommendation:

Improved orientation to residency has the ability to enhance trainee well-being and improve patient safety. Residents should have orientation that includes not only employee policies but also education that optimizes their success in their specific clinical environment. Residents, like other employees, should be paid for attending orientation.

Recommendation:

35. A specialty-specific, formative, competency-based assessment that informs the learner's individualized learning plan (ILP) must be performed for all learners as a baseline at the start of internship.

Narrative description of recommendation:

An assessment of learner competence must be deployed at the start of internship to assess the competencies outside of medical knowledge in a specialty-specific manner. This assessment should be managed by the GME side to ensure authentic assessment and to provide feedback to UME agencies. This assessment must incorporate the five specialty milestone domains beyond medical knowledge. This assessment might be developed by specialty boards, specialty societies, or other organized bodies. Cost to students must be minimized.

This is envisioned as an "In-Training Examination" (ITE) experience early in internship that is based on the five specialty milestone domains beyond medical knowledge. The time for this experience should be protected in orientation, and the feedback should be formative similar to how most programs manage the results of ITEs.

This assessment might occur in the authentic workplace and based on direct observation, or might be accomplished as an Objective Structured Clinical Exam using simulation. This assessment should inform the learner's ILP and set the stage for the work of the clinical competency committee of the program.

Recommendation:

36. Early and ongoing specialty-specific resident assessment data should be automatically fed back to medical schools through a standardized process to enhance accountability and continuous improvement of UME programs and learner handovers.

Narrative description of recommendation:

Instruments for feedback from GME to UME should be standardized and utilized to inform gaps in curriculum and program improvement. UME institutions should respond to the GME feedback on their graduates' performance in a manner that leads to quality improvement of the program.

Recommendation:

37. Adequate and appropriate time must be assured between graduation and learner start of residency to facilitate this major life transition.

Narrative description of recommendation:

The transition from medical school to residency typically marks a concrete transition from paying for one's education to becoming a fulltime employee focused on one's lifelong pursuit of improvement in one's occupation. This transition is life changing for many. It often requires a move from one location to another, sometimes across the world. There must be time for licensing and in some cases, visa attainment. Often this life transition is accompanied by other major life events such as partnering or child-bearing. Once residency starts the learner may work many hours each week and may have little time to establish a home. Thus, it is important for wellness and readiness to practice that adequate time be provided to accomplish this major life transition.

The predictability of this transition must be recognized by both UME and GME institutions, and cooperation on both sides is required for this transition to be accomplished smoothly. There is a desire to overall better prepare learners for the start of residency, and an assured transition time would allow related recommendations to be more easily accomplished.

Recommendation:

38. All learners need equitable access to adequate funding and resources for the transition to residency prior to internship launch.

Narrative description of recommendation:

As almost every learner graduating from medical school transitions to internship, the need to fund a geographic move and establishment of a new home is predictable. This financial planning should be incorporated into medical school expenses, for example through equitable low interest student loans. Options to support the transitional expenses of international medical graduates should also be identified. These costs should not be incurred by GME programs.

Theme: Policy Implications

Recommendation:

39. There should be a standardized process throughout the United States for initial licensing at entrance to residency in order to streamline the process of credentialing for both residency training and continuing practice.

Narrative description of recommendation:

To benefit the public good, costs to support the U.S. healthcare workforce should be minimized. To this end, all medical students should be able to begin licensure earlier in their educational continuum to better distribute the work burden and costs associated with this predictable process. When learners are applying to match in many different states the varied requirements are unnecessarily cumbersome. Especially for states where a training license is required, the time between Match Day and start of internship is often not long enough to manage this process This is a potential cost saving measure.

Recommendation:

40. Recommend to the U.S. Centers for Medicare and Medicaid Services (CMS) that they change the current GME funding structure so that the Initial Residency Period (IRP) is calculated starting with the second year of postgraduate training. This will allow career choice reconsideration, leading to resident wellbeing and positive effects on the physician workforce.

Narrative description of recommendation:

Given the timing of the residency recruiting season and the Match, students have limited time to definitively establish their specialty choice. If a resident decides to switch to another program or specialty after beginning training, because of the IRP the hospital may not receive full funding and thus be far less likely to approve such a change. The knowledge that residents usually only have one chance to choose a specialty path increases the pressure on the entire UME-GME transition. Furthermore, educational innovation is limited without flexibility for time-variable training.

Theme: Research Questions

Recommendation:

41. To guide future improvements in resident selection and transition, conduct research to understand which residency applicant characteristics, residency curriculum experiences, and learning environment factors are most likely to translate into physicians who fulfill the specialty specific physician workforce needs of the public (e.g., primary care, demographics, geographic distribution).

Narrative description of recommendation:

Graduates of U.S. medical schools fill many residency positions, which means GME will be limited by the decisions made by medical school admissions committees. However, non-U.S. graduates are also considered at many programs, providing an opportunity to serve the public good. Additional research is needed to help program directors understand which applicant characteristics are useful indicators to address on-going medical workforce issues. Further changes to the transition should be informed by evidence whenever possible.

Recommendation:

42. Build consensus around the components of a successful recruitment cycle, utilizing input from all stakeholders. Identify which characteristics of applicants and programs predict a successful recruitment cycle outcome.

Narrative description of recommendation:

Currently, the medical education community lacks a shared mental model of what constitutes a successful transition from UME to GME, and also what factors predict that success. The lack of agreement leads to conflict over the content of applications as well as the resources required for a recruitment cycle. Success could include simple educational outcomes such as completing training, board certification, or lack of remediation. Alternatively, applicant-specific factors may be more important, such as likelihood of picking the same program. The success may be defined solely on the public good, based on fill rate of programs and how many physicians practice in underserved areas. Or, it may be that a successful match is institutionally specific based on its mission and community served, with some institutions focused on research and others on rural communities. Regardless, the factors associated with success must be understood so they can be appropriately emphasized in the UME-GME transition, especially as changes are made to the process.

NBME℠

RESULTS REPORT

OPEN COMMENT PERIOD ON THE PRELIMINARY RECOMMENDATIONS OF THE UNDERGRADUATE MEDICAL EDUCATION TO GRADUATE MEDICAL EDUCATION REVIEW COMMITTEE (UGRC)

PREPARED BY NBME, PSYCHOMETRICS AND DATA ANALYSIS

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Contact Dana Kerr with questions regarding this report at dkerr@nbme.org.

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EXECUTIVE SUMMARY

NBME is committed to developing and delivering assessments of the many expected competencies of health professionals. NBME is committed to the work of the Coalition for Physician Accountability and helping find solutions that will improve the UME-GME transition. NBME supported the work of the Undergraduate Medical Education to Graduate Medical Education Review Committee (UGRC) by developing, administering, and analyzing the results of a survey to collect feedback on the Preliminary Recommendations on addressing the challenges that exist in the transition from medical school to residency. The survey sought feedback from stakeholders during the public comment period (April 26, 2021 to May 28, 2021).

Respondent Information

The survey instrument collected 2,673 comments from 768 distinct respondents over 32 days of the administration. A request to participate in the public comment period for the recommendations was posted on their website. UGRC solicited responses from specific organizations and groups. 13.7% of the respondents completed the survey on behalf of an organization or group in an official capacity which accounted for 21.2% of the overall comments. Comments provided by organizations or groups tended to be very thorough, when compared to the comments from individual respondents. The largest groups of respondents who were not responding on behalf of an organization or group, are Medical School Students (26.6%), Residency Program Directors (16.3%) and Faculty Members of Medical Schools (10.3%) which accounted for 39.5% of the overall comments.

Result Highlights

Of the 12 Preliminary Recommendation themes, respondents commented most often on the themes of Interviewing (N=464), Application Process (N=294), and Matching Process (N=262). Overall, respondents had varying opinions regarding the specific recommendations. For instance, of the Interviewing comments which were assigned a sentiment (N=309), opinions differed. Responses within this theme were mostly focused on Recommendation 26; some respondents felt strongly that virtual interviews should become permanent, while others described negative implications associated with this means of interviewing for residency, including equity and inclusion.

In reference to the Application Process theme, commentary was also wide-ranging. Standardized testing was mentioned frequently, often these comments expressed concerns about the differences between USMLE and COMLEX scores, or the need for a single licensing exam for allopathic and osteopathic students. Data transparency was also a popular topic, specifically the need for better access to program info, and more transparency around the use of filters

Comments regarding the recommendations within the Matching Process theme were also mixed. Early decision was a popular topic in the comments, with some respondents expressing agreement, while others cautioned against it. Respondents questioned how these recommendations could be implemented, and they mentioned application caps and limits frequently.

Respondents expressed strong feelings relating to Away Rotations, specifically about issues of inequity due to associated costs for the student learner.

The recommendation with the highest number of comments expressing agreement was Faculty Support Resources (66.7%).

The anticipated use of this report is to aid subject matter experts in the review and interpretation of the results of the open comment period survey. Please refer to the Limitations section of this report before drawing conclusions based on the presented data.

METHODS

The survey instrument was programmed using Survey Monkey and included thirteen open-ended questions. Twelve of the open-ended questions asked respondents to comment on each of the recommendation themes; respondents indicated the themes for which they wished to provide commentary. Participants were asked to include the specific recommendation number(s) they were commenting on within their response. The final open-ended question solicited general comments about the UGRC Preliminary Recommendations.

The survey instrument also included twelve background information-gathering questions. The initial question asked whether the respondent was responding on behalf of an organization in an official capacity or for themselves. Those responding on behalf of an organization or group were asked to indicate its name. Respondents who were responding for themselves were asked their primary role, which then led to a series of background questions that queried current physician-related activity, medical degree, location of medical school, year of residency completion, medical specialty, location of current institution, resident supervision status, gender, and race. Medical school students were asked the location and type of medical school in which they were currently enrolled.

DATA COLLECTION

A request to participate in the public comment period for the recommendations of the Coalition for Physician Accountability's Undergraduate Medical Education to Graduate Medical Education Review Committee (UGRC) was posted on their website (https://physicianaccountability.org). In addition, UGRC solicited responses from specific organizations and groups.

The survey window spanned April 26, 2021 to May 28, 2021.

DATA ANALYSIS

Prior to the survey administration window, UGRC stakeholders were asked to provide a list of potential codes or topics that would likely be discussed in the respondents' comments. After the first week of the survey administration window, 4 NBME staff members read portions of the response data and identified a list of potential thematic codes. The list of codes was presented to UGRC stakeholders for review and approval. The 4 NBME staff members then coded the first two weeks of comments using the initial codebook.

Subsequently, through an iterative process, additional codes and tags were added, which resulted in a final set of agreed-upon codes and tags (see Appendix). The final codebook was used by the 4 NBME staff members to code the remainder of responses in weekly batches. Two NBME staff members reviewed 10% of all coded comments from the first two weeks of the survey window to ensure that codes were being adequately and accurately used. This review resulted in the application of additional codes to the comments and not to the deletion of previously applied codes. Through discussion, NBME staff members also attended to their reactions to the responses, their backgrounds, and their potential biases.

To clarify relationships between associated codes, codes were organized using a parent-child code structure in which a parent code could include any number of subcategories, or "children". In all tables and figures in the results section, an asterisk is used to indicate which of the codes are parent codes. If a child code was applied to a free-text response, its parent code was also applied or "upcoded". In the *Code Application* tables, parent codes are also shaded in gray. A complete listing of parent and child codes can be found in Appendix A.

All free-text responses were also assigned sentiment (*agree, disagree*, or *mixed*) when distinct sentiment was expressed in a comment. Additionally, a list of tags wase applied to all free-text responses when applicable. A complete list of tags can be found in Appendix B.

RESULTS

The survey instrument collected 2,673 comments from 768 distinct respondents over 32 days of the administration. Because the survey was open to the public, it is not possible to calculate the overall response rate. Prior to analysis, survey responses were reviewed and determined to be valid as long as one free-text response contained any text. If the text was nonsensical (i.e., "NA", "None", "N/A", etc.), codes were not applied during qualitative data analysis coding. The remainder of this report illustrates the results of NBME staff analysis, first displaying summary data about the survey respondents, themes, and associated codes, then displaying various results by theme and then presenting the background and demographic information about the respondents.

Table 1 shows the number of comments, percentage of comments, number of distinct respondents, and percentage of distinct responses by group, which is defined as the primary role indicated by the survey respondent. 13.7% of the respondents completed the survey on behalf of an organization or group in an official capacity which accounted for 21.2% of the overall comments. The largest groups of respondents, who were not responding on behalf of an organization or group, are Medical School Students (26.6%), Residency Program Directors (16.3%) and Faculty Members of Medical Schools (10.3%) which accounted for 39.5% of the overall comments. Additional background information is included in this report, beginning on page 99.

Table 2 (Response Counts and Frequencies by Group and Recommendation Theme) shows the number of distinct responses and percentage of responses for each group responding to a recommendation theme.

Table 3 (Counts of Recommendation Numbers) shows counts associated with each of the 42 recommendations ordered by theme, for comments where the recommendation number was indicated by the respondent. For recommendation themes containing a single recommendation, comments were automatically coded to that recommendation.

Table 4 (Sentiments) shows the breakdown of sentiments by theme (Agree, Disagree, Mixed) which were applied by the coders for comments where the respondent sentiment was evident. Additionally, the coding team applied tags.

Table 5 shows the frequency and percentage of these applied tags (Combine Potential, Concerning Comment, Interesting Comment, Organizations, Personal Anecdote, Priority, Skepticism, Source Cited, Suggestion, Unintended Consequences) for each of the themes.

Results by Theme. The remaining tables in the report show summary information about the codes applied to the comments collected. The organization of tables and graphs for each the 12 themes is identical. For each theme, a sentiment table and figure appear, followed by a small selection of verbatim comments, edited for brevity. Next, a table indicates the frequency and percentage of codes applied to the comments and is followed by a bar graph which illustrates the most frequently applied codes, in descending order. The final graph for each theme is a bigram which illustrates the most frequently occurring pairs of words in descending order for 2 groups: individual respondents (non-organization response) and respondents who completed the survey on behalf of an organization or group organization.

In all tables and figures, an asterisk is used to indicate parent codes.

An additional report showing comments by recommendation theme was provided to stakeholders on June 1, 2021.

LIMITATIONS

- Survey instrument was not piloted prior to administration due to time constraints.

- Survey instrument was long and there may have been respondent drop-off prior to survey completion.

- All data were self-reported by respondents.

- Certain respondent groups had a small number of respondents.

- Due to small number of respondents in some respondent groups, results are not generalizable; interpretation should be taken with caution.

- Survey was open to the public – not possible to compute the overall response rate.

- Analysis – due to time constraints there was only 1 coder per comment.

- Analysis – due to time constraints the coding team was only able to QC 10% of the codes from the first 2 weeks of the survey administration.

- Analysis – due to time constraints the coding team was not able to recode previously coded comments when new codes were added to the codebook.

- Analysis – due to time constraints the coding team was not able to consolidate codes or confirm accurate interpretation of the coding results.

SUMMARY DATA

- A total of 2127 respondents clicked into the survey.

- A total of 768 respondents left at least one comment.

- A total of 2673 comments were collected across the thirteen open-ended questions.

Table 1 provides data about the number of comments left by each respective primary role.

Table 1: Comments by Group

Group	# Comments	% Comments	Distinct Respondents	% of Respondents
I am responding on behalf of an organization or group in an official capacity	568	21.2%	105	13.7%
Medical School Student	491	18.4%	204	26.6%
Residency Program Director	400	15%	125	16.3%
Medical School Assistant/Associate Dean	300	11.2%	64	8.3%
Faculty Member of a Medical School	264	9.9%	79	10.3%
Other	247	9.2%	75	9.8%
Non-Practicing Physician/Clinician	78	2.9%	17	2.2%
Clerkship Director	71	2.7%	20	2.6%
Intern/Resident/Fellow	71	2.7%	26	3.4%
Designated Institutional Official (DIO)	56	2.1%	12	1.6%
Practicing Physician/Clinician	47	1.8%	22	2.9%
Medical School Dean	36	1.3%	6	0.8%
General Public	23	0.9%	6	0.8%
I serve, or have served, on a State Medical Board	21	0.8%	7	0.9%
Total	2,673	100%	768	100%

Table 2: Response Counts and Frequencies by Group and Recommendation Theme

Group	Oversight	Advising of Learners	Competencies and Assessments	Away Rotations	Diversity, Equity, and Inclusion	Application Process	Interviewing	Matching Process	Faculty Support Resources	Post-Match Transition to Residency	Policy Implications	Research Questions	Other	Total
Clerkship Director	0.7% (N=1)	5.6% (N=10)	4% (N=10)	1% (N=2)	2.5% (N=5)	2.4% (N=7)	1.9% (N=9)	2.3% (N=6)	4.6% (N=4)	3.2% (N=5)	2.1% (N=2)	3.2% (N=2)	2.8% (N=8)	2.7% (N=71)
Designated Institutional Official (DIO)	4% (N=6)	2.2% (N=4)	1.6% (N=4)	3.1% (N=6)	2% (N=4)	1.4% (N=4)	2.2% (N=10)	1.5% (N=4)	1.1% (N=1)	3.2% (N=5)	4.2% (N=4)	1.6% (N=1)	1.1% (N=3)	2.1% (N=56)
Faculty Member of a Medical School	8.7% (N=13)	13.3% (N=24)	10.5% (N=26)	9.9% (N=19)	12.1% (N=24)	8.5% (N=25)	7.1% (N=33)	7.6% (N=20)	12.6% (N=11)	8.9% (N=14)	10.5% (N=10)	19.4% (N=12)	11.6% (N=33)	9.9% (N=264)
General Public	1.3% (N=2)	0% (N=0)	0.4% (N=1)	0.5% (N=1)	1% (N=2)	1.4% (N=4)	0.9% (N=4)	0.8% (N=2)	0% (N=0)	0.6% (N=1)	2.1% (N=2)	0% (N=0)	1.4% (N=4)	0.9% (N=23)
I am responding on behalf of an organization or group in an official capacity	25.5% (N=38)	23.3% (N=42)	21.8% (N=54)	20.8% (N=40)	21.2% (N=42)	18.4% (N=54)	15.3% (N=71)	19.5% (N=51)	32.2% (N=28)	27.2% (N=43)	28.4% (N=27)	35.5% (N=22)	19.7% (N=56)	21.2% (N=568)
I serve, or have served, on a State Medical Board	1.3% (N=2)	0.6% (N=1)	0.8% (N=2)	0% (N=0)	2% (N=4)	0.3% (N=1)	0.4% (N=2)	0.4% (N=1)	0% (N=0)	1.3% (N=2)	1.1% (N=1)	0% (N=0)	1.8% (N=5)	0.8% (N=21)
Intern/Resident/Fellow	1.3% (N=2)	1.1% (N=2)	3.2% (N=8)	2.1% (N=4)	3.5% (N=7)	3.7% (N=11)	1.9% (N=9)	3.8% (N=10)	0% (N=0)	3.8% (N=6)	2.1% (N=2)	1.6% (N=1)	3.2% (N=9)	2.7% (N=71)
Medical School Assistant/Associate Dean	16.1% (N=24)	17.2% (N=31)	14.9% (N=37)	11.5% (N=22)	8.6% (N=17)	9.9% (N=29)	6.5% (N=30)	11.8% (N=31)	13.8% (N=12)	13.3% (N=21)	8.4% (N=8)	9.7% (N=6)	11.3% (N=32)	11.2% (N=300)
Medical School Dean	2.7% (N=4)	2.8% (N=5)	2% (N=5)	1.6% (N=3)	1% (N=2)	1% (N=3)	0.4% (N=2)	0.4% (N=1)	2.3% (N=2)	1.9% (N=3)	1.1% (N=1)	1.6% (N=1)	1.4% (N=4)	1.3% (N=36)
Medical School Student	14.1% (N=21)	12.8% (N=23)	13.7% (N=34)	24.5% (N=47)	16.7% (N=33)	24.5% (N=72)	29.3% (N=136)	18.3% (N=48)	8% (N=7)	8.9% (N=14)	5.3% (N=5)	6.5% (N=4)	16.5% (N=47)	18.4% (N=491)
Non-Practicing Physician/Clinician	2.7% (N=4)	2.2% (N=4)	2.8% (N=7)	1.6% (N=3)	5.1% (N=10)	3.1% (N=9)	1.3% (N=6)	2.7% (N=7)	3.4% (N=3)	3.8% (N=6)	3.8% (N=5)	5.3% (N=4)	6.5% (N=10)	3.5% (N=78)	2.9% (N=78)
Other	7.4% (N=11)	8.3% (N=15)	9.7% (N=24)	6.2% (N=12)	10.6% (N=21)	9.9% (N=29)	9.7% (N=45)	10.7% (N=28)	6.9% (N=6)	7.6% (N=12)	11.6% (N=11)	8.1% (N=5)	9.9% (N=28)	9.2% (N=247)
Practicing Physician/Clinician	2% (N=3)	1.7% (N=3)	1.2% (N=3)	2.1% (N=4)	1.5% (N=3)	2% (N=6)	0.9% (N=4)	1.9% (N=5)	2.3% (N=2)	1.3% (N=2)	2.1% (N=2)	0% (N=0)	3.5% (N=10)	1.8% (N=47)
Residency Program Director	12.1% (N=18)	8.9% (N=16)	13.3% (N=33)	15.1% (N=29)	12.1% (N=24)	13.6% (N=40)	22.2% (N=103)	18.3% (N=48)	12.6% (N=11)	15.2% (N=24)	15.8% (N=15)	6.5% (N=4)	12.3% (N=35)	15% (N=400)
Total	100% (N=149)	100% (N=180)	100% (N=248)	100% (N=192)	100% (N=198)	100% (N=294)	100% (N=464)	100% (N=262)	100% (N=87)	100% (N=158)	100% (N=95)	100% (N=62)	100% (N=284)	100% (N=2673)

Table 3: Counts of Recommendation Numbers

Note: As indicated in the **Methods** section, participants were asked to include the specific recommendation number within their response. The counts in Table 3 represent comments where participants followed these specific instructions. If a number was not provided, there was no attempt to determine which recommendation the participant was specifically referring to, and therefore is not represented in the data. For recommendation themes containing a single recommendation, comments were automatically coded to that recommendation and are therefore overrepresented when compared to other recommendations.

Theme	Recommendation #	N	Percent
Oversight	1	153	4.6%
Advising of Learners	2	68	2%
Advising of Learners	3	72	2.2%
Advising of Learners	4	73	2.2%
Advising of Learners	5	62	1.9%
Advising of Learners	6	54	1.6%
Competencies and Assessments	7	81	2.4%
Competencies and Assessments	8	67	2%
Competencies and Assessments	9	41	1.2%
Competencies and Assessments	10	68	2%
Competencies and Assessments	11	63	1.9%
Competencies and Assessments	12	49	1.5%
Competencies and Assessments	13	121	3.6%
Competencies and Assessments	14	64	1.9%
Away Rotations	15	174	5.2%
Diversity, Equity, and Inclusion (DEI) in Medicine	16	78	2.3%
Diversity, Equity, and Inclusion (DEI) in Medicine	17	57	1.7%
Diversity, Equity, and Inclusion (DEI) in Medicine	18	87	2.6%
Diversity, Equity, and Inclusion (DEI) in Medicine	19	76	2.3%
Application Process	20	107	3.2%
Application Process	21	116	3.5%
Application Process	22	72	2.2%
Application Process	23	89	2.7%
Application Process	24	119	3.6%
Interviewing	25	142	4.3%
Interviewing	26	313	9.4%
Interviewing	27	178	5.3%
Matching Process	28	182	5.5%
Faculty Support Resources	29	40	1.2%
Faculty Support Resources	30	52	1.6%
Post-Match Transition to Residency	31	38	1.1%
Post-Match Transition to Residency	32	31	0.9%
Post-Match Transition to Residency	33	47	1.4%

Table 3: Counts of Recommendation Numbers Continued

Theme	Recommendation #	N	Percent
Post-Match Transition to Residency	34	35	1.1%
Post-Match Transition to Residency	35	50	1.5%
Post-Match Transition to Residency	36	34	1%
Post-Match Transition to Residency	37	48	1.4%
Post-Match Transition to Residency	38	41	0.8%
Policy Implications	39	48	0.9%
Policy Implications	40	59	1.8%
Research Questions	41	42	1.3%
Research Questions	42	31	0.9%
Total		3,333	100%

Table 4: Sentiment

Recommendation	Total Comments	Agree	Disagree	Mixed
*Advising of Learners Total Comments	180	43.3% (N=78)	3.9% (N=7)	7.2% (N=13)
*Application Process Total Comments	294	25.9% (N=76)	4.4% (N=13)	10.5% (N=31)
*Away Rotations Total Comments	192	25.5% (N=49)	7.3% (N=14)	3.1% (N=6)
*Competencies and Assessments Total Comments	248	47.2% (N=117)	7.7% (N=19)	14.1% (N=35)
*DEI Total Comments	198	22.2% (N=44)	4.5% (N=9)	9.6% (N=19)
*Faculty Support Resources Total Comments	87	66.7% (N=58)	5.7% (N=5)	2.3% (N=2)
*Interviewing Total Comments	464	23.5% (N=109)	16.2% (N=75)	23.7% (N=110)
*Matching Process Total Comments	262	32.1% (N=84)	12.2% (N=32)	4.2% (N=11)
*Other Total Comments	284	11.6% (N=33)	5.3% (N=15)	2.8% (N=8)
*Oversight Total Comments	149	57% (N=85)	6% (N=9)	-- (N=0)
*Policy Implications Total Comments	95	44.2% (N=42)	3.2% (N=3)	12.6% (N=12)
*Post-Match Transition to Residency Total Comments	158	17.7% (N=28)	4.4% (N=7)	13.9% (N=22)
*Research Questions Total Comments	62	40.3% (N=25)	3.2% (N=2)	4.8% (N=3)

Table 5: Tags

Recommendation	Total Comments	Combine Potential	Concerning Comment	Interesting Comment	Organizations	Personal Anecdote	Priority	Skepticism	Source Cited	Suggestion	Unintended Consequences
*Advising of Learners Total Comments	180	2.8% (N=5)	-- (N=0)	5.6% (N=10)	9.4% (N=17)	2.2% (N=4)	2.8% (N=5)	13.3% (N=24)	1.1% (N=2)	36.7% (N=66)	7.8% (N=14)
*Application Process Total Comments	294	1.4% (N=4)	1% (N=3)	10.5% (N=31)	9.9% (N=29)	1.4% (N=4)	5.4% (N=16)	8.2% (N=24)	2.7% (N=8)	34% (N=100)	10.2% (N=30)
*Away Rotations Total Comments	192	-- (N=0)	3.6% (N=7)	2.1% (N=4)	6.8% (N=13)	4.7% (N=9)	3.1% (N=6)	13.5% (N=26)	-- (N=0)	25.5% (N=49)	17.2% (N=33)
*Competencies and Assessments Total Comments	248	0.8% (N=2)	0.8% (N=2)	6% (N=15)	12.9% (N=32)	2.4% (N=6)	2% (N=5)	33.5% (N=83)	1.6% (N=4)	60.9% (N=151)	24.2% (N=60)
*DEI Total Comments	198	1% (N=2)	4.5% (N=9)	11.1% (N=22)	8.6% (N=17)	5.1% (N=10)	5.6% (N=11)	13.1% (N=26)	4.5% (N=9)	41.9% (N=83)	10.1% (N=20)
*Faculty Support Resources Total Comments	87	-- (N=0)	-- (N=0)	5.7% (N=5)	12.6% (N=11)	-- (N=0)	5.7% (N=5)	17.2% (N=15)	3.4% (N=3)	42.5% (N=37)	2.3% (N=2)
*Interviewing Total Comments	464	1.3% (N=6)	1.3% (N=6)	0.9% (N=4)	7.3% (N=34)	4.7% (N=22)	3% (N=14)	19% (N=88)	0.4% (N=2)	26.9% (N=125)	18.8% (N=87)
*Matching Process Total Comments	262	0.4% (N=1)	0.4% (N=1)	5.3% (N=14)	6.1% (N=16)	3.4% (N=9)	5.3% (N=14)	13.4% (N=35)	0.8% (N=2)	29.8% (N=78)	18.3% (N=48)
*Other Total Comments	284	-- (N=0)	4.6% (N=13)	5.6% (N=16)	13.4% (N=38)	1.1% (N=3)	0.7% (N=2)	9.5% (N=27)	0.4% (N=1)	29.9% (N=85)	4.9% (N=14)
*Oversight Total Comments	149	0.7% (N=1)	-- (N=0)	2.7% (N=4)	17.4% (N=26)	0.7% (N=1)	4% (N=6)	18.1% (N=27)	0.7% (N=1)	36.2% (N=54)	9.4% (N=14)
*Policy Implications Total Comments	95	1.1% (N=1)	-- (N=0)	1.1% (N=1)	9.5% (N=9)	1.1% (N=1)	5.3% (N=5)	16.8% (N=16)	-- (N=0)	22.1% (N=21)	11.6% (N=11)
*Post-Match Transition to Residency Total Comments	158	3.8% (N=6)	1.3% (N=2)	4.4% (N=7)	16.5% (N=26)	3.2% (N=5)	10.1% (N=16)	17.7% (N=28)	2.5% (N=4)	38% (N=60)	12% (N=19)
*Research Questions Total Comments	62	3.2% (N=2)	-- (N=0)	11.3% (N=7)	12.9% (N=8)	3.2% (N=2)	11.3% (N=7)	17.7% (N=11)	1.6% (N=1)	48.4% (N=30)	3.2% (N=2)

Table 6: Sentiment for Oversight

Sentiment	N	Percent
Agree	85	57%
Disagree	9	6%
Total Comments	149	100%

Figure 1: Sentiment for Oversight
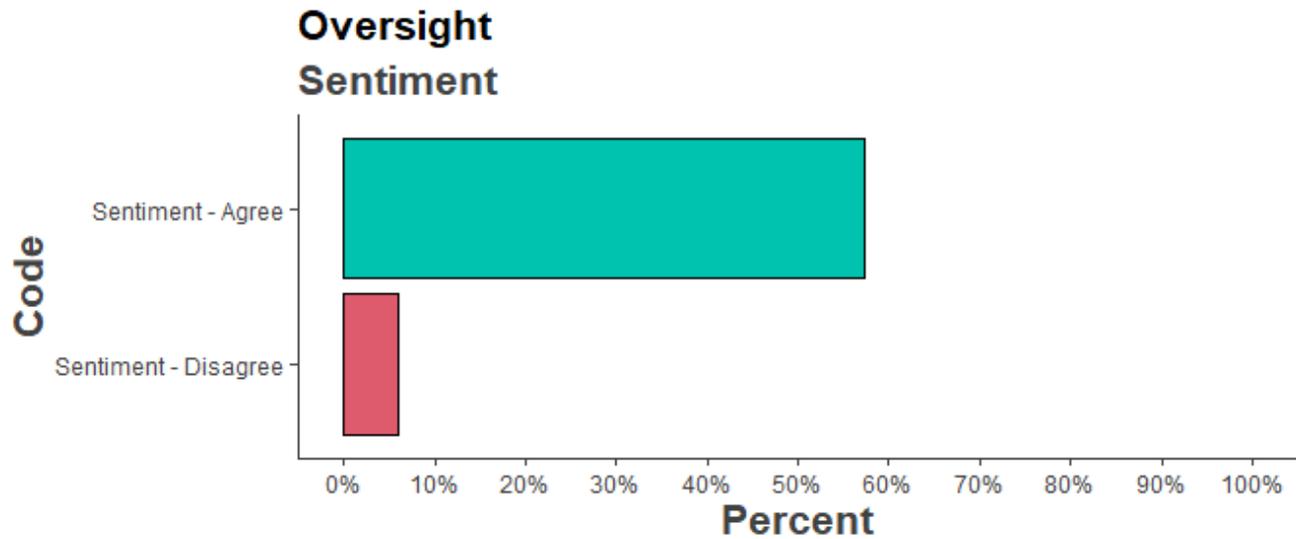
Oversight: Selected Verbatim

This is a comment about the whole document--which is thorough, thoughtful, and comprehensive. I am concerned that it is new paint on a decaying house. The crisis was exacerbated --or even caused--by a misguided push to expand medical school classes without alignment with residency slots. This is on top of chronic perverse specialization incentives in the US health care system. Some careers have good lifestyle and high income--and some do not. THese wonderful recommendations will do nothing to produce the spectrum of doctors needed by the patients of the future. I wonder if we would get more primary care physicians if we took a whole different track. Maybe something like   (a. improve income and working conditions of primary care docs)   b. consider a universal generalist hospitalist and ambulatory internship (with pay) instead of year 4 of medical school   interns would provide inpatient hospitalist care for 6-9 months and generalist ambulatory and urgent care for 6 months (? alternating)--and would be eligible for licensure after this training. (12 months minimum, extendable to assure competency). During this internship, learners could apply to specialties --with 2 years for IM or FM board certification, ? 2.5 years for peds, and full residency for other areas.   Or something really out of the box like that.   The wonderful suggestions of this document reinforce the building of a workforce that will continue to drive procedure oriented, fragmented care.   (Role: Medical School Assistant/Associate Dean, MD)

Table 7: Code Application Counts for Oversight

Code	N	Percent
*Applications	5	1.1%
Applications - MSPE (Medical School Performance Evaluation)	2	0.4%
*Assessment	7	1.5%
Assessment - Accurate assessments	4	0.9%
*Communication	2	0.4%
*Cost/Finances/Debt	5	1.1%
Cost/Finances/Debt - Program Cost	4	0.9%
*COVID Impact	4	0.9%
*Data Transparency & Availability	6	1.3%
Data Transparency & Availability - Data to Support Informed Decisions	4	0.9%
*DEI	41	8.9%
DEI – Bias	4	0.9%
DEI – Diversity	17	3.7%
DEI – Fairness	2	0.4%
DEI – Inclusion	28	6%
DEI - School Resource Availability	2	0.4%
DEI - Small Program(s)	4	0.9%
*DO/Osteopathy/Osteopathic	3	0.6%
*Funding	4	0.9%
*Implementation	89	19.2%
Implementation - Cohesive Policy	33	7.1%
Implementation - CQI (Continuous Quality Improvement)	13	2.8%
Implementation – Impact	46	9.9%
*Interviews	2	0.4%
*Matching Process	3	0.6%
*Non-US Trained Students	4	0.9%
*Oversight	65	14%
Oversight - Cohesive Oversight Committee	25	5.4%
*Physician Shortage	2	0.4%
*Public Health	5	1.1%
*Roles	4	0.9%
Roles - DIO (Designated Institutional Officer)	3	0.6%
*Specialties	7	1.5%
*Training	2	0.4%
*Transition to Residency	12	2.6%
Total	463	100%

Figure 2: Code Application for Oversight
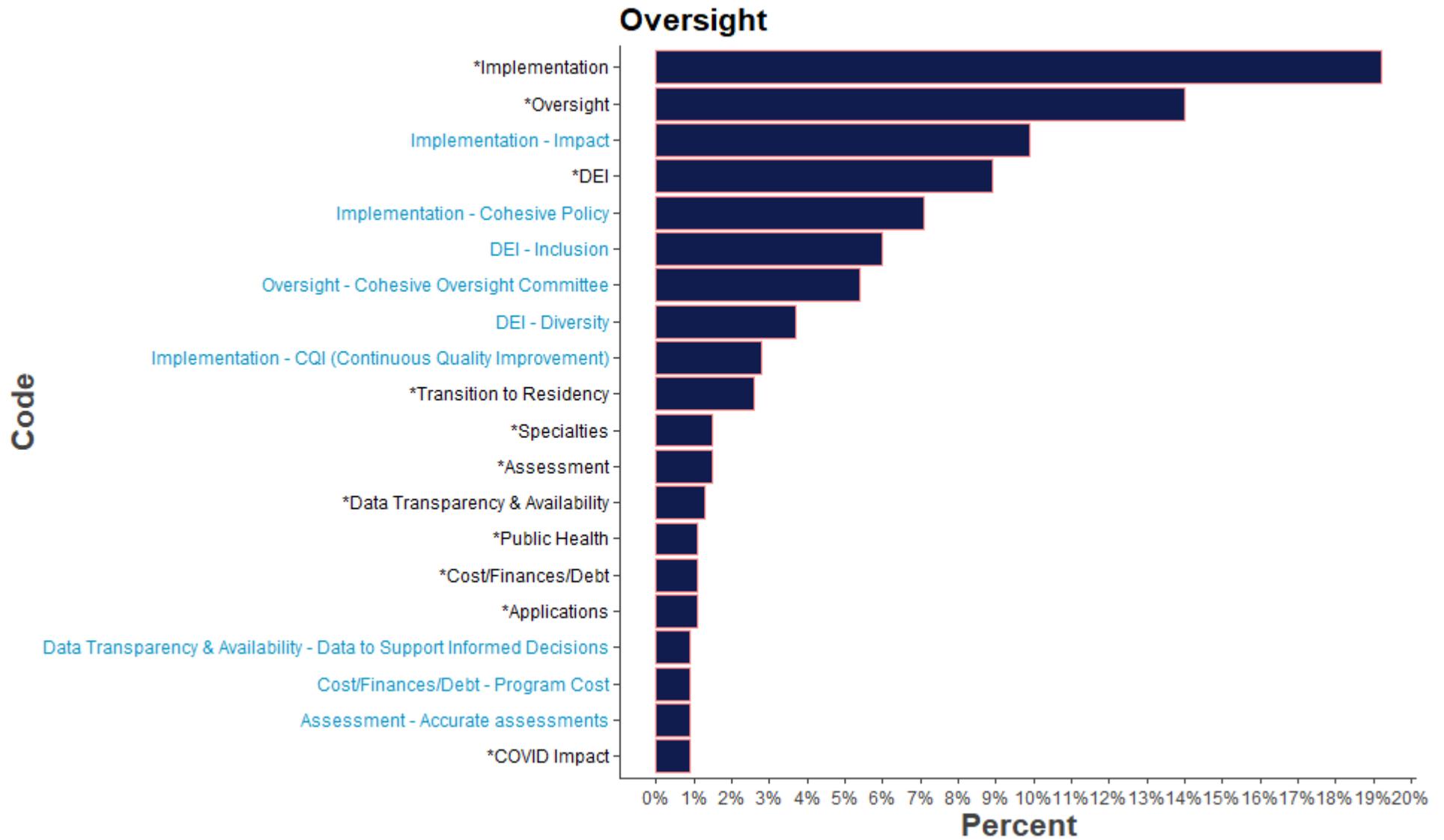
Figure 3: Bigrams for Oversight

Total Comments: 149

Non-Organization Response

Top Bigrams	
ume gme	
medical students	
gme transition	
primary care	
medical school	
residency programs	
national committee	
visioning process	
single body	
oversight committee	
ongoing committee	
medical education	
health care	

Organization Response

gme transition
medical education
residency programs
ume gme
medical students
community based
oversight committee
national committee
teaching programs
specific recommendations
residency process
national oversight
narrative description
medical schools
implicit bias
hospital teaching
gme programs
continuous quality
community hospital
cognitive attributes
based residency
altus insights
altus assessments
academic medical
25 percent

Org
Non-Organization Response
Organization Response

N

Table 8: Sentiment for Advising of Learners

Sentiment	N	Percent
Agree	78	43.3%
Disagree	7	3.9%
Mixed	13	7.2%
Total Comments	180	100%

Figure 4: Sentiment for Advising of Learners
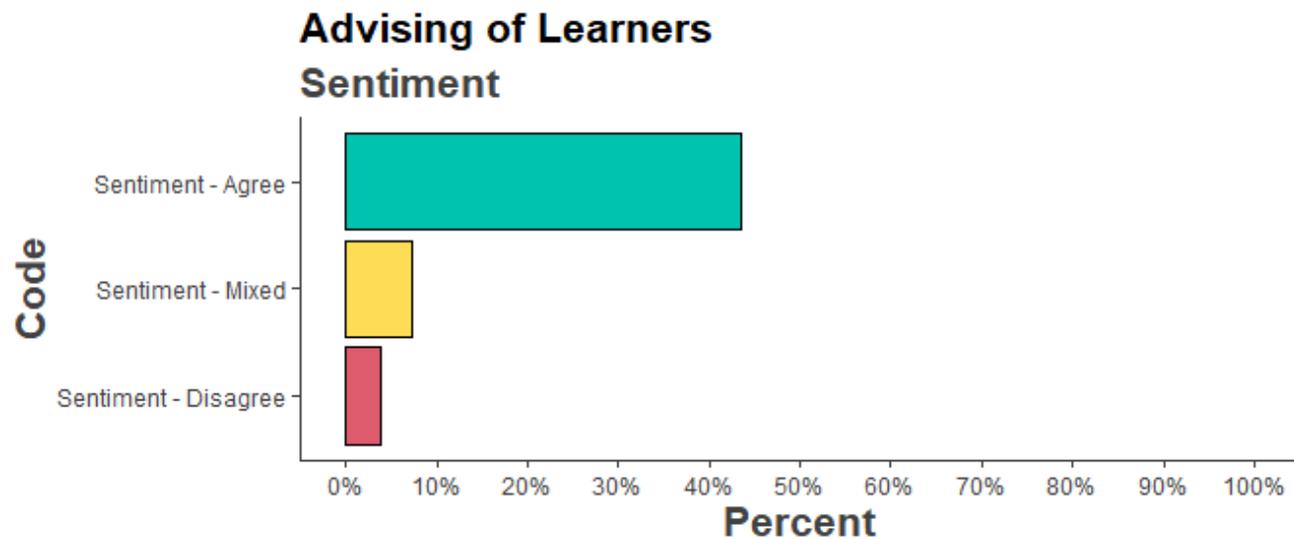
Advising of Learners: Selected Verbatims

2. A good career advisor uses every resource available to gather information, but not all formal career advising tools are appropriate for every student. New staff should be on-boarded to watch matches, edit MSPEs, personal statements, etc. to understand the big picture , but the school should hire people willing to try to advise students. I do not recommend many faculty members as general career advisors as they do not keep up to date on the trends, matches, recommendations, or rotation changes spanning different departments.   3. CIM is a good tool, but it favors Allopathic programs and schools. The assessment information and MD information isn't pertinent to COM students. Non-clinical paths should be listed to help career advisors with post-graduates who keep reapplying just to look at the Unfilled List for competitive specialties [...]. This tool should be free to all, not just Allopathic students.   4. Career Advisors need non-clinical pathways for post-grads who were terminated from residency or have struggled with boards throughout their education. These students do not have access to CIM since it has expired. 5. Residency faculty and staff need a general career advising resource working with professionalism deficiencies as they will see issues on rotations from students. Issues need to be addressed and corrected ASAP. [...]   (Role: Other: Career Advisor)

[...] 2. Students rely more on peer and near peer advise. Would not think the effort for a faculty "curriculum" would be of long-term benefit, considering what it would likely cost. And, advising has some generic factors and many specialty-specific factors; the curriculum would be huge and with many branch points- likely unwieldy.   3. Students are more likely to access and respect peer/near peer input. Single resource managed by some central group likely would age poorly and see limited use by students.   4. Critically important and should start in UME, with options for sympathetic off ramps.   5. A reasonable concept, but who would fund such a resource and how would there be certainty as to its currentness.   6. Not sure what is envisioned here. But still there remains the issue re who will maintain such resources and how it can be kept current. GME programs lack resources - see my comment for #1 - because they are not really allowed to tap into the CMS dollars they bring it.   (Role: Medical School Assistant/Associate Dean, MD)

2: Making a curriculum is one thing and training the counselors on how to counsel students is a different thing, the latter being more important. When you say implementation of guidelines this should include training of counselors (standardized training throughout the world). Not a big problem you have Zoom now. [...] 4: Advising on alternative pathways should be available for all medical students irrespective of whether they are interested or not. Sometimes one develops interest after he/ she is given information about a new pathway. [...]   (Role: Non-Practicing Physician/Clinician, MBBS)

[...] 4: For those choosing not to pursue a clinical career it will be important to determine what % of a graduating course should pursue this pathway. Ideally a clinical medical school should be producing clinicians. Centralized services to support those pursing a non-clinical career would be a significant help for international medical graduates. 5: The availability of career advising resources for all Faculty would be welcomed. Certification of those career advisors may be a useful way of ensuring all Faculty are up-to-date in relation to career options. [...]   (Role: I am responding on behalf of an organization or group in an official capacity)

2. Care needs to be taken when distinguishing between "advising" and "leading". Systemic racism in higher education can lead advisors to recommend people of low socioeconomic status to not apply for medical school in the United States. My premed program in the US actually refused to release my letters of recommendation when I applied to DO schools until after secondary interviews were performed. The dean of the science department told me that they did not think I would be financially successful even though I made the grades.[...]   (Role: Non-Practicing Physician/Clinician, MD)

[...] 3: A single professional development career planning resource sounds like an equitable manner to provide for everyone entering into their residency application phase. A huge concern is how this single platform is developed and who is at the table when it is created.   (Role: Faculty Member of a Medical School)

Table 9: Code Application Counts for Advising of Learners

Code	N	Percent
*Advice & Coaching	104	14.2%
Advice & Coaching - Alternative Careers	42	5.7%
Advice & Coaching - Career Advising	68	9.3%
Advice & Coaching – Coaching	4	0.5%
Advice & Coaching - Specialty-specific Advising	24	3.3%
Advice & Coaching - Staff training to support students	29	4%
*Applications	7	1%
Applications - Application Process	3	0.4%
*Assessment	2	0.3%
*Competencies	4	0.5%
*Cost/Finances/Debt	30	4.1%
Cost/Finances/Debt - Implementation Cost	14	1.9%
Cost/Finances/Debt - Program Cost	3	0.4%
Cost/Finances/Debt - Student Cost	8	1.1%
Cost/Finances/Debt - Student Debt	5	0.7%
*Data Transparency & Availability	46	6.3%
Data Transparency & Availability - Dashboard or Portfolio	3	0.4%
Data Transparency & Availability - Data to Support Informed Decisions	40	5.4%
Data Transparency & Availability - Database of Program Info	11	1.5%
*DEI	34	4.6%
DEI – Bias	7	1%
DEI – Diversity	2	0.3%
DEI – Equity	17	2.3%
DEI – Fairness	3	0.4%
DEI – Inclusion	6	0.8%
DEI - School Resource Availability	8	1.1%
DEI – SES	2	0.3%
*DO/Osteopathy/Osteopathic	11	1.5%
*Faculty	13	1.8%
Faculty - Faculty Development	12	1.6%
*Funding	5	0.7%
Funding - Unfunded Mandate	3	0.4%
*Implementation	52	7.1%
Implementation - Cohesive Policy	11	1.5%
Implementation – Impact	12	1.6%
*Matching Process	6	0.8%
Matching Process – Unmatched	3	0.4%
*Non-US Trained Students	10	1.4%
Non-US Trained Students – IMG	5	0.7%

Table 9: Code Application Counts for Advising of Learners Continued

Code	N	Percent
*Oversight	8	1.1%
*Public Health	3	0.4%
*Roles	3	0.4%
Roles - Program Directors	2	0.3%
*Specialties	22	3%
Specialties - Competitive Specialties	2	0.3%
Specialties - Specialty Selection	10	1.4%
*Standardization of Requirements	4	0.5%
*Transition to Residency	3	0.4%
Transition to Residency – Timing	2	0.3%
*Wellness/Wellbeing	6	0.8%
Total	734	100%

Figure 5: Code Application for Advising of Learners

Advising of Learners

Code	Percent
*Advice & Coaching	~14.2%
Advice & Coaching - Career Advising	~9.3%
*Implementation	~7.1%
*Data Transparency & Availability	~6.3%
Advice & Coaching - Alternative Careers	~5.7%
Data Transparency & Availability - Data to Support Informed Decisions	~5.4%
*DEI	~4.6%
*Cost/Finances/Debt	~4.1%
Advice & Coaching - Staff training to support students	~4.0%
Advice & Coaching - Specialty-specific Advising	~3.3%
*Specialties	~3.0%
DEI - Equity	~2.3%
Cost/Finances/Debt - Implementation Cost	~1.9%
*Faculty	~1.8%
Implementation - Impact	~1.6%
Faculty - Faculty Development	~1.6%
Implementation - Cohesive Policy	~1.5%
Data Transparency & Availability - Database of Program Info	~1.5%
*DO/Osteopathy/Osteopathic	~1.5%
*Non-US Trained Students	~1.4%

Figure 6: Bigrams for Advising of Learners
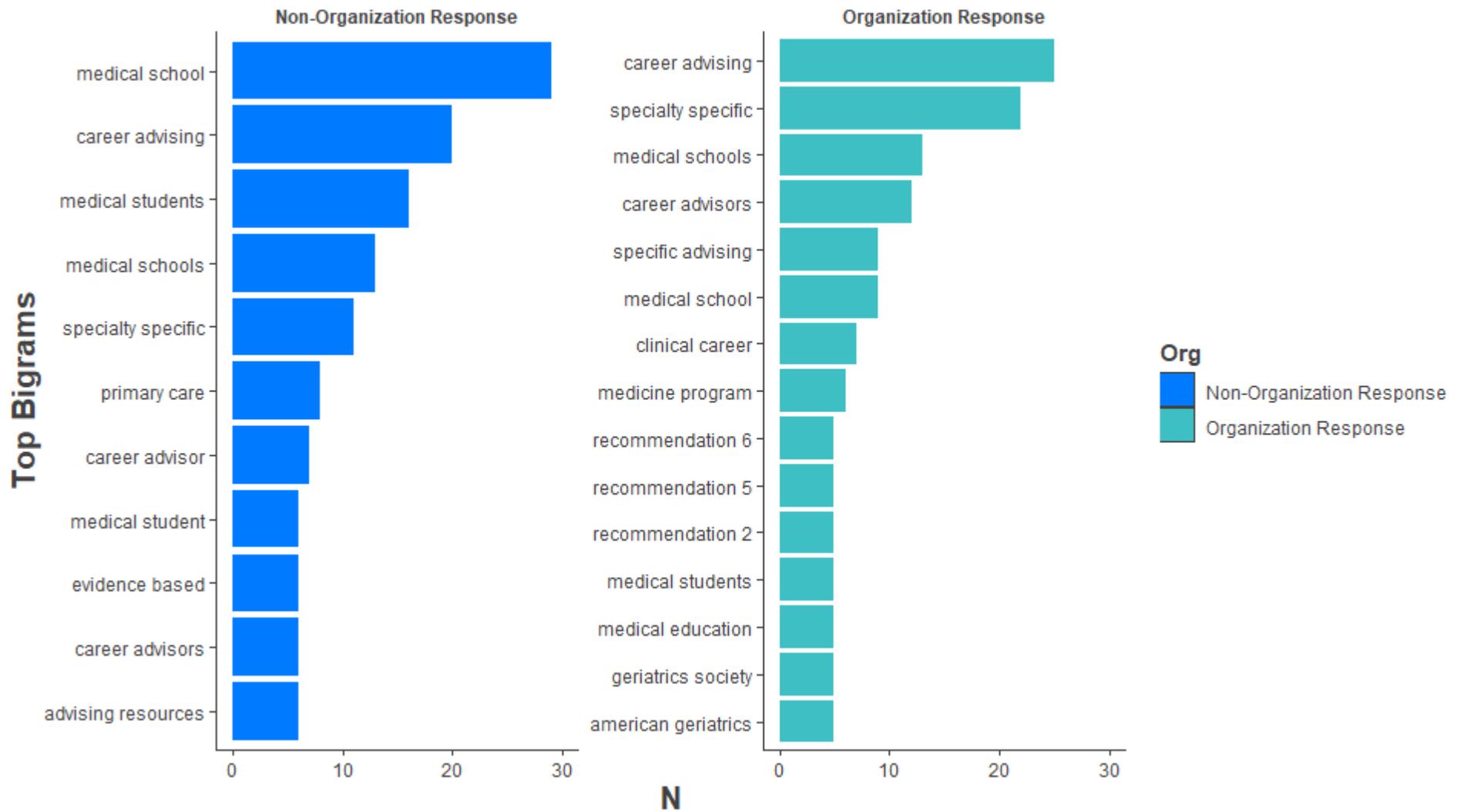
Total Comments: 180

COMPETENCIES AND ASSESSMENTS

Table 10: Sentiment for Competencies and Assessments

Sentiment	N	Percent
Agree	117	47.2%
Disagree	19	7.7%
Mixed	35	14.1%
Total Comments	248	100%

Figure 7: Sentiment for Competencies and Assessments
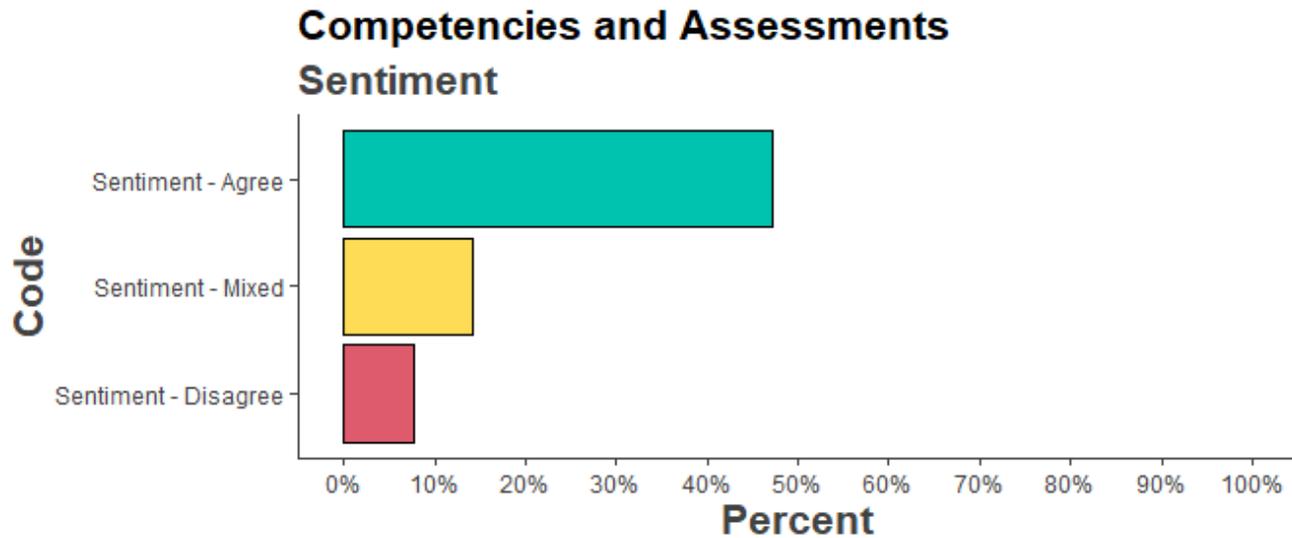
Competencies and Assessments: Selected Verbatims

Regarding 8 and 9: […] It seems a competency based assessment model, to be accurate and effective, would require significant contact between the same learners and attendings over the course of the year. Our medical school is community-based and geographically dispersed. Often to get needed variety of clinical rotations learners have to travel between health systems and campuses. A more structured competency assessment may advantage academic centers where learners can stay on one campus and have more contact hours with the same attendings. […] (Role: Faculty Member of a Medical School, MD)

This entire set of items reads as if a single entity is poised to take over the medical education enterprise, or at least, to force compliance with a single way of doing things. […] I am fully in favor of suggestions of how to improve. Programs and schools without internal experts may have substantial benefit from those suggestions. But I cannot support making such things requirements. […] 14. […] this would appear to suggest that it will require a school to take this standardized approach to data gathering and reporting. That has potential to be a large demand, and one that can suppress local creative thinking. […] Please, let's not dictate every last detail to our schools. (Role: Medical School Assistant/Associate Dean, MD)

7. This is an interesting concept that could lead the way for studying the possibility of "competency-based curriculums". I strongly believe if done correctly, can lead to a much better way of training and evaluating students. It is well established that medicine is nothing like taking a test and the focus on exams is extremely palpable in medical school. Shifting toward learning for the sake of treating patients and proving competencies is crucial. I know many students that try to skimp on their practical learning because "they will learn it in residency/the test is more important to focus on" but have also heard many stories about interns feeling extremely unprepared with their responsibilities on their first few months. 8. YES. Exams are primarily for determining competence, not comparing applicants.[…] (Role: Medical School Student)

[…] Having read 10 several times, I'm still confused about what exactly it means. (Role: Clerkship Director and Assistant Residency Program Director, MD)

As a physician and past president of our state professional organization as well as clinical preceptor to MD and DO students, I have been committed to maintaining our osteopathic distinctiveness throughout my career. I applied to osteopathic medical school in order to learn, practice and teach osteopathic medicine. In these proposed congruency changes to graduate medicine program alignments , it appears that our distinctive osteopathic principles and practices are completely removed. So, the thousand or so hours of undergraduate education devoted to osteopathic practices, above and beyond allopathic undergrad education, become meaningless. Without support in graduate medical education , because programs must better conform to a single standard to remain viable, whatever competencies an osteopathic medical student manages to achieve, will wither and die outside the school walls. […] We must offer some path that recognizes not only the convergence of ideas about practice of medicine, but the divergence as well […] (Role: Practicing Physician/Clinician, DO)

The LCME and/or ACGME should provide the resources and training for educators on doing these evaluations. […]. It should not be left to each institution to figure out how to do this training. The biggest problem we have now with MSPEs is the huge variability in quality and the lack of any true differentiating information on candidates […].. I'm also surprised this group hasn't tackled the back end that drives use of markers such as AOA, USMLE scores, etc in filtering candidates. Programs are held to task by the ACGME if we don't have adequate first time board passage rates. The easiest way for us to judge test taking ability is the candidates scores on other standardized tests. It's a bit disingenuous to say it doesn't matter for the USMLE, but it has enormous stakes for the GME programs[….]. (Role: Residency Program Director, MD)

Table 11: Code Application Counts for Competencies and Assessments

Code	N	Percent
*Advice & Coaching	31	1.7%
Advice & Coaching - Career Advising	4	0.2%
Advice & Coaching – Coaching	20	1.1%
Advice & Coaching - Staff training to support students	6	0.3%
*Applications	135	7.3%
Applications - Application Process	5	0.3%
Applications - Biasing Applications	11	0.6%
Applications - LOR (Letters of Recommendation)	35	1.9%
Applications - MSPE (Medical School Performance Evaluation)	57	3.1%
Applications - Objective Metrics to Gauge Applicants	17	0.9%
Applications - Standardization of Application Process	25	1.4%
*Assessment	112	6.1%
Assessment - Accurate assessments	62	3.4%
Assessment - Standardized Exams	23	1.2%
Assessment - Inequality in Scaling	3	0.2%
*Assessment and Performance Data	56	3%
Assessment and Performance Data - Grades & Grading Pass Fail	20	1.1%
Assessment and Performance Data - Holistic Review	12	0.7%
Assessment and Performance Data - ILPs (Individualized Learning Plans)	9	0.5%
*Communication	7	0.4%
*Competencies	79	4.3%
Competencies - EPAs (Entrustable Professional Activities)	18	1%
Competencies – Milestones	14	0.8%
*Cost/Finances/Debt	32	1.7%
Cost/Finances/Debt - Implementation Cost	18	1%
Cost/Finances/Debt - Program Cost	17	0.9%
Cost/Finances/Debt - Student Cost	6	0.3%
*Data Transparency & Availability	73	4%
Data Transparency & Availability - Dashboard or Portfolio	23	1.2%
Data Transparency & Availability - Data to Support Informed Decisions	56	3%
*DEI	57	3.1%
DEI – Bias	20	1.1%
DEI - Bias - Racial Bias	2	0.1%
DEI – Diversity	4	0.2%
DEI – Equity	21	1.1%
DEI – Fairness	9	0.5%
DEI – Inclusion	10	0.5%
DEI - School Resource Availability	9	0.5%
DEI - Small Program(s)	5	0.3%

Table 11: Code Application Counts for Competencies and Assessments Continued

Code	N	Percent
DEI – URM	2	0.1%
*DO/Osteopathy/Osteopathic	10	0.5%
*Faculty	22	1.2%
Faculty - Faculty Development	21	1.1%
*Funding	10	0.5%
*Implementation	179	9.7%
Implementation - Change Management	4	0.2%
Implementation - Cohesive Policy	43	2.3%
Implementation - CQI (Continuous Quality Improvement)	4	0.2%
Implementation – Impact	136	7.4%
*Interviews	4	0.2%
*Matching Process	9	0.5%
*Medical School Prestige	3	0.2%
*Non-US Trained Students	15	0.8%
Non-US Trained Students - IMG	10	0.5%
*Oversight	23	1.2%
Oversight - Cohesive Oversight Committee	5	0.3%
*Public Health	10	0.5%
*Roles	18	1%
Roles - Other Roles	2	0.1%
Roles - Program Directors	13	0.7%
*Rotations	3	0.2%
Rotations - Away Rotations	3	0.2%
*Specialties	24	1.3%
*Standardization of Requirements	3	0.2%
*Training	8	0.4%
*Transition to Residency	17	0.9%
Transition to Residency - Learner Handover	6	0.3%
Transition to Residency - Timing	2	0.1%
*Wellness/Wellbeing	11	0.6%
Applications - SEL (Structured Evaluative Letters)	97	5.3%
Total	1,840	100%

Figure 8: Code Application for Competencies and Assessments

Competencies and Assessments

Code	Percent
*Implementation	~9.7%
Implementation - Impact	~7.4%
*Applications	~7.3%
*Assessment	~6.1%
Applications - SEL (Structured Evaluative Letters)	~5.3%
*Competencies	~4.3%
*Data Transparency & Availability	~4.0%
Assessment - Accurate assessments	~3.4%
Applications - MSPE (Medical School Performance Evaluation)	~3.1%
*DEI	~3.1%
Data Transparency & Availability - Data to Support Informed Decisions	~3.0%
*Assessment and Performance Data	~3.0%
Implementation - Cohesive Policy	~2.3%
Applications - LOR (Letters of Recommendation)	~1.9%
*Cost/Finances/Debt	~1.7%
*Advice & Coaching	~1.7%
Applications - Standardization of Application Process	~1.4%
*Specialties	~1.3%
Data Transparency & Availability - Dashboard or Portfolio	~1.2%
Assessment - Standardized Exams	~1.2%

Figure 9: Bigrams for Competencies and Assessments
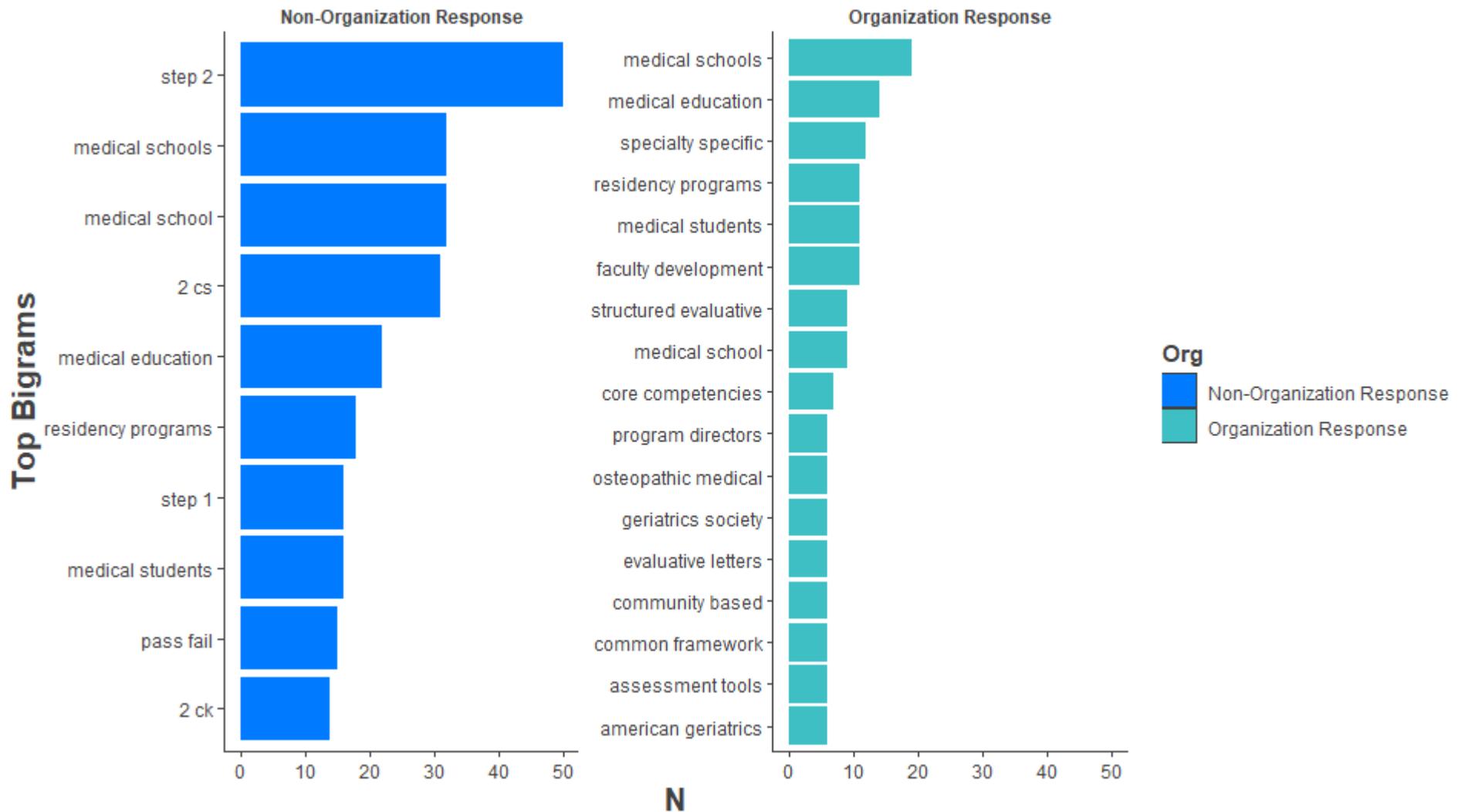
AWAY ROTATIONS

Table 12: Sentiment for Away Rotations

Sentiment	N	Percent
Agree	49	25.5%
Disagree	14	7.3%
Mixed	6	3.1%
Total Comments	192	100%

Figure 10: Sentiment for Away Rotations
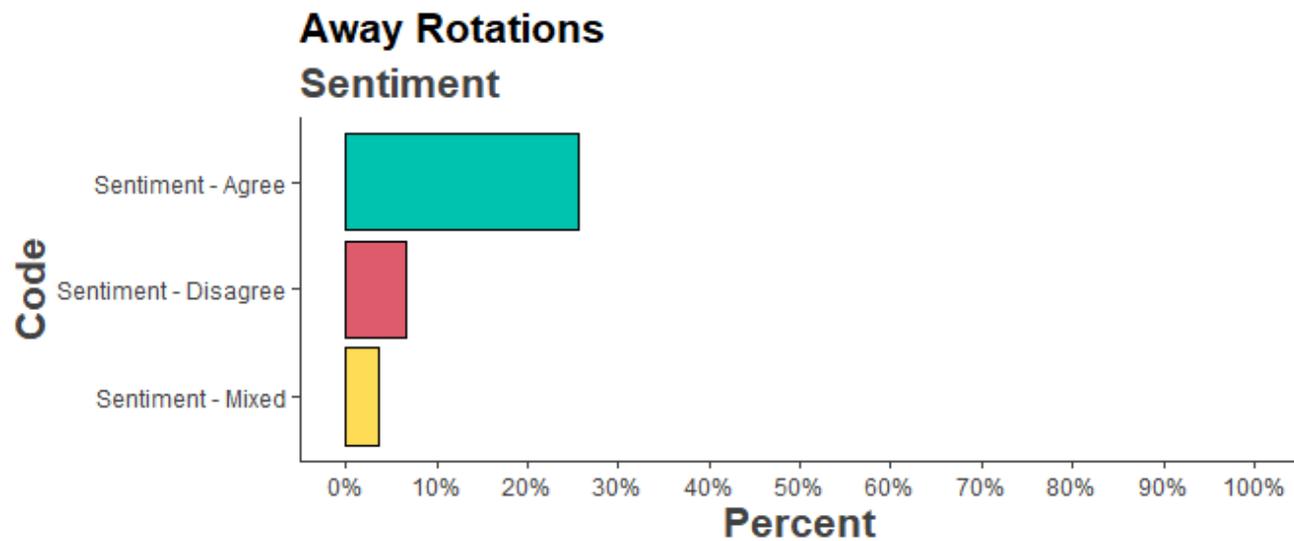
Away Rotations: Selected Verbatims

20. A database where applicants can essentially view the application data of residents is a poor recommendation for two reasons. 1. Doesn't respect the privacy of applicants. Even if you took aggregates of matched applicants from previous years, it would be too easy to identify the personal information of individual residents. 2. Such data would be of minimal use to applicants compared to the aggregate data of interviewed/ranked applicants. Showing the data of matched applicants doesn't reflect the full diversity of the applicant pool who had the potential to match at a given program. […] 23. While a well-meaning recommendation, this recommendation isn't realistic for practical and technical reasons. Removing filters on data in application portals such as ERAS doesn't stop program directors from filtering applications using that data. It just adds extra steps. If applicant data can be viewed, it can be aggregated through web scraping and filtered. If the coalition recommends that pieces of applicant data shouldn't be used to filter applications, that data should not be viewable by program directors. (Role: General Public)

Most family medicine residency programs are community-based. Away rotations not only allow those programs to build a more robust pipeline of interest in their program, but they also diversify training for medical students, who otherwise experience most of their clinical training in medical school in large academic health centers. The focus of this workgroup should be on exploration and research to help provide more opportunities and equitable access to away rotations for medical students, not to limit them. With the inequities that currently exist for students to do away rotations, there is the potential to create bias in GME educators who interview and rank medical student applicants. This needs to be investigated further and addressed if it is felt to cause inequities in student selection. (Role: I am responding on behalf of an organization or group in an official capacity)

15: From my advising experience, I've found that away rotations are exceptionally valuable for both students and programs. I would encourage the workgroup to focus on how to facilitate away rotations for students of all classes, including osteopathic students in allopathic institutions and culturally and financially disadvantaged students. The away rotation allows a student to show a program a holistic view of their performance and personality, regardless of the reputation of their home institution or their standardized test scores. It also allows the student to get a feel for how they would fit into the culture of that residency and reduce burnout and changing residencies over time. I would hope that the workgroup would not recommend limitations on the away rotation, but rather how to make away rotations more robust and available to all students. (Role: I am responding on behalf of an organization or group in an official capacity)

Currently IMGs for the most part are UNABLE to get rotations at hospitals with Emergency Medicine residencies, making it impossible for them to get a Standardized Letter of Evaluation (SLOE) without which they cannot apply for Emergency Medicine Residency. This is just one example of the issues facing IMGs. In addition, IMGs cannot use VSAS (for the most part) further limiting their access to quality rotations and United States Clinical Experience. (Role: Medical School Student)

Table 13: Code Application Counts for Away Rotations

Code	N	Percent
*Advice & Coaching	2	0.2%
Advice & Coaching - Career Advising	2	0.2%
*Applications	39	3.1%
Applications - Application Process	18	1.4%
Applications - Biasing Applications	5	0.4%
Applications - LOR (Letters of Recommendation)	4	0.3%
Applications - Standardization of Application Process	8	0.6%
*Assessment	3	0.2%
Assessment - Accurate assessments	3	0.2%
*Assessment and Performance Data	4	0.3%
*Cost/Finances/Debt	63	5%
Cost/Finances/Debt - Implementation Cost	7	0.6%
Cost/Finances/Debt - Implementation Cost - UME	2	0.2%
Cost/Finances/Debt - Program Cost	9	0.7%
Cost/Finances/Debt - Student Cost	61	4.8%
Cost/Finances/Debt - Student Debt	3	0.2%
*COVID Impact	16	1.3%
*Data Transparency & Availability	18	1.4%
Data Transparency & Availability - Data to Support Informed Decisions	4	0.3%
Data Transparency & Availability - Database of Program Info	6	0.5%
*DEI	101	8%
DEI - Bias	6	0.5%
DEI - Diversity	4	0.3%
DEI - Equity	68	5.4%
DEI - Fairness	16	1.3%
DEI - Inclusion	11	0.9%
DEI - Inclusion - Community outreach program(s)	7	0.6%
DEI - Reputation	7	0.6%
DEI - School Resource Availability	27	2.1%
DEI - SES	34	2.7%
DEI - Small Program(s)	23	1.8%
DEI - URM	19	1.5%
*DO/Osteopathy/Osteopathic	11	0.9%
*Funding	22	1.7%
Funding - GME Funding	2	0.2%
*Implementation	39	3.1%
Implementation - Change Management	3	0.2%
Implementation - Impact	34	2.7%
*Interviews	14	1.1%

Table 13: Code Application Counts for Away Rotations Continued

Code	N	Percent
Interviews - Virtual Interviews	6	0.5%
*Matching Process	25	2%
*Medical School Prestige	2	0.2%
*Non-US Trained Students	8	0.6%
Non-US Trained Students - IMG	8	0.6%
Non-US Trained Students - US IMG	2	0.2%
*Oversight	21	1.7%
Oversight - Cohesive Oversight Committee	11	0.9%
*Research	22	1.7%
*Roles	4	0.3%
Roles - Other Roles	2	0.2%
*Rotations	152	12%
Rotations - Audition Rotations	16	1.3%
Rotations - Away Rotations	150	11.8%
*Specialties	33	2.6%
Specialties - Competitive Specialties	14	1.1%
Specialties - Specialty Selection	10	0.8%
*Standardization of Requirements	16	1.3%
Standardization of Requirements - Cross Specialty Standardization	9	0.7%
*Training	18	1.4%
*Transition to Residency	3	0.2%
*Wellness/Wellbeing	11	0.9%
Wellness/Wellbeing - Life Changes	2	0.2%
Total	1,270	100%

Figure 11: Code Application for Away Rotations
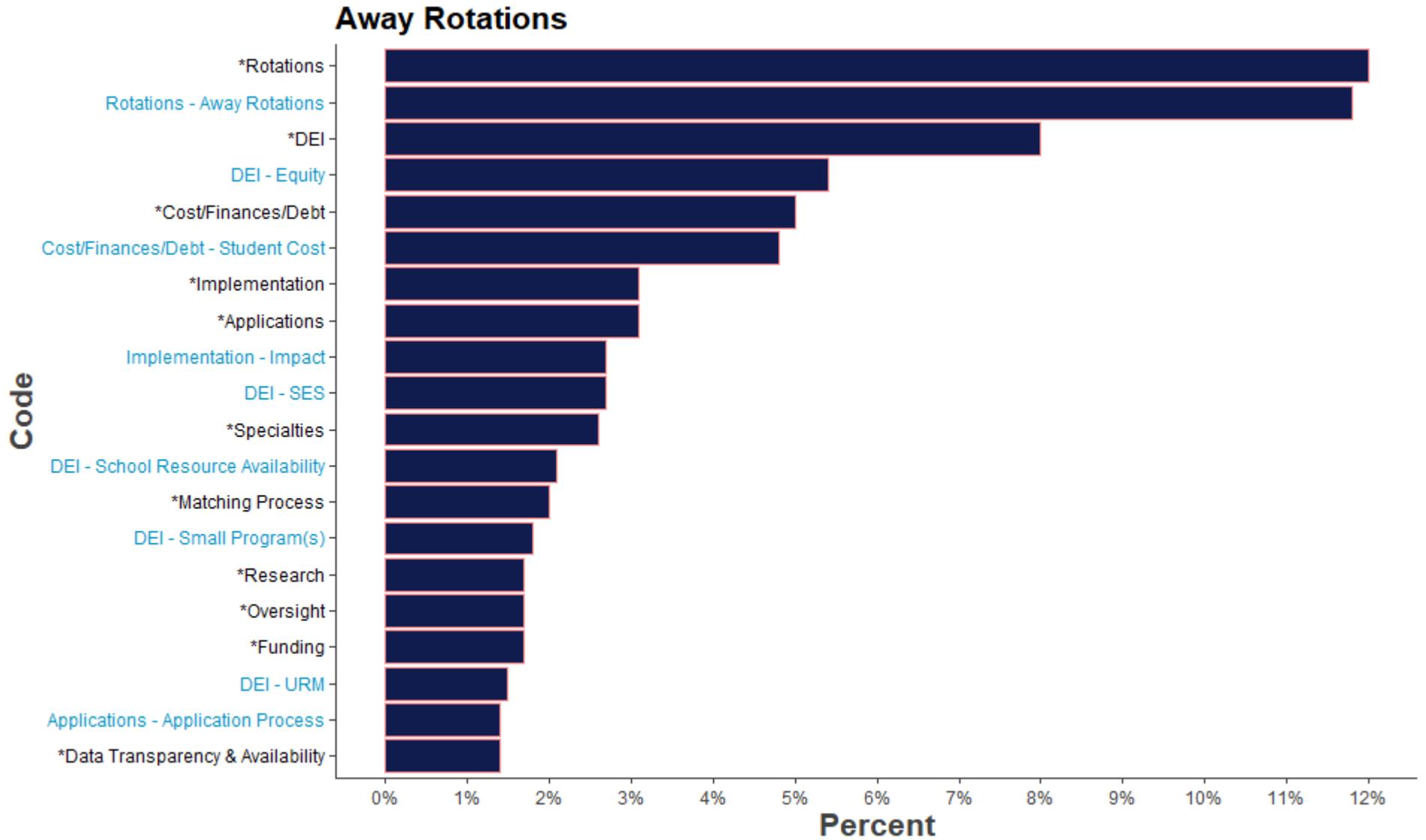
Figure 12: Bigrams for Away Rotations

Total Comments: 192

Non-Organization Response

Top Bigrams	
medical students	
medical school	
financially disadvantaged	
medical schools	
home institution	
disadvantaged students	
emergency medicine	
residency programs	
medical education	
home program	
financial burden	
covid 19	
audition rotations	

Organization Response

- medical schools
- medical school
- medical students
- community based
- residency programs
- home institution
- career planning
- residency training
- residency selection
- residency program
- osteopathic students
- neurosurgical programs
- home institutions
- financially disadvantaged
- external rotations
- equity issues
- disadvantaged students
- clinical education
- audition rotations

N

Org
- Non-Organization Response
- Organization Response

DIVERSITY, EQUITY, AND INCLUSION (DEI) IN MEDICINE

Table 14: Sentiment for Diversity, Equity, and Inclusion (DEI) in Medicine

Sentiment	N	Percent
Agree	44	22.2%
Disagree	9	4.5%
Mixed	19	9.6%
Total Comments	198	100%

Figure 13: Sentiment for Diversity, Equity, and Inclusion (DEI) in Medicine
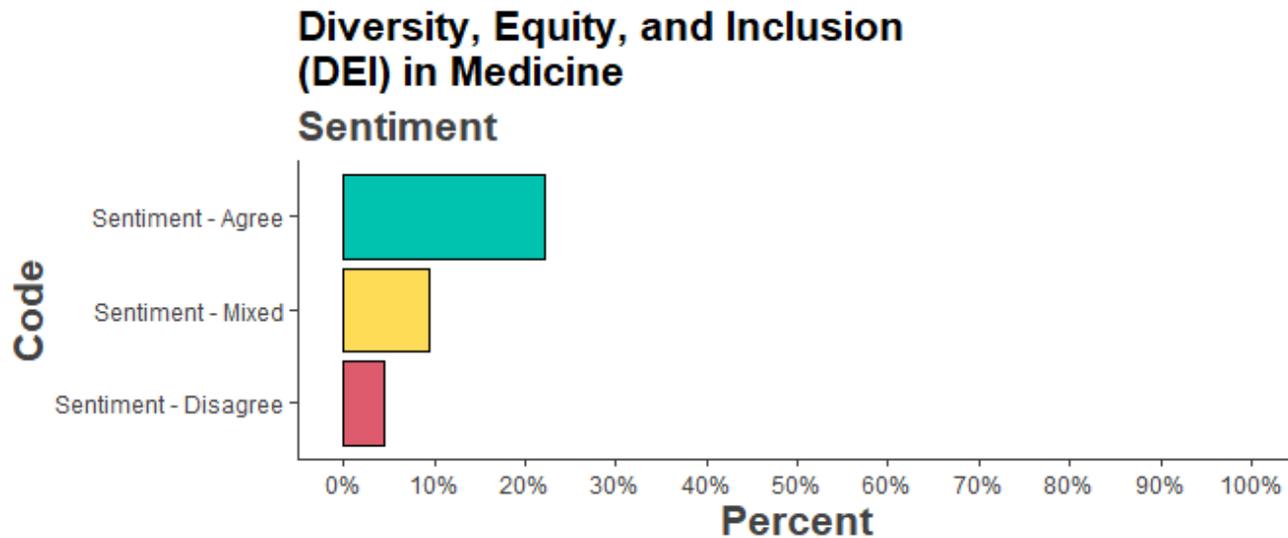
Diversity, Equity, and Inclusion (DEI) in Medicine: Selected Verbatims

[…] 17. This statement lacks substance and a plan with education is necessary. DEI comprehension is lacking in medicine, even after many years, and it is deadly for our patients and tragic for our learners (Role: Medical School Assistant/Associate Dean, MD)

18: Applications are full of potential biases, but this comment doesn't include a primary source of bias: names. Ample evidence suggests that just seeing a traditionally female vs male name or a stereotypically Black name vs White name can bias a reviewer. We should find a way to remove names from applications so that we can review them blindly without name bias. […] (Role: Faculty Member of a Medical School, MD)

16. I worry about "forcing" students to reveal this sensitive identity information.   18. Same concerns as for 16. […] students may feel a lot of jeopardy in having to disclose this information. At the school level, it will be hard to keep this data truly anonymous. Student may feels it will be very easy to identify them if they possess enough rare traits e.g. gender queer native student. […] (Role: Medical School Assistant/Associate Dean, MD)

18. To facilitate evaluation of performance and outcomes by race, ethnicity, gender, etc. standardized collection tools to allow for comparison across SOM would be welcomed. The GQ allows for some analysis if students self identify but uniform collection of data across schools perhaps mandated by the LCME would allow for reporting, comparison and highlighting where differences exist allowing for and demanding deeper analysis. […] Standard tools and assessments will allow educators to determine if disparities occur and to better understand how outcomes are impacted by race, gender, etc. all in an effort to decrease structural inequities that are pervasive in education and healthcare. (Role: Clerkship Director, MD)

16) I interviewed 200 applicants personally. My pool of interviewees contained many women, blacks, Hispanics and international medical graduates. For the past two years, my top picks have been people of color. None of them ranked us. Again, when you are a n economically disadvantaged program, you cannot compete to get diversity unless you accept applicants who have failed their USMLEs. And because we are a small, new program - we cannot afford people who cannot pass their USMLEs since there is research data to show that those same applicants can't pass the ABA's BASIC exam. […] (Role: Residency Program Director, MD)

[…] 18. […] STAFF DEVELOPMENT IS CRUCIAL. I've found it difficult to find the right resources at my institution for staff development even though DEI has become a big part of our institutional conversation. Also getting Program Director buy-in is challenging but also just finding the time/resources in a busy academic institution with increasing patient demands AND a pandemic. […] (Role: Other: Residency & fellowship program administrator/coordinator)

16. […] More students from diverse socioeconomic groups and non urban communities must be identified early in their education, mentored and encouraged to get education and preparation for medical school, and recruited actively and proactively. Work with community colleges, community groups and do not discriminate against students who have had to work to go to college. […] (Role: Faculty Member of a Medical School, MD)

16. This is an absolute necessity. There is no reason that as a nation where Black people make up approximately 25% of the population, they make up far less of the medical faculty and providers at hospitals, residency programs and clinics throughout this country. The lack of Black male medical doctors is a stain on the integrity of the medical establishment in this country and must be addressed for the betterment of our patient population (Role: Medical School Student)

Table 15: Code Application Counts for Diversity, Equity, and Inclusion (DEI) in Medicine

Code	N	Percent
*Advice & Coaching	17	2.1%
Advice & Coaching - Alternative Careers	5	0.6%
Advice & Coaching - Career Advising	9	1.1%
Advice & Coaching - Coaching	3	0.4%
Advice & Coaching - Specialty-specific Advising	3	0.4%
Advice & Coaching - Staff training to support students	2	0.2%
*Applications	11	1.3%
Applications - Biasing Applications	4	0.5%
Applications - LOR (Letters of Recommendation)	2	0.2%
Applications - MSPE (Medical School Performance Evaluation)	2	0.2%
Applications - Objective Metrics to Gauge Applicants	3	0.4%
Applications - Standardization of Application Process	2	0.2%
*Assessment	9	1.1%
Assessment - Standardized Exams	8	1%
*Assessment and Performance Data	21	2.6%
Assessment and Performance Data - Grades & Grading Pass Fail	14	1.7%
Assessment and Performance Data - Holistic Review	5	0.6%
*Competencies	3	0.4%
*Cost/Finances/Debt	19	2.3%
Cost/Finances/Debt - Implementation Cost	12	1.5%
Cost/Finances/Debt - Implementation Cost - GME	2	0.2%
Cost/Finances/Debt - Implementation Cost - UME	2	0.2%
Cost/Finances/Debt - Student Cost	4	0.5%
Cost/Finances/Debt - Student Debt	3	0.4%
*COVID Impact	2	0.2%
*Data Transparency & Availability	18	2.2%
Data Transparency & Availability - Data to Support Informed Decisions	6	0.7%
Data Transparency & Availability - Database of Program Info	6	0.7%
Data Transparency & Availability - Filters	4	0.5%
*DEI	113	13.8%
DEI - Balance when it comes to DEI	10	1.2%
DEI - Bias	53	6.5%
DEI - Bias - Racial Bias	10	1.2%
DEI - Diversity	48	5.8%
DEI - Diversity - Diversity Monitoring of Programs	21	2.6%
DEI - Diversity - Diversity Quotas	5	0.6%
DEI - Diversity - Policy Implications	8	1%
DEI - Elimination of Honors	8	1%

Table 15: Code Application Counts for Diversity, Equity, and Inclusion (DEI) in Medicine Continued

Code	N	Percent

DEI - Equity	11	1.3%
DEI - Fairness	5	0.6%
DEI - First-gen Med Student Support	4	0.5%
DEI - Inclusion	11	1.3%
DEI - Inclusion - Community outreach program(s)	3	0.4%
DEI - School Resource Availability	5	0.6%
DEI - SES	13	1.6%
DEI - URM	27	3.3%
DEI - URM - Black Medical Students	3	0.4%
DEI - URM - Non-URMs being put at disadvantage	3	0.4%
*DO/Osteopathy/Osteopathic	6	0.7%
*Faculty	9	1.1%
Faculty - Faculty Development	7	0.9%
*Funding	8	1%
Funding - GME Funding	5	0.6%
Funding - Influence of Private Equity	2	0.2%
*Implementation	28	3.4%
Implementation - Impact	16	1.9%
*Interviews	2	0.2%
Interviews - Interview Selection Criteria	2	0.2%
*Matching Process	42	5.1%
Matching Process - Slots	13	1.6%
Matching Process - Unmatched	31	3.8%
*Medical School Prestige	2	0.2%
*Mid-level Practitioners	5	0.6%
*Non-US Trained Students	13	1.6%
Non-US Trained Students - IMG	9	1.1%
Non-US Trained Students - US IMG	2	0.2%
*Oversight	3	0.4%
*Physician Shortage	9	1.1%
*Research	3	0.4%
*Rotations	2	0.2%
*Specialties	20	2.4%
Specialties - Competitive Specialties	5	0.6%
Specialties - Specialty Selection	8	1%
*Standardization of Requirements	2	0.2%
*Transition to Residency	2	0.2%
*Wellness/Wellbeing	3	0.4%
Total	821	100%

Figure 14: Code Application for Diversity, Equity, and Inclusion (DEI) in Medicine

Diversity, Equity, and Inclusion (DEI) in Medicine
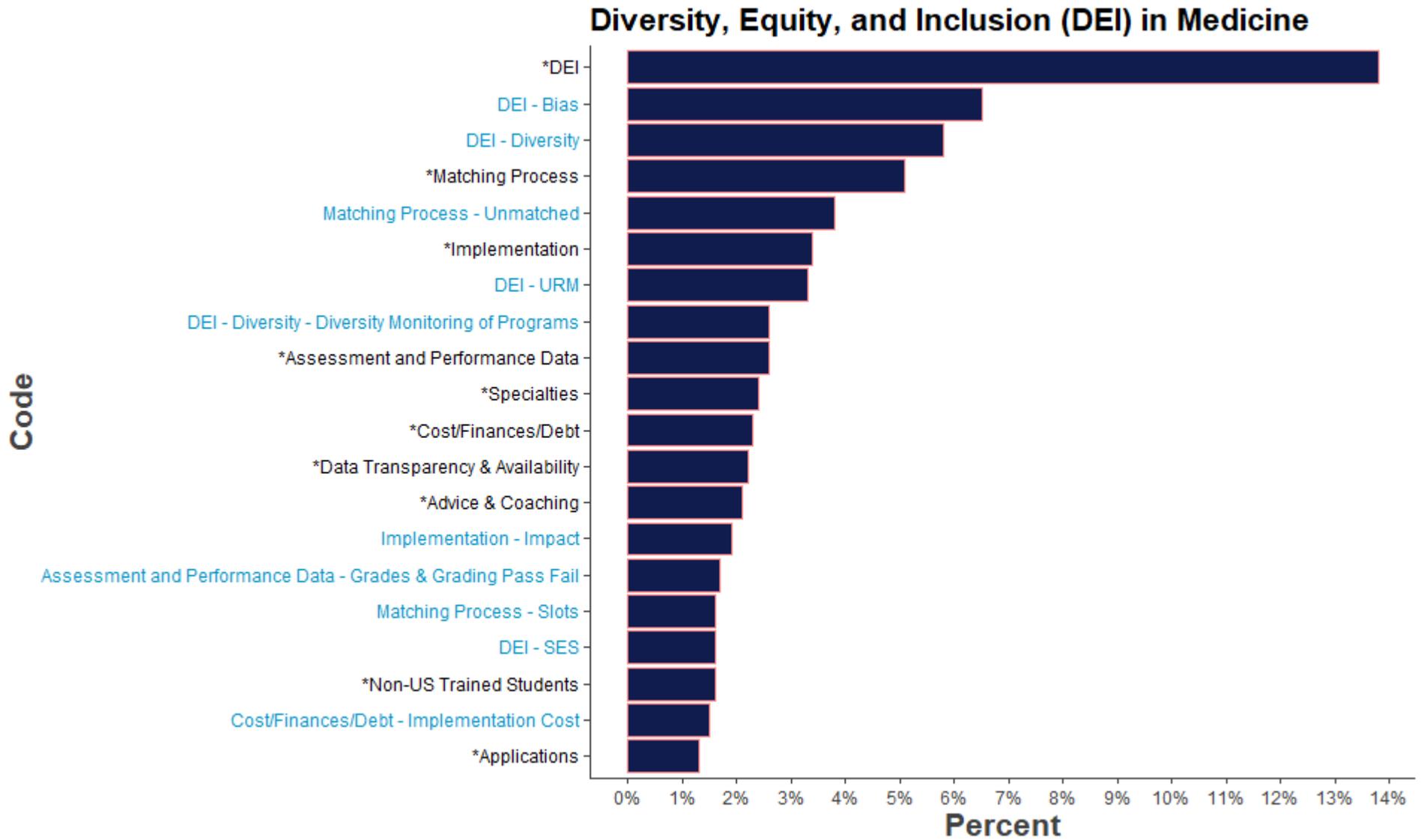
Figure 15: Bigrams for Diversity, Equity, and Inclusion (DEI) in Medicine
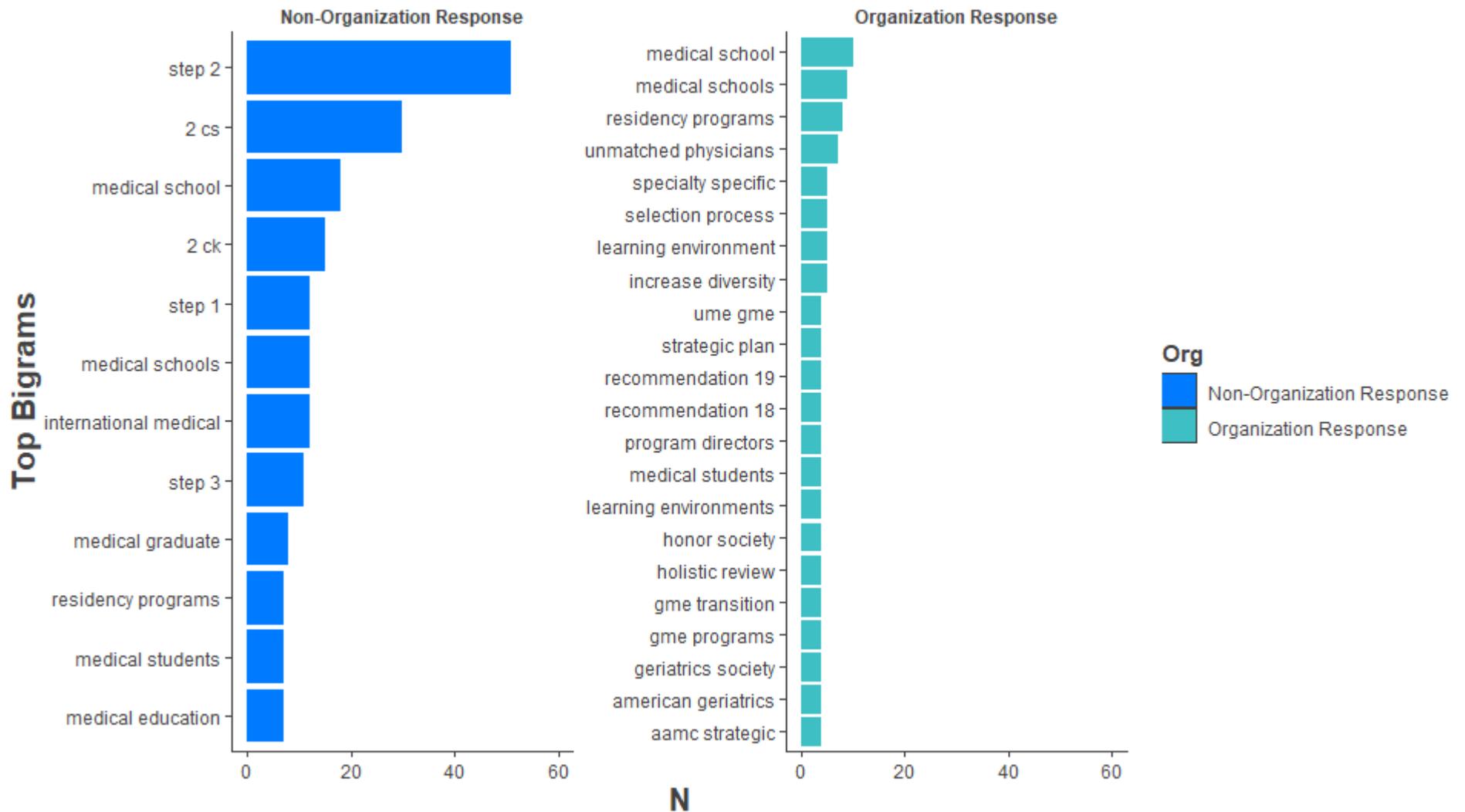
APPLICATION PROCESS

Table 16: Sentiment for Application Process

Sentiment	N	Percent
Agree	76	25.9%
Disagree	13	4.4%
Mixed	31	10.5%
Total Comments	294	100%

Figure 16: Sentiment for Application Process
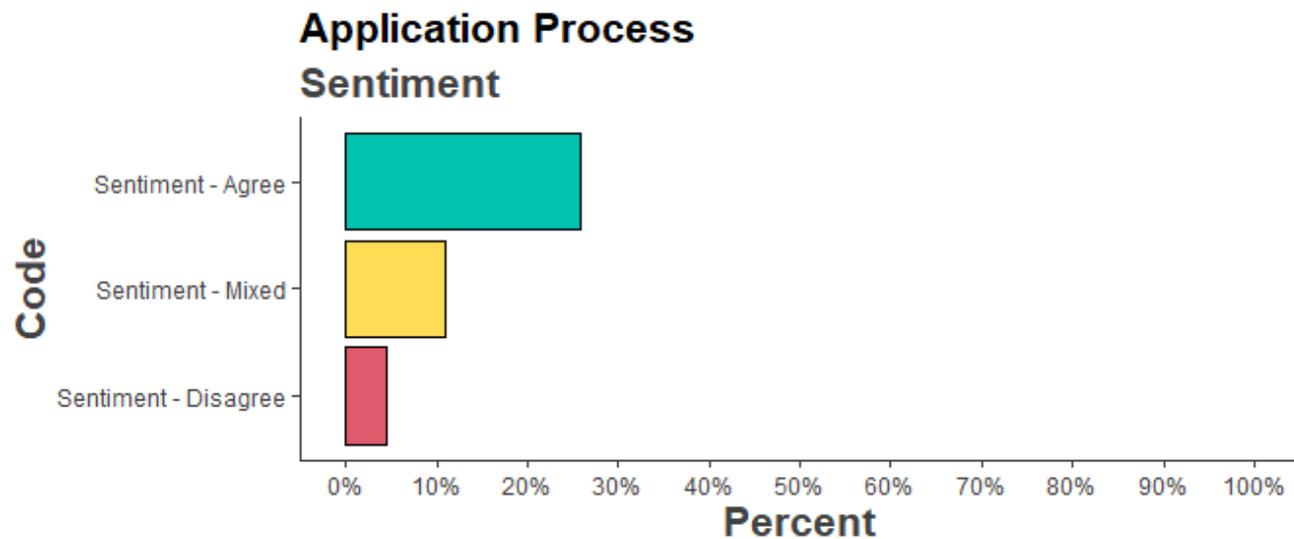
Application Process: Selected Verbatims

Recommendation is NOT clear. Does it recommend to just mention overall characteristics of applicants Interviewed, Matched/Ranked or recommends disclosing each and every applicant information like scores, year of graduation, medical school, attempts etc? […] (Role: Medical School Student)

21. […] adding an application cap would encourage use of this information to inform their application choices. The application numbers continue to rise every year as students decide to apply to more programs to improve their chance of matching. Many times an unmatched student is unmatched because they applied to too many programs where they were not a competitive applicant and not enough where they had a good chance of matching. Having better information to make these decisions is a great improvement and an application cap would incentivize it's use. (Role: Residency Program Director, MD)

[…] it is important to ensure that solutions mitigate potential bias. ERAS fees contribute to a significant portion of the AAMC operating budget. This represents a conflict of interest for change in structure. It will be important that these conflicts of interests are dealt with when devising any centralized systems to ensure that they are not going to be an additional source of income/costs to students and that there is oversight to ensure that the data is transparent and validated.[…]. (Role: Medical School Assistant/Associate Dean, MD)

23. FTM - Failing To Match, is rampant on both sides, applicants and program directors. If both sides had a system to work with that would allow them to develop a short list of "good" possibilities the anxiety would decrease. But "good" needs to be defined as both the right fit, but also a high probability of matching.[…] (Role: Faculty Member of a Medical School, MD)

22 and 23. It is our view that recommendations in this category do not go far enough. Until we truly change criteria used to filter applicants we will not overcome the problems associated with the current UME GME transition. We believe that significant more work needs to be done to define the characteristics that define an applicant who will succeed in residency and beyond. Those characteristics need to be included. All other characteristics that do not lead directly to high performing physicians should be excluded. […] (Role: I am responding on behalf of an organization or group in an official capacity)

24: […] Creating a false equivalency between USMLE and COMLEX would only damage DO applicants further by bringing ambiguity into the source of their percentile score as M.D. applicants cannot take COMLEX.   I am appalled that a committee such as this cannot comprehend even the most basic statistical evidence of this discrepancy which is so well documented.   The business interests of the NBOME are secondary to insuring rigorous standards and score reporting for all medical students. The time is now to relegate the NBOME to administering an osteopathic principles specific test and for all medical students, M.D. and D.O., to take the USMLE steps 1, 2 and 3. (Role: Medical School Student)

The three-digit scores I achieved as a medical school graduate absolutely do not define nor limit my ability to learn, grow, improve, and be a competent physician. In fact, as an applicant who has achieved the minimal requirements of hundreds of programs, it is incumbent upon residency programs to educate residents and me on how to maximize my testing skills, challenge my foundation of medical knowledge , and push me to succeed as a physician so that patients can receive the care they deserve. In a manner of speaking, it is a failure of the medical education system that medical school graduates such as myself are underprepared and under-supported to be successful on licensure eligibility exams. (Role: Other: Unmatched Doctor, MD)

21. As I update my program's website, my residents have told me they do not want to provide any personal data about their culture, religion or sexuality for the residency recruitment process, even if stored in a password protected server. They feel this is their personal protected information and should not be used in recruitment. I asked if it would have been helpful for them to see this when they were choosing a program, to align themselves, and they said NO. The thought is that it hurts diversity to try to pick a program where everyone there is culturally or racially or genderbased - like you are. It is best to base these decisions on the program curriculum and other hospital data and offerings. (Role, Residency Program Director, DO)

As an osteopathic student, I know I will have biases against me from program directors. I know I cannot change that. However, I think osteopathic schools should do a better job with our school structures in order to show PDs that MD and DO schools can be comparable institutions. For example, my DO school does not have chairs for every specialty because we are (obviously) not part of a university hospital system. No chair of medicine, anesthesiology, surgery, etc. We only have a department of FM (which all the faculty regardless of specialty are technically under but most faculty are FM docs) and the department of clinical specialities which is very vague. So for example for students applying IM, students have to be lucky enough to rotate at a hospital where the chair of a medicine has experience with and is willing to write a LoR. Not all of our community hospitals have residencies so there's varying levels of comfort in these community doctors writing letters. That puts the burden on us as 4th years to find different rotations where we can get LoRs to fulfill letter requirements. And since our schools only have affiliations with hospitals, we are not guaranteed that our better 3rd year hospitals will take us on for 4th year as well because our school has such a large class size and these hospitals accommodate Caribbean students as well. So then this makes us use Away rotations as a backup option, but not all Away rotations will take us because we are either DO students or because they have a USMLE requirement when not every DO student takes the USMLE. There are many things that osteopathic schools can do better, but I hope I highlighted the pertinent things that I don't think as many people think about. It's easy for osteopathic physicians to forget about some of the things that made their education more difficult once they're past medical school because "they've made it" to residency. But I will continue to advocate and voice my opinions so that the judgment of being a DO is diminished little by little every year. I really appreciate you taking the time to read my comments and thank you for working on these changes in UME and GME. Stay safe! (Role: Medical School Student)

20- I have not seen any way to quantitate the data about a resident in a way that would be meaningful in a database-- quantity then counts more than quality. I would rather have a resident who was meaningfully involved in 1 volunteer activity than one who did 5 with little effort- but a data base will say that one did 1 and the other did 5. 21- Similar to my comment about 20- I do not see how such a database will actually be meaningful. We interview and rank and match a wide variety of applicants and a data base will not be able to reflect that nuance. (Role: Residency Program Director, MD)

I worry about having a public database of stats regarding who we matched vs. who we ranked. It would not help those who matched with us to know they were perhaps not our top ranked applicants. We often fill in the middle to third quartile of our list. But we match students at the top of the list as well. There are always stronger and less strong interns-- and the stronger ones are critical to pulling up the less strong. It would be terrible to be viewed as a program that only attracted one kind of applicant. (Role: Residency Program Director)

23. Filters can help programs from a demographics perspective, for internal accountability. For example, some programs have a filter by gender NOT because they are seeking to exclude a particular gender, but because it provides a quick look at what their applicant pool looks like. For example, a filter for female applicants can quickly help programs determine what the percentage of female applicants to their program is, and from there determine what the percentage of female applicants in their "selected to interview" group is. It allows programs to see if they are over- or under-representing a particular gender. If such a filter is published (or excluded), a potential beneficial use is removed or could subject a program using it for good intentions to be scrutinized unnecessarily. […] 24. A standardization of the USMLE and COMLEX scores should be considered carefully, as there are studies that suggest that a simple percentile comparison between tests is not likely sufficient. A comparison of percentile only, without considering the test taken, likely disadvantages a 50th percentile USMLE examinee compared to a 50th percentile COMLEX examinee. […] A move toward a single licensure

examination taken by all students, with an additional OMM/OMT examination for osteopathic students, would better serve this goal […].   (Role: Other: Associate Program Director, MD)

20 - i have concerns with this concept overall. When you tell applicants to continue to only look for programs where the current residents or current applicants match that applicants characteristics, this inhibits program change and growth. For example, if a program is working hard on recruitment of URiM residents, but currently have 0-2 URiM residents in their program, applicants may think this is a place where they do not have a good fit, but then it will be a self-fulfilling prophecy for the program and this will inhibit their growth, no matter how hard they dedicate themselves to this cause. In addition, the same applies to other metrics for applicants. If a program is identified as taking applicants with higher board scores or from certain schools, then those with lower scores may not apply. Alternatively, if a program is identified as having all residents with lower scores, this may deter applicants with those higher and mark those programs as "not as good" […].   (Role: Residency Program Director, MD)

20. […] Some great residents/physicians may struggle with the boards, which are less and less relevant in an information age. Specialty board exams do not measure quality, nor to they measure the most important skill of future physicians - communication. Any recent graduate should be able to use decision support resources to identify a differential, proper testing/evaluation, and proper treatmtents. It's more important the the physician be able to explain it all in a way that engages the patient and family in the treatment program. […] (Role: Medical School Assistant/Associate Dean, MD)

20: Earlier comment about medicine, specialties, and programs having no idea what they actually desire as outcomes and no way to inform their selection process outside of stratifying metrics that demonstrably (large evidence base) do not predict future performance in a meaningful way and simply introduce bias. 21: Need to do a deep dive on what metrics are actually meaningful. I am certain many are missed here. What can be measured easily is often not what is of merit. 22: Machines are trained by people. Biased people make biased machines. Training NLP to be thorough will reduce selection to arbitrary keyword searching. The way this is proposed does not promote holistic recruitment. I doubt that is the intent. This is a hotly debated topic (see ICRE May 2021 presentation on this topic). 23: Filters should only be created once we know what our outcomes are and how to alter the selection process. Extensive scholarship is needed in this domain (mine and a select handful of others is ongoing but will require support and buy-in from a broad stakeholder group and to move to a co-productive model). […]   *(*Role: Residency Program Director, MD)

Table 17: Code Application Counts for Application Process

Code	N	Percent
*Advice & Coaching	6	0.5%
Advice & Coaching - Career Advising	6	0.5%
*Applications	79	6.8%
Applications - Caps and Limits	22	1.9%
Applications - Application Process	12	1%
Applications - Application Redundancy	8	0.7%
Applications - Biasing Applications	13	1.1%
Applications - LOR (Letters of Recommendation)	5	0.4%
Applications - MSPE (Medical School Performance Evaluation)	16	1.4%
Applications - Objective Metrics to Gauge Applicants	7	0.6%
Applications - Standardization of Application Process	12	1%
*Assessment	99	8.5%
Assessment - Standardized Exams	97	8.3%
Assessment - Inequality in Scaling	36	3.1%
Assessment - Licensing exam quality differences	14	1.2%
Assessment - Single Licensing Exam	41	3.5%
*Assessment and Performance Data	33	2.8%
Assessment and Performance Data - Grades & Grading Pass Fail	4	0.3%
Assessment and Performance Data - Holistic Review	29	2.5%
*Competencies	2	0.2%
*Cost/Finances/Debt	40	3.4%
Cost/Finances/Debt - Implementation Cost	10	0.9%
Cost/Finances/Debt - Implementation Cost - GME	5	0.4%
Cost/Finances/Debt - Implementation Cost - UME	2	0.2%
Cost/Finances/Debt - Student Cost	27	2.3%
Cost/Finances/Debt - Student Debt	2	0.2%
*Data Transparency & Availability	117	10%
Data Transparency & Availability - Data to Support Informed Decisions	38	3.3%
Data Transparency & Availability - Database of Program Info	67	5.7%
Data Transparency & Availability - Filters	51	4.4%
*DEI	34	2.9%
DEI - Bias	7	0.6%
DEI - Bias - Racial Bias	2	0.2%
DEI - Diversity	5	0.4%
DEI - Equity	16	1.4%
DEI - Fairness	4	0.3%
DEI - SES	2	0.2%
DEI - URM	4	0.3%
*DO/Osteopathy/Osteopathic	48	4.1%

Table 17: Code Application Counts for Application Process Continued

Code	N	Percent
*Funding	3	0.3%
*Implementation	33	2.8%
Implementation - Impact	29	2.5%
*Interviews	12	1%
Interviews - Interview Caps and Limits	5	0.4%
Interviews - Interview Selection Criteria	4	0.3%
*Matching Process	11	0.9%
Matching Process - Slots	2	0.2%
Matching Process - Unmatched	7	0.6%
*Mid-level Practitioners	2	0.2%
*Non-US Trained Students	8	0.7%
Non-US Trained Students - IMG	6	0.5%
*Specialties	15	1.3%
Specialties - Competitive Specialties	2	0.2%
Specialties - Specialty Selection	4	0.3%
*Wellness/Wellbeing	4	0.3%
Total	1,169	100%

Figure 17: Code Application for Application Process

Application Process
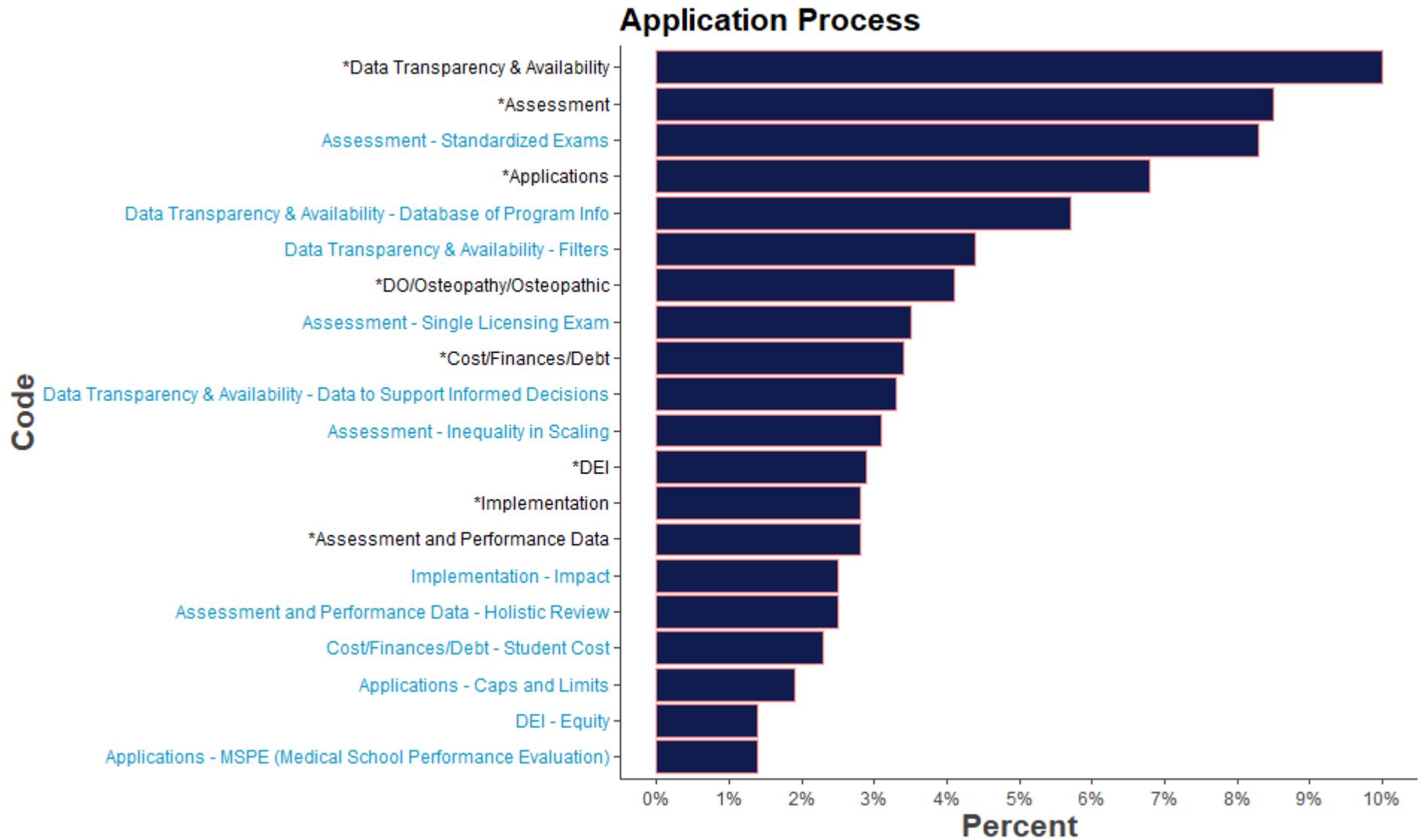
Figure 18: Bigrams for Application Process
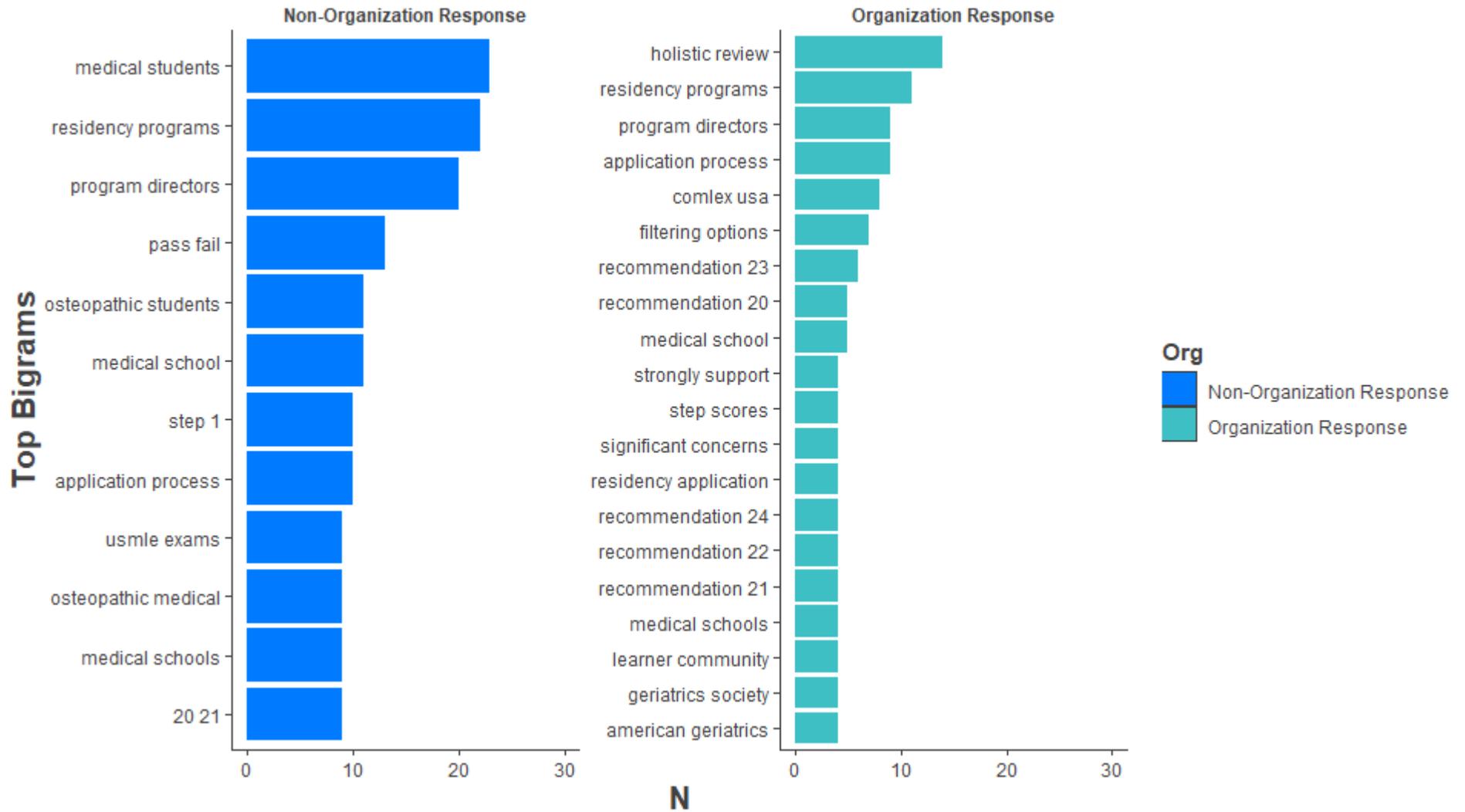
Total Comments: 294

Table 18: Sentiment for Interviewing

Sentiment	N	Percent
Agree	109	23.5%
Disagree	75	16.2%
Mixed	110	23.7%
Total Comments	464	100%

Figure 19: Sentiment for Interviewing
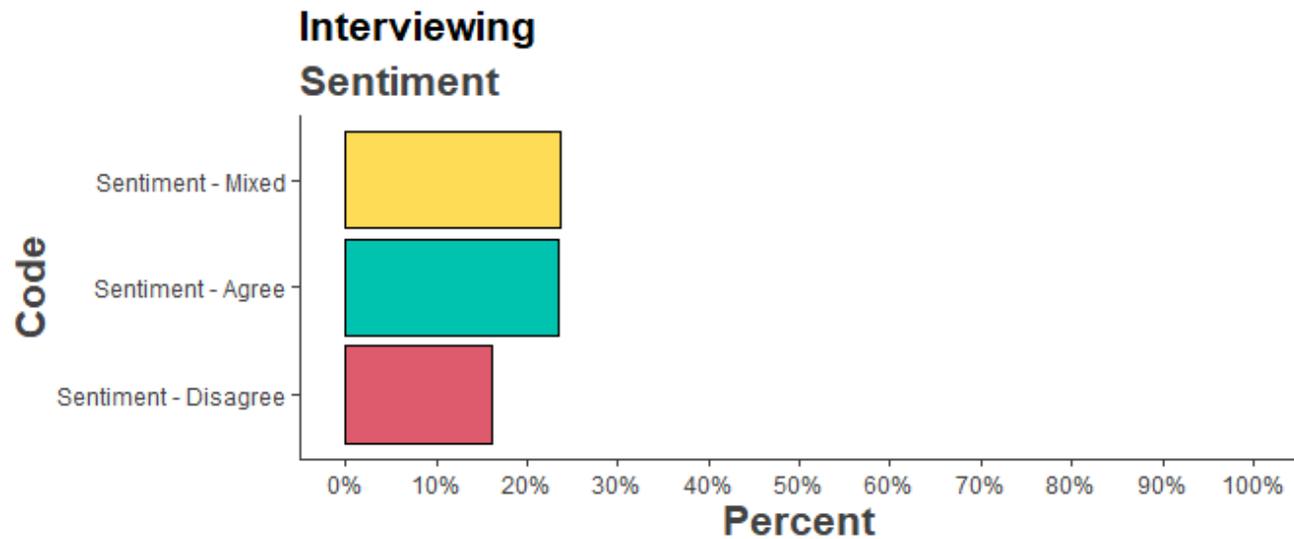
Interviewing: Selected Verbatims

[…] The following delineates concerns regarding the recent UGRC report. The main concern is focused on item 26 which produced a wide-reaching opinion regarding the conduct of the admissions process for 2021-2022. The proposed guidance conflates public health policy with arguments regarding equitable process. Process: •   The report has not been inclusive of specialty societies and is focused on a UME constituency. […] The specific details of the construct of an interview day, specifically a determination between virtual or in person interviewing, is outside the scope of the UGRC. […] Item 26 conflates public health policy with assumptions regarding equity. The two issues should be separate. […] Forced conversion to virtual interviews will create an environment whereby candidates interested in a specific program will find ways to visit the program outside of the interview process. This will create an advantage for those who are able to afford or arrange the opportunity. […]   Programs will be burdened with adjudicating special interests regarding "outside formal process" visitation. •   Special circumstances pertaining to personal advocacy or relationships will be more prominent in the admissions process as "insider" influence is exerted to produce introductions and/or special visits. •   Insularity will be increased. Without on site introductions to programs, culture, residency cohorts, and faculty, candidates will regress to what they know. The trend will be to stay at the home program. •   Home programs will regress to "safety". Home students and people who accomplished their single rotation opportunity at the program will be prioritized. This will breed insularity. […]. •   Programs in less desirable areas will be severely disadvantaged. They will be stunted in their ability to attract learners outside of their immediate sphere. •   Reputation of an institution or program will be artificially emphasized. •Candidates will not be able to assess the culture of an institution or program in a personal and facile manner via the virtual platform which result in limiting choice. […]   (Role: Faculty Member of a Medical School, MD)

Recommendation #26. Interviewing should be virtual for the 2021-2022 residency recruitment season. To ensure equity and fairness, there should be ongoing study of the impact and benefits of virtual interviewing as a permanent means of interviewing for residency.   Just as programs were free to interview in-person or virtually, elect to provide meals, elect to fund transportation/accommodations, elect to provide trinkets/souvenirs before COVID-19, the same should be the case in the '21-'22 recruitment season unless the pandemic imposes national restrictions on in-person interviewing. Programs are different and we should value and appreciate those differences. […] A one-size fits all mandate will not achieve parity and fairness, but instead will leave certain programs more or less advantaged.   Recommendation #27. Implement a centralized process to facilitate evidence-based, specialty-specific limits on the number of interviews each applicant may attend.   This is only part of the problem...if you limit the number of programs an applicant can apply to, but don't limit the number of applicants a program can interview, then the subjectively ranked "top-tiered" programs will undoubtedly see the greatest benefit while the subjectively ranked "lowest ranked" programs will struggle to find applicants available for invitations. An early-decision program can only work if there are limits for both parties as it will force applicants to only pick a few of their desired programs and force programs to only invite a restricted number of their desired applicants, leaving more applicants and programs available to other programs and applicants, respectively.   (Role: Medical School Assistant/Associate Dean, MD)

Table 19: Code Application Counts for Interviewing

Code	N	Percent
*Advice & Coaching	3	0.1%
Advice & Coaching - Career Advising	2	0.1%
*Applications	142	3.9%
Applications - Caps and Limits	61	1.7%
Applications - Application Process	81	2.2%
Applications - Biasing Applications	9	0.2%
Applications - Objective Metrics to Gauge Applicants	6	0.2%
Applications - Standardization of Application Process	35	1%
*Assessment	8	0.2%
Assessment - Accurate assessments	3	0.1%
Assessment - Standardized Exams	5	0.1%
*Assessment and Performance Data	12	0.3%
Assessment and Performance Data - Holistic Review	10	0.3%
*Communication	23	0.6%
*Competencies	2	0.1%
*Cost/Finances/Debt	123	3.4%
Cost/Finances/Debt - Implementation Cost	19	0.5%
Cost/Finances/Debt - Program Cost	31	0.9%
Cost/Finances/Debt - Student Cost	116	3.2%
Cost/Finances/Debt - Student Debt	10	0.3%
*COVID Impact	62	1.7%
*Data Transparency & Availability	167	4.6%
Data Transparency & Availability - Data to Support Informed Decisions	159	4.4%
Data Transparency & Availability - Database of Program Info	27	0.7%
Data Transparency & Availability - Filters	4	0.1%
*DEI	194	5.3%
DEI - Bias	19	0.5%
DEI - Diversity	9	0.2%
DEI - Equity	126	3.5%
DEI - Fairness	66	1.8%
DEI - Inclusion	20	0.6%
DEI - Inclusion - Community outreach program(s)	11	0.3%
DEI - Reputation	38	1%
DEI - School Resource Availability	22	0.6%
DEI - SES	37	1%
DEI - Small Program(s)	48	1.3%
DEI - URM	5	0.1%
*DO/Osteopathy/Osteopathic	5	0.1%
*Funding	17	0.5%

Table 19: Code Application Counts for Interviewing Continued

Code	N	Percent
Funding - GME Funding	3	0.1%
*Implementation	126	3.5%
Implementation - Change Management	63	1.7%
Implementation - Cohesive Policy	23	0.6%
Implementation - Impact	119	3.3%
*Interviews	409	11.3%
Interviews - Interview Caps and Limits	156	4.3%
Interviews - Interview Selection Criteria	68	1.9%
Interviews - Virtual Interviews	328	9%
*Matching Process	124	3.4%
Matching Process - Couples	7	0.2%
Matching Process - Early Decision/Matches	4	0.1%
Matching Process - Matched	6	0.2%
Matching Process - Second Looks	21	0.6%
Matching Process - SOAP (Supplemental Offer and Acceptance Program)	5	0.1%
Matching Process - Unmatched	9	0.2%
*Medical School Prestige	7	0.2%
*Non-US Trained Students	12	0.3%
Non-US Trained Students - IMG	10	0.3%
*Oversight	32	0.9%
Oversight - Cohesive Oversight Committee	2	0.1%
*Research	70	1.9%
*Roles	23	0.6%
Roles - Program Directors	22	0.6%
*Rotations	9	0.2%
Rotations - Away Rotations	8	0.2%
*Specialties	40	1.1%
Specialties - Competitive Specialties	18	0.5%
Specialties - Specialty Selection	4	0.1%
*Standardization of Requirements	51	1.4%
Standardization of Requirements - Cross Specialty Standardization	10	0.3%
*Training	10	0.3%
*Transition to Residency	17	0.5%
Transition to Residency - Timing	4	0.1%
*Wellness/Wellbeing	55	1.5%
Wellness/Wellbeing - Life Changes	22	0.6%
Total	3,634	100%

Figure 20: Code Application for Interviewing
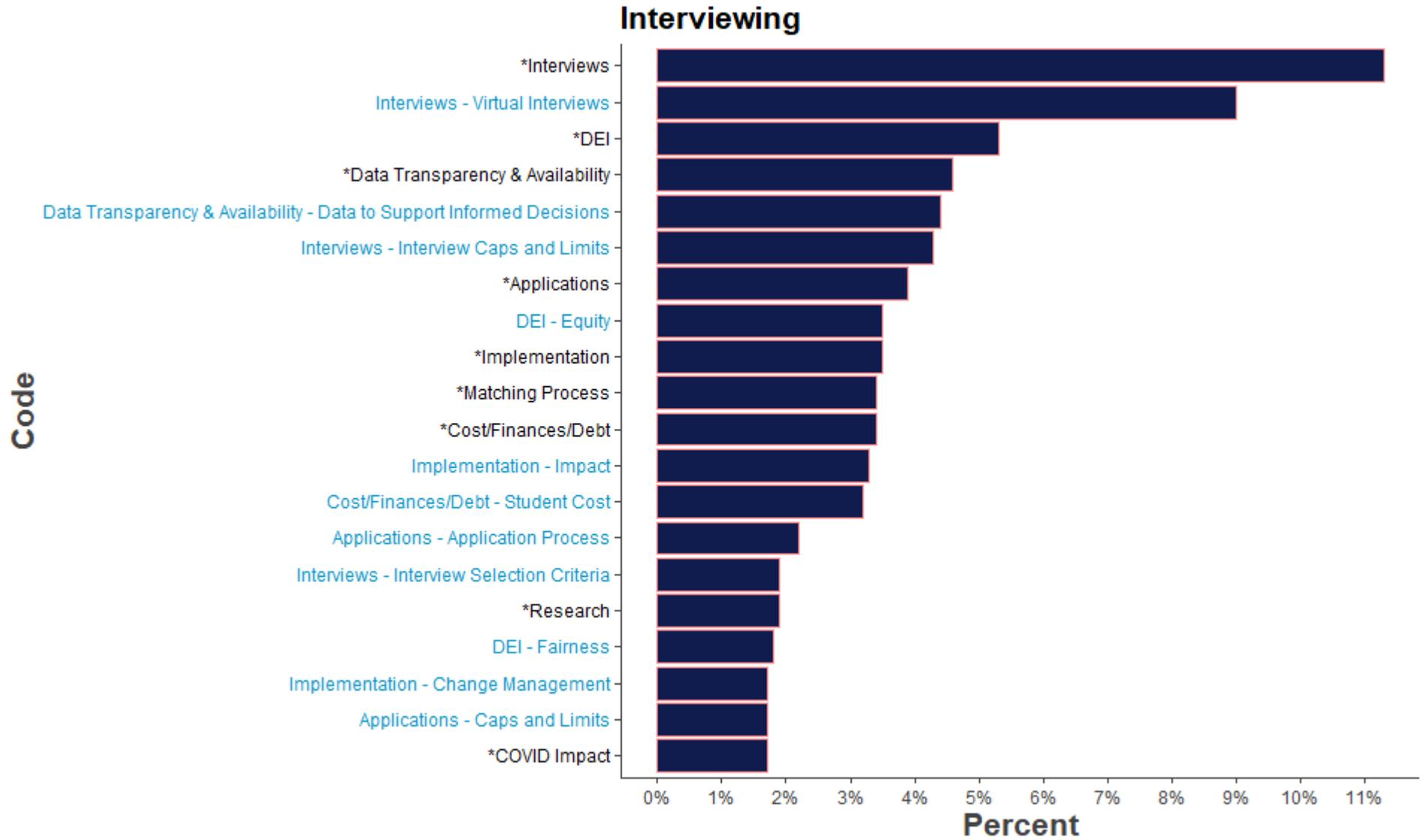
Figure 21: Bigrams for Interviewing
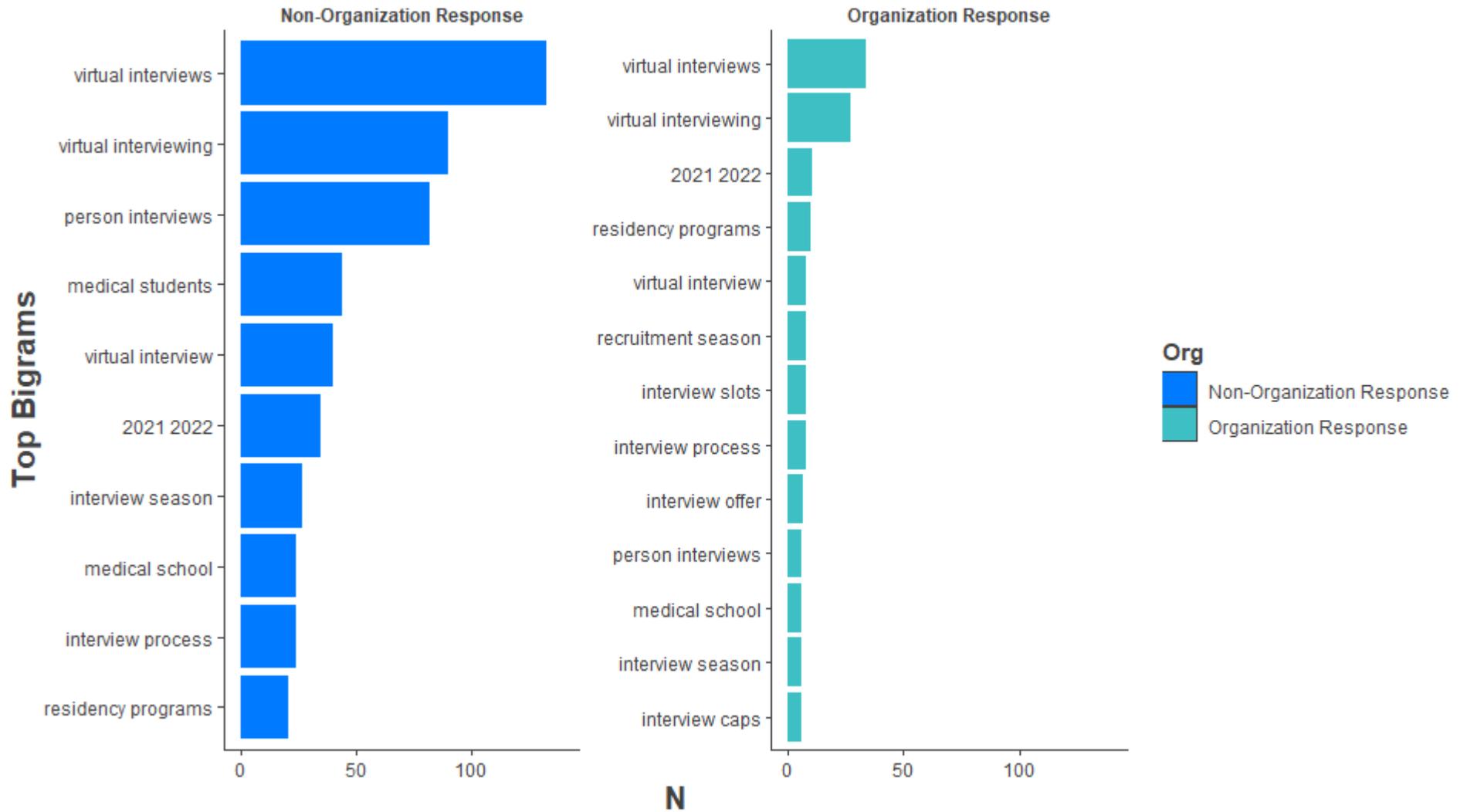
Table 20: Sentiment for Matching Process

Sentiment	N	Percent
Agree	84	32.1%
Disagree	32	12.2%
Mixed	11	4.2%
Total Comments	262	100%

Figure 22: Sentiment for Matching Process
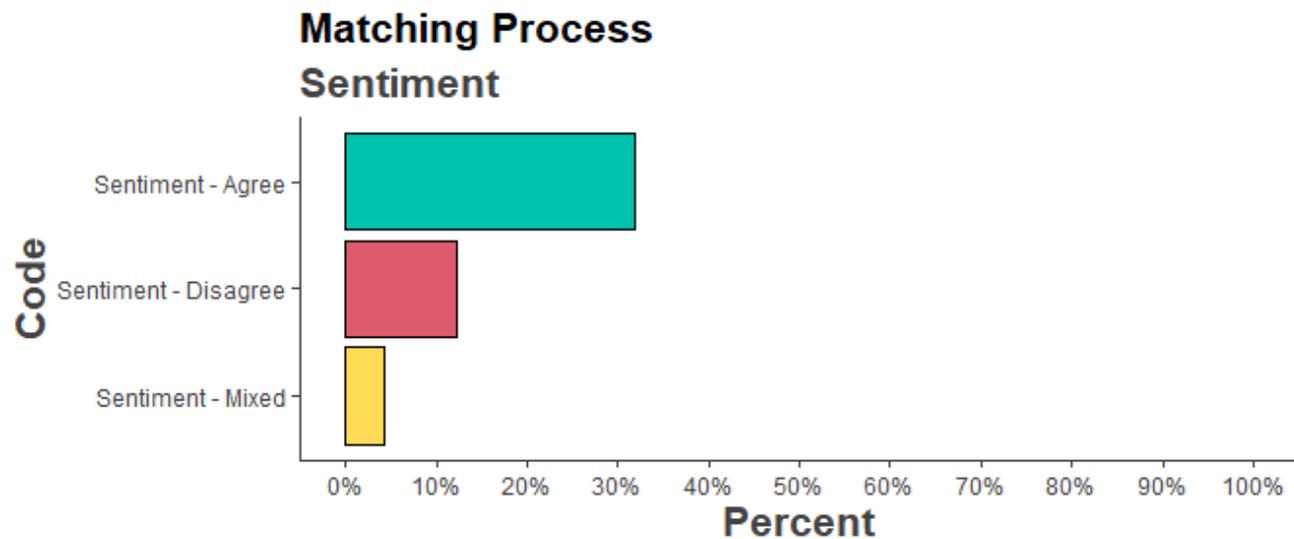
Matching Process: Selected Verbatims

This is another idea that would create further diversity in programs. Many people apply broadly so as to avoid not matching. Because of a recent "toxic" culture of residencies and applicants alike misrepresenting their desire to match each other, many desirable applicants do not match at programs that would have loved to take them. Early decision options would allow applicants the opportunity to show definite interest in a program. That said, early decision options should be hidden from all other institutions. Applicants should not be punished by other institutions should they not match early decision[…]   Should an early decision process take place, all applicants not selected should be let back into the regular match process without prejudice. (Role: Medical School Student)

An early decision application cycle is a terrible idea. This just extends the recruitment season for program directors which extends the time during which a program director is not actually doing anything with his or her residency program. Recruitment is a time at which everything with the residency program is on standstill and an early cycle would just lengthen that. Also, an early cycle would set up a dichotomy among residents in my program. […] If we go to a double match cycle with an early application cycle, then I will quit being program director because I do not want to deal with it. Please […] please do not do this!!!!! Early decision works well in a non-match cycle for undergraduate education, but in a match process just sets up an "us versus them". It is no way will help me more holistically review applications. I am convinced that there is no good way to reduce applications other than better advising at the med school level and anything else that we do to try to reduce applications will just cause more harm than good. THe only thing that might be beneficial is program signaling although the evidence from ENT has not been published yet. (Role: Residency Program Director, MD)

The Matching process is unfortunately very discouraging to what they refer to as "old IMG". Every year I see younger and younger graduates coming from far away and my chance is fading. […] with the level of clinical experience and familiarity with the health system in America, I consider myself to be qualified and ready to start residency training regardless of my age "41" and years of graduation "15". […] I suggest booster cycles for Citizens old IMGs, where applications can be given more time for review and consideration.   […] (Role: Non-Practicing Physician/Clinician, MBBS)

[…] One question that arises is whether, in a competency based time variable educational system, (which seems to be a newer model for students who might achieve competency earlier than the traditional model), should there be an option for an early entry into residency. Not sure if this was discussed. I am not proposing a 3 year medical school (although my own school is considering this) but rather two entry points into residency. This would also address the unmatched who might be ready for residency in January rather than waiting for July. (Role: Clerkship Director, MD)

Process needs to be revamped. […] we have considered resident-funded residency positions, with a yearly tuition, to help students who are eager to match and become licensed. As the process is often an impediment to many qualified applicants, we have also discussed an "associate/extender" nomenclature, especially in the primary care setting to create an extended "residency," particularly in the primary care/family medicine speciality/setting. Perhaps a 4 to 5 year term in this role to qualify for board certification/licensure. Also, we would like the ability to compare "oranges to oranges" and "apples to apples" by the creation of a universal licensing exam for both Osteopathic and Allopathic applicants; as their residencies are universally accredited. […] (Role: Residency Program Director, MD)

We have got to have some way of reducing #of applications per applicant. I advise many students and my advice on this falls on deaf ears. My best student this year applied to > 80 programs, received almost that many interviews, interviewed at 34, matched at her number one which was our program - right where she started! The fruitless ness of that effort is astounding. (Role: Residency Program Director, MD)

*Recommendation #28. […]   Sans a few exceptions (such as Urology and Ophthalmology), we must first accept the inescapable truth that the AAMC and NRMP generate huge revenues due to application inflation (that they welcome with open arms) and it's laughable that none of that profit goes back to the users (applicants and programs) who are mandated to use this monopolized process. We must also appreciate that our GME programs, funded in large part by the American public, are not in a position to ensure our U.S. MD/DO graduates (with tremendous debt burdens often owed to the American public through federal loan programs) are provided with a GME training opportunity before opening remaining spots to others as they are tasked with competing with all applicant types in a one-time Match. […]   (*Role: Residency Program Director, MD)

*28. There needs to be an enforced maximum number of applications per applicant. In emergency medicine this year, our program essentially received applicants from half of the candidates applying to the specialty. It is impossible to screen this number of applicants holistically and nearly impossible to screen them using conventional USMLE cut-offs.   The current situation is simply untenable.   (*Role: Residency Program Director, MD)

Table 21: Code Application Counts for Matching Process

Code	N	Percent
*Advice & Coaching	7	0.8%
Advice & Coaching - Career Advising	4	0.4%
Advice & Coaching - Specialty-specific Advising	2	0.2%
*Applications	69	7.6%
Applications - Caps and Limits	35	3.8%
Applications - Application Process	17	1.9%
Applications - Application Redundancy	14	1.5%
Applications - MSPE (Medical School Performance Evaluation)	2	0.2%
Applications - Standardization of Application Process	5	0.5%
*Assessment	5	0.5%
Assessment - Standardized Exams	5	0.5%
*Assessment and Performance Data	15	1.6%
Assessment and Performance Data - Holistic Review	15	1.6%
*Communication	2	0.2%
*Competencies	2	0.2%
*Cost/Finances/Debt	33	3.6%
Cost/Finances/Debt - Implementation Cost	8	0.9%
Cost/Finances/Debt - Implementation Cost - GME	3	0.3%
Cost/Finances/Debt - Program Cost	7	0.8%
Cost/Finances/Debt - Student Cost	20	2.2%
Cost/Finances/Debt - Student Debt	4	0.4%
*COVID Impact	5	0.5%
*Data Transparency & Availability	12	1.3%
Data Transparency & Availability - Data to Support Informed Decisions	8	0.9%
Data Transparency & Availability - Database of Program Info	4	0.4%
Data Transparency & Availability - Filters	4	0.4%
*DEI	39	4.3%
DEI - Bias	6	0.7%
DEI - Diversity	8	0.9%
DEI - Equity	16	1.8%
DEI - Fairness	5	0.5%
DEI - Inclusion	3	0.3%
DEI - Small Program(s)	8	0.9%
DEI - URM	2	0.2%
*Funding	5	0.5%
Funding - GME Funding	2	0.2%
Funding - Unfunded Mandate	2	0.2%
*Implementation	57	6.3%
Implementation - CQI (Continuous Quality Improvement)	2	0.2%

Table 21: Code Application Counts for Matching Process Continued

Code	N	Percent
Implementation – Impact	50	5.5%
*Interviews	15	1.6%
Interviews - Interview Caps and Limits	4	0.4%
Interviews - Interview Selection Criteria	2	0.2%
Interviews - Virtual Interviews	2	0.2%
*Matching Process	130	14.3%
Matching Process - Couples	2	0.2%
Matching Process - Early Decision/Matches	108	11.9%
Matching Process - Matched	3	0.3%
Matching Process - Slots	9	1%
Matching Process - SOAP (Supplemental Offer and Acceptance Program)	6	0.7%
Matching Process - Unmatched	10	1.1%
*Medical School Prestige	7	0.8%
*Non-US Trained Students	9	1%
Non-US Trained Students - IMG	6	0.7%
*Physician Shortage	3	0.3%
*Research	4	0.4%
*Roles	2	0.2%
*Rotations	5	0.5%
Rotations - Away Rotations	3	0.3%
*Specialties	27	3%
Specialties - Competitive Specialties	3	0.3%
Specialties - Specialty Selection	13	1.4%
*Transition to Residency	5	0.5%
Transition to Residency - Timing	4	0.4%
*Wellness/Wellbeing	16	1.8%
Total	910	100%

Figure 23: Code Application for Matching Process

Matching Process

Code	Percent
*Matching Process	14.3%
Matching Process - Early Decision/Matches	11.9%
*Applications	7.6%
*Implementation	6.3%
Implementation - Impact	5.5%
*DEI	4.3%
Applications - Caps and Limits	3.8%
*Cost/Finances/Debt	3.6%
*Specialties	3.0%
Cost/Finances/Debt - Student Cost	2.2%
Applications - Application Process	1.9%
DEI - Equity	1.8%
*Wellness/Wellbeing	1.8%
Assessment and Performance Data - Holistic Review	1.6%
*Interviews	1.6%
*Assessment and Performance Data	1.6%
Applications - Application Redundancy	1.5%
Specialties - Specialty Selection	1.4%
*Data Transparency & Availability	1.3%
Matching Process - Unmatched	1.1%

Figure 24: Bigrams for Matching Process
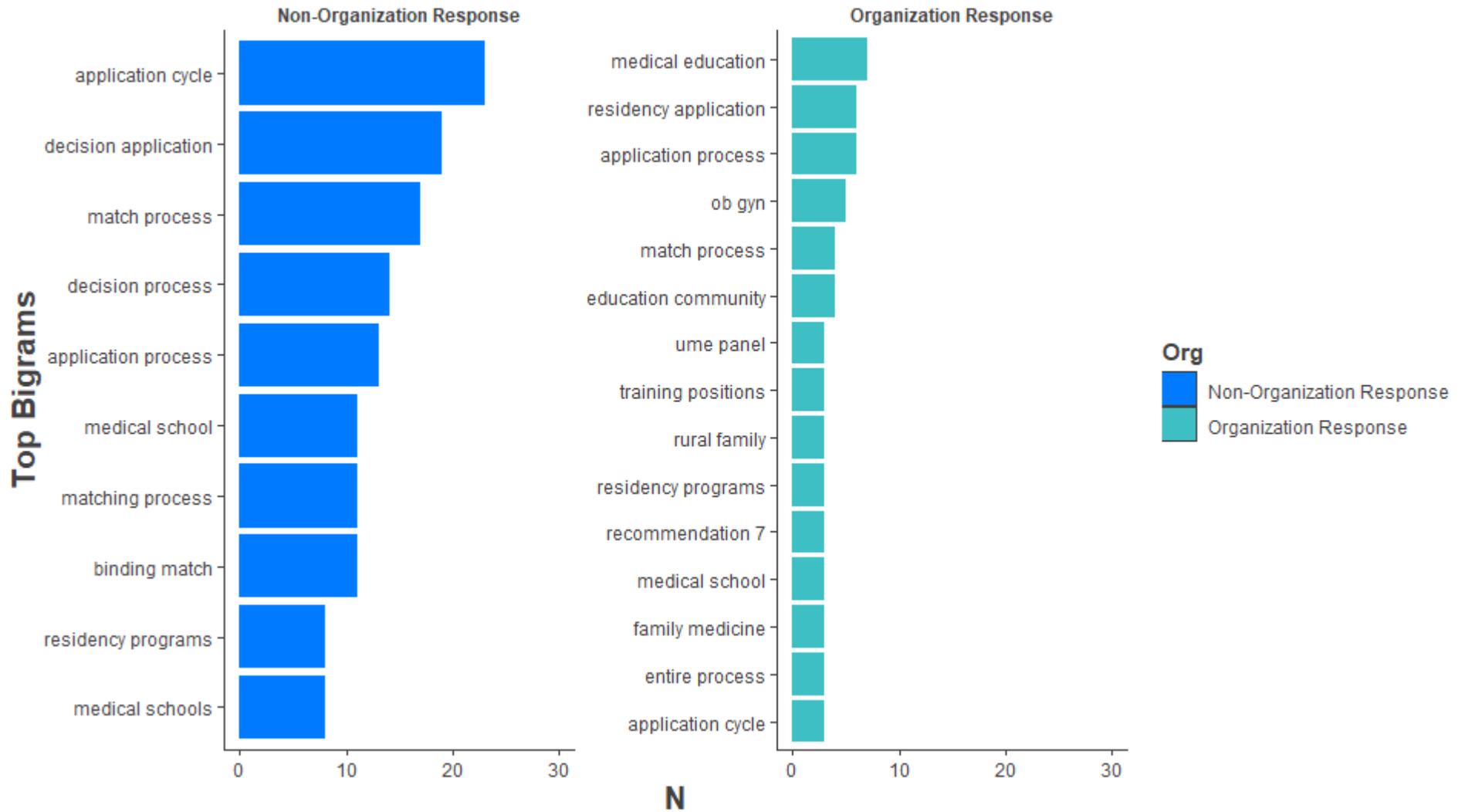
Total Comments: 262

Table 22: Sentiment for Faculty Support Resources

Sentiment	N	Percent
Agree	58	66.7%
Disagree	5	5.7%
Mixed	2	2.3%
Total Comments	87	100%

Figure 25: Sentiment for Faculty Support Resources
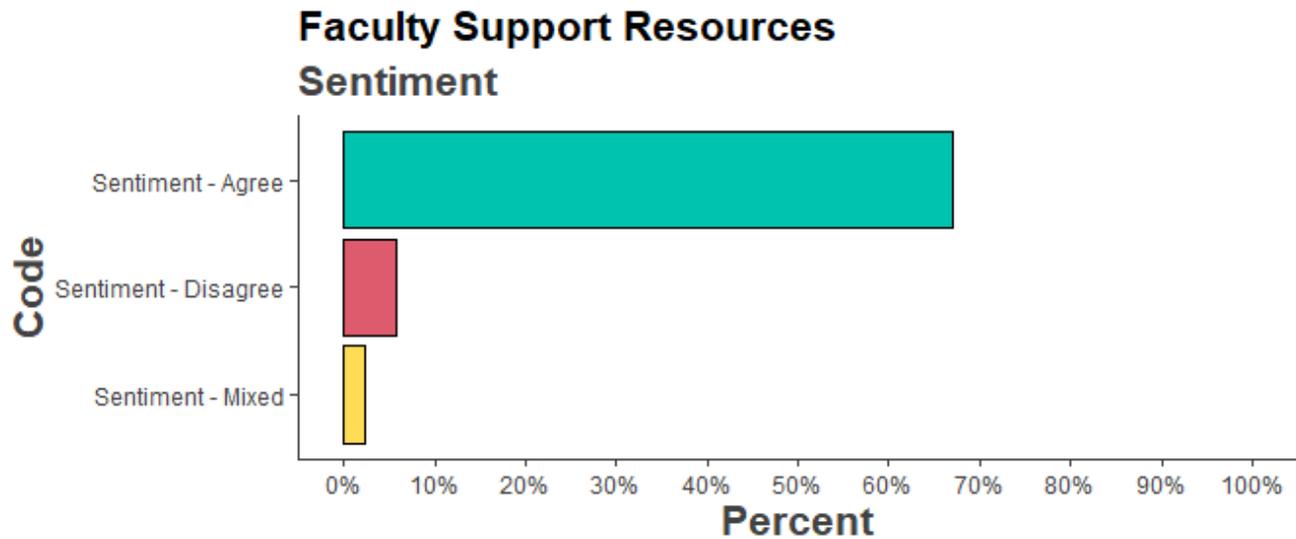
Faculty Support Resources: Selected Verbatims

29: Resources identified in this repository should include accredited and vetted remedial education courses that comprehensively address lapses in professionalism, which are predictable at this transitionary phase in a physician's career. Common cases of these behavioral lapses in the transition phase include impropriety or cheating on exams due to immense pressures to succeed, or lapses of professional behavior with colleagues or patients during their adjustment to their new professional role and identity. […] Education is a critical component to longitudinal success of a remediation plan to prevent recidivism and future harm to the public. It is important that the remedial education provider is a neutral third party, separate from the residency program, to eliminate bias, and to foster an open safe space for disclosure and to mitigate feelings of mistrust on the part of the resident.   (Role: Intern/Resident/Fellow)

Comment on recommendation 29: We support this recommendation with clarification. Centralized resident support resources will be invaluable to residency programs; however, we caution that evidenced based resources may not adequately recognize the individual characteristics of each resident. Just as assessments should be fair and equitable, our tools to assist with remediation and well-being must also be inclusive and equitable. The ways in which individual identities inform the manner with which residents need to be supported must be acknowledged and supported by the evidence.   Comment on recommendation 30: We support this recommendation with specific rephrasing. We recommend against use of use of 'avoiding.' Instead, we suggest faculty should be trained to recognize their implicit bias and through faculty development, gain the tools to appropriately address and mitigate those biases impacting their behaviors and decisions. The must is followed by a list, however, faculty who are not involved in recruitment, for example, may not need the faculty development focused on equity in recruitment.   (Role: I am responding on behalf of an organization or group in an official capacity)

Faculty are essential in a trainee's pathway to independence, both influencing trainee professional identity formation (PiF) (Recommendation 12) and providing meaningful feedback in skill development across the continuum (Recommendations 9, 18, and 30). It is fundamental that the medical education community invests in faculty development (FD).   AAIM recommends the creation of FD tracks in teaching/learning, PiF, evaluation/assessment, and instructional design/ curriculum development. To expand and evolve these tracks, the medical education community must include non-physician educators and tap into their expertise to build a cadre of competent physician educators. Residency programs and medical schools can leverage these experts to assist with faculty development that could be beneficial at a national level. Institutions should be able to access these shared resources so that they can build their own tracks or so that their faculty can easily access and benefit from these national medical education programs. A shared approach will allow for greater standardization of best practices, which will benefit the overall UME to GME transition. Since the focus is on bolstering educator proficiency, the Alliance supports both didactic and peer-to-peer observations and feedback. AAIM recognizes the financial impact this commitment entails and understands that budgets vary, and some institutions would view it as an arduous undertaking; developing and sharing these tracks nationally is essential to help ease that burden. […]   (Role: I am responding on behalf of an organization or group in an official capacity)

Table 23: Code Application Counts for Faculty Support Resources

Code	N	Percent
*Advice & Coaching	6	1.7%
Advice & Coaching - Career Advising	2	0.6%
Advice & Coaching - Staff training to support students	3	0.9%
*Applications	2	0.6%
*Assessment	7	2%
Assessment - Standardized Exams	2	0.6%
*Assessment and Performance Data	2	0.6%
*Communication	2	0.6%
*Cost/Finances/Debt	14	4%
Cost/Finances/Debt - Implementation Cost	8	2.3%
Cost/Finances/Debt - Program Cost	5	1.4%
*Data Transparency & Availability	15	4.3%
Data Transparency & Availability - Dashboard or Portfolio	4	1.1%
Data Transparency & Availability - Data to Support Informed Decisions	12	3.4%
*DEI	30	8.6%
DEI – Bias	18	5.1%
DEI - Bias - Racial Bias	6	1.7%
DEI – Equity	10	2.9%
DEI – Inclusion	7	2%
DEI - Small Program(s)	2	0.6%
*Faculty	34	9.7%
Faculty - Faculty Development	33	9.4%
*Funding	5	1.4%
Funding - Unfunded Mandate	2	0.6%
*Implementation	45	12.9%
Implementation - Cohesive Policy	9	2.6%
Implementation - CQI (Continuous Quality Improvement)	2	0.6%
Implementation – Impact	21	6%
*Non-US Trained Students	2	0.6%
Non-US Trained Students - IMG	2	0.6%
*Oversight	3	0.9%
Oversight - Cohesive Oversight Committee	2	0.6%
*Public Health	2	0.6%
*Roles	11	3.1%
Roles - DIO (Designated Institutional Officer)	3	0.9%
Roles - Program Directors	11	3.1%
*Wellness/Wellbeing	6	1.7%
Total	350	100%

Figure 25: Code Application for Faculty Support Resources

Faculty Support Resources

Code	Percent
*Implementation	~12.9%
*Faculty	~9.6%
Faculty - Faculty Development	~9.3%
*DEI	~8.5%
Implementation - Impact	~6.0%
DEI - Bias	~5.1%
*Data Transparency & Availability	~4.3%
*Cost/Finances/Debt	~4.0%
Data Transparency & Availability - Data to Support Informed Decisions	~3.4%
Roles - Program Directors	~3.1%
*Roles	~3.1%
DEI - Equity	~2.9%
Implementation - Cohesive Policy	~2.6%
Cost/Finances/Debt - Implementation Cost	~2.3%
DEI - Inclusion	~2.0%
*Assessment	~2.0%
DEI - Bias - Racial Bias	~1.7%
*Wellness/Wellbeing	~1.7%
*Advice & Coaching	~1.7%
Cost/Finances/Debt - Program Cost	~1.4%

Figure 26: Bigrams for Faculty Support Resources
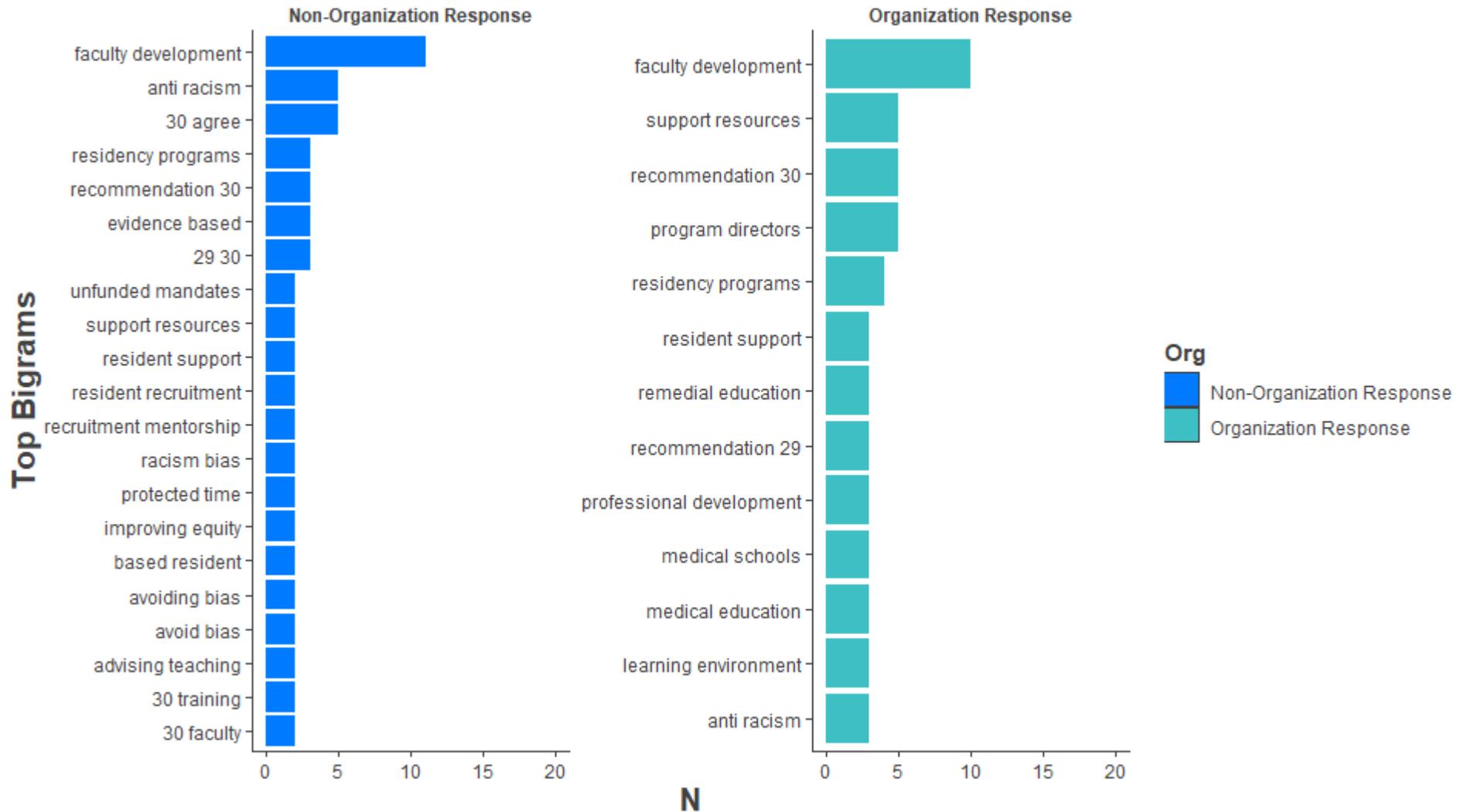
Table 24: Sentiment for Post-Match Transition to Residency

Sentiment	N	Percent
Agree	28	17.7%
Disagree	7	4.4%
Mixed	22	13.9%
Total Comments	158	100%

Figure 27: Sentiment for Post-Match Transition to Residency
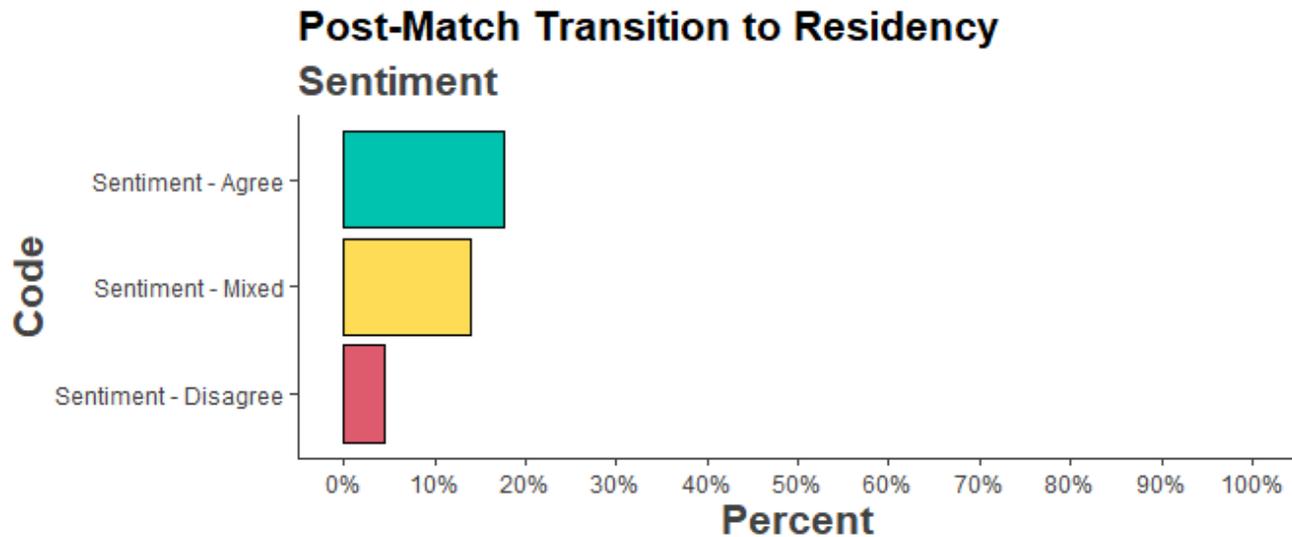
Post-Match Transition to Residency: Selected Verbatims

[…] 32: How are we determining these? Again, scholarship -> evidence informed best practices and policies -> pilot innovations -> adoption   33: Mandatory orientations need to be supported with time and money. These are not addressed. Additionally, scholarship -> evidence informed best practices and policies -> pilot innovations -> adoption. This will be key for determining universal components and then those that belong to the specialties. There also must be adaptable components to address what was learned in the handover and ILP process. 34: There are a variety of innovations in curricula out there - a group should define best practices and ways to adapt these to different environments   35: This will need to be designed, validity evidence gathered, a G study performed, equity addressed, and how performance informs ILPs and coaching addressed. Again, scholarship -> evidence informed best practices and policies -> pilot innovations -> adoption. […]   (Role: Residency Program Director, MD)

I believe that it must be emphasized that GME is a time of learning and that residents are learners. Too often, there is a mismatch between expectations of new interns and their competency that is not due to a problem with their competency, but rather generated by excessive expectations of residency programs -- especially in the first 3-4 months or internship -- that result from inadequate staffing, back-up, support, etc. Hospitals and other sites of learning should be better supported in general, and especially in the summer months, to facilitate the transition to residency. Interns are not ready for independent practice, and that should not be the expectation. This is especially important to note since new interns are often transitioning to a different city, a different health system, etc. at this time.   (Role: I am responding on behalf of an organization or group in an official capacity)

Table 25: Code Application Counts for Post-Match Transition to Residency

Code	N	Percent
*Advice & Coaching	4	0.4%
*Assessment	16	1.7%
Assessment - Accurate assessments	12	1.2%
Assessment - Standardized Exams	3	0.3%
*Assessment and Performance Data	24	2.5%
Assessment and Performance Data - ILPs (Individualized Learning Plans)	21	2.2%
*Communication	2	0.2%
*Competencies	9	0.9%
Competencies - EPAs (Entrustable Professional Activities)	3	0.3%
Competencies – Milestones	3	0.3%
*Cost/Finances/Debt	48	5%
Cost/Finances/Debt - Implementation Cost	24	2.5%
Cost/Finances/Debt - Implementation Cost – GME	18	1.9%
Cost/Finances/Debt - Implementation Cost – UME	9	0.9%
Cost/Finances/Debt - Program Cost	16	1.7%
Cost/Finances/Debt - Student Cost	34	3.5%
Cost/Finances/Debt - Student Debt	13	1.4%
*Data Transparency & Availability	22	2.3%
Data Transparency & Availability - Dashboard or Portfolio	8	0.8%
Data Transparency & Availability - Data to Support Informed Decisions	17	1.8%
Data Transparency & Availability - Database of Program Info	13	1.4%
*DEI	30	3.1%
DEI – Bias	5	0.5%
DEI – Diversity	5	0.5%
DEI – Equity	8	0.8%
DEI – Fairness	2	0.2%
DEI – Inclusion	8	0.8%
DEI - School Resource Availability	10	1%
DEI – SES	3	0.3%
DEI - Small Program(s)	4	0.4%
*Faculty	7	0.7%
Faculty - Faculty Development	7	0.7%
*Funding	36	3.7%
Funding - GME Funding	19	2%
*Implementation	29	3%
Implementation - Change Management	12	1.2%
Implementation - Cohesive Policy	3	0.3%
Implementation - CQI (Continuous Quality Improvement)	2	0.2%
Implementation – Impact	22	2.3%

Table 25: Code Application Counts for Post-Match Transition to Residency Continued

Code	N	Percent
*Interviews	2	0.2%
*Licensure	2	0.2%
*Matching Process	13	1.4%
Matching Process - Matched	2	0.2%
Matching Process - Unmatched	2	0.2%
*Non-US Trained Students	9	0.9%
Non-US Trained Students - IMG	4	0.4%
*Oversight	7	0.7%
*Research	16	1.7%
*Roles	10	1%
Roles - Other Roles	4	0.4%
Roles - Program Directors	6	0.6%
*Specialties	11	1.1%
Specialties - Specialty Selection	4	0.4%
*Standardization of Requirements	18	1.9%
Standardization of Requirements - Cross Specialty Standardization	2	0.2%
Standardization of Requirements - Cross State Standardization	2	0.2%
*Training	34	3.5%
*Transition to Residency	96	10%
Transition to Residency - Bootcamp	11	1.1%
Transition to Residency - Learner Handover	30	3.1%
Transition to Residency - Orientation	45	4.7%
Transition to Residency - Timing	47	4.9%
*Wellness/Wellbeing	36	3.7%
Wellness/Wellbeing - Life Changes	17	1.8%
Total	961	100%

Figure 28: Code Application for Post-Match Transition to Residency

Post-Match Transition to Residency

Code	Percent
*Transition to Residency	~10%
*Cost/Finances/Debt	~5%
Transition to Residency - Timing	~4.9%
Transition to Residency - Orientation	~4.7%
*Wellness/Wellbeing	~3.7%
*Funding	~3.7%
Cost/Finances/Debt - Student Cost	~3.5%
*Training	~3.5%
Transition to Residency - Learner Handover	~3.1%
*DEI	~3.1%
*Implementation	~3%
Cost/Finances/Debt - Implementation Cost	~2.5%
*Assessment and Performance Data	~2.5%
Implementation - Impact	~2.3%
*Data Transparency & Availability	~2.3%
Assessment and Performance Data - ILPs (Individualized Learning Plans)	~2.2%
Funding - GME Funding	~2%
Cost/Finances/Debt - Implementation Cost - GME	~1.9%
*Standardization of Requirements	~1.9%
Data Transparency & Availability - Data to Support Informed Decisions	~1.8%

Figure 29: Bigrams for Post-Match Transition to Residency
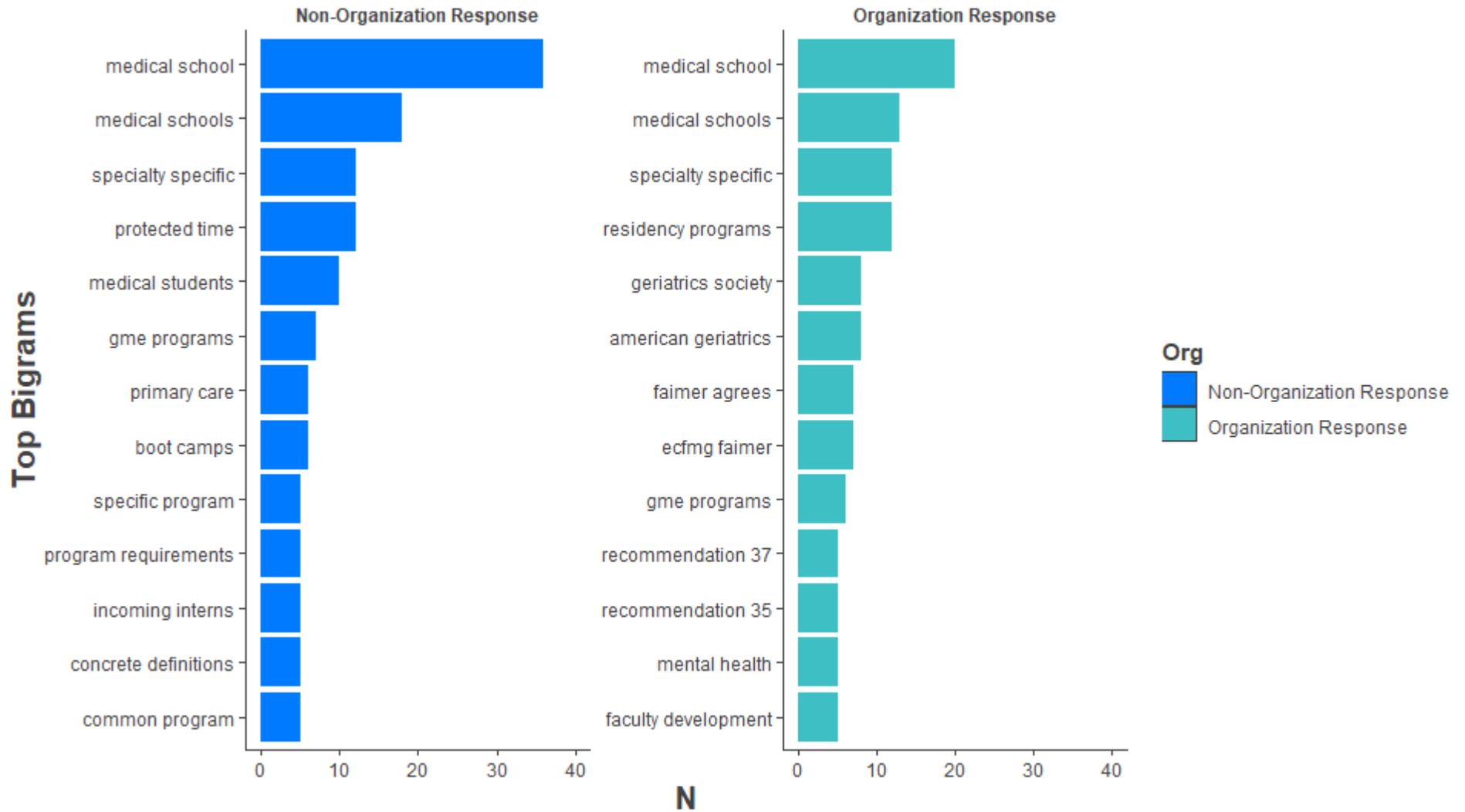
Total Comments: 158

POLICY IMPLICATIONS

Table 26: Sentiment for Policy Implications

Sentiment	N	Percent
Agree	42	44.2%
Disagree	3	3.2%
Mixed	12	12.6%
Total Comments	95	100%

Figure 30: Sentiment for Policy Implications
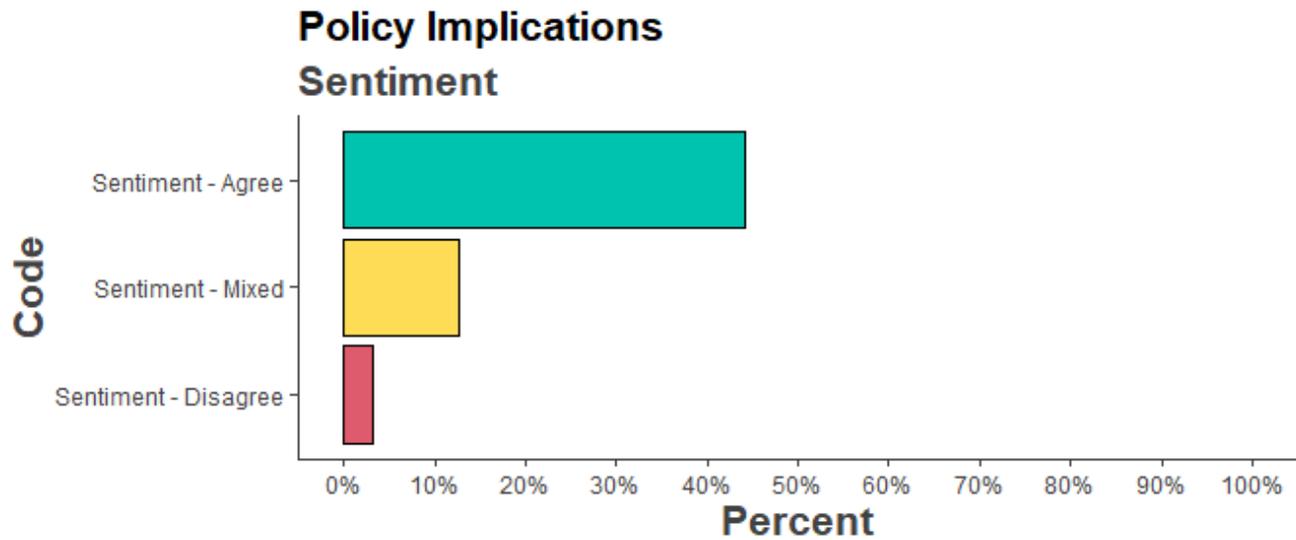
Policy Implications: Selected Verbatims

Please consider the consequences of the massive overexpansions of nurse practitioner, physician assistant, osteopathic, and US MD annual graduates. They are clearly increasing at rates that are 6 to 10 times the annual population growth rate of 0.6% or 3 to 5 times any increase in demand. Please note that the annual dollars going to support these health professionals are not increasing at anything close to these 4 to 6% annual increases in these 4 sources.   To translate, responsible health professional leadership should be more interested in a reduction in the annual graduates arising from US MD and DO schools as compared to an expansion of GME. At a minimum some discussions of a moratorium should be initiated with PA and NP leadership.   The health professional leaders should avoid at all costs a massive glut of workforce although the previous expansions guarantee this.   Also important is understanding that the various deficits and shortages such as half enough generalists and general specialists for 40% of the US population - is the result of the worst financial design specific to basic, office, most needed, most prevalent services in settings where the worst public and private health insurance are found along with the worst employers and populations lower in income.   For example primary care in these 2621 counties is about 60,000 physicians for this 130 million or about 46 per 100,000. These counties have about 45% of the complexity in this 40% of the population with only 25% of primary care workforce and less than 20% of primary care spending. And the requirements of HITECH to value based have eroded about 1 billion a year reducing what can be invested from 38 billion to less than 30 billion. It is simply not possible to resolve shortages with training designs - as I charted in Nebraska with the most successful pipelines - and 70 counties that remained just as short of health care workforce over 15 years. (Role: Other: Most of the above, MD)

Table 27: Code Application Counts for Policy Implications

Code	N	Percent
*Advice & Coaching	3	1%
Advice & Coaching - Career Advising	3	1%
*Applications	2	0.7%
Applications - Application Process	2	0.7%
*Assessment	2	0.7%
Assessment - Standardized Exams	2	0.7%
*Cost/Finances/Debt	15	5.2%
Cost/Finances/Debt - Implementation Cost	8	2.8%
Cost/Finances/Debt - Implementation Cost - GME	5	1.7%
Cost/Finances/Debt - Program Cost	5	1.7%
Cost/Finances/Debt - Student Cost	7	2.4%
Cost/Finances/Debt - Student Debt	3	1%
*Data Transparency & Availability	2	0.7%
*DEI	3	1%
DEI - Equity	2	0.7%
*DO/Osteopathy/Osteopathic	2	0.7%
*Funding	22	7.6%
Funding - GME Funding	19	6.6%
*Implementation	15	5.2%
Implementation - Change Management	7	2.4%
Implementation - Cohesive Policy	4	1.4%
Implementation - Impact	10	3.4%
*Licensure	8	2.8%
*Matching Process	13	4.5%
Matching Process - Matched	2	0.7%
Matching Process - Slots	2	0.7%
Matching Process - Unmatched	3	1%
*Non-US Trained Students	5	1.7%
Non-US Trained Students - IMG	3	1%
*Oversight	5	1.7%
*Research	3	1%
*Specialties	18	6.2%
Specialties - Specialty Selection	15	5.2%
*Standardization of Requirements	25	8.6%
Standardization of Requirements - Cross State Standardization	18	6.2%
*Training	5	1.7%
*Transition to Residency	6	2.1%
Transition to Residency - Timing	2	0.7%
*Wellness/Wellbeing	10	3.4%

Table 27: Code Application Counts for Policy Implications Continued

Code	N	Percent
Wellness/Wellbeing - Life Changes	4	1.4%
Total	290	100%

Figure 31: Code Application for Policy Implications

Policy Implications
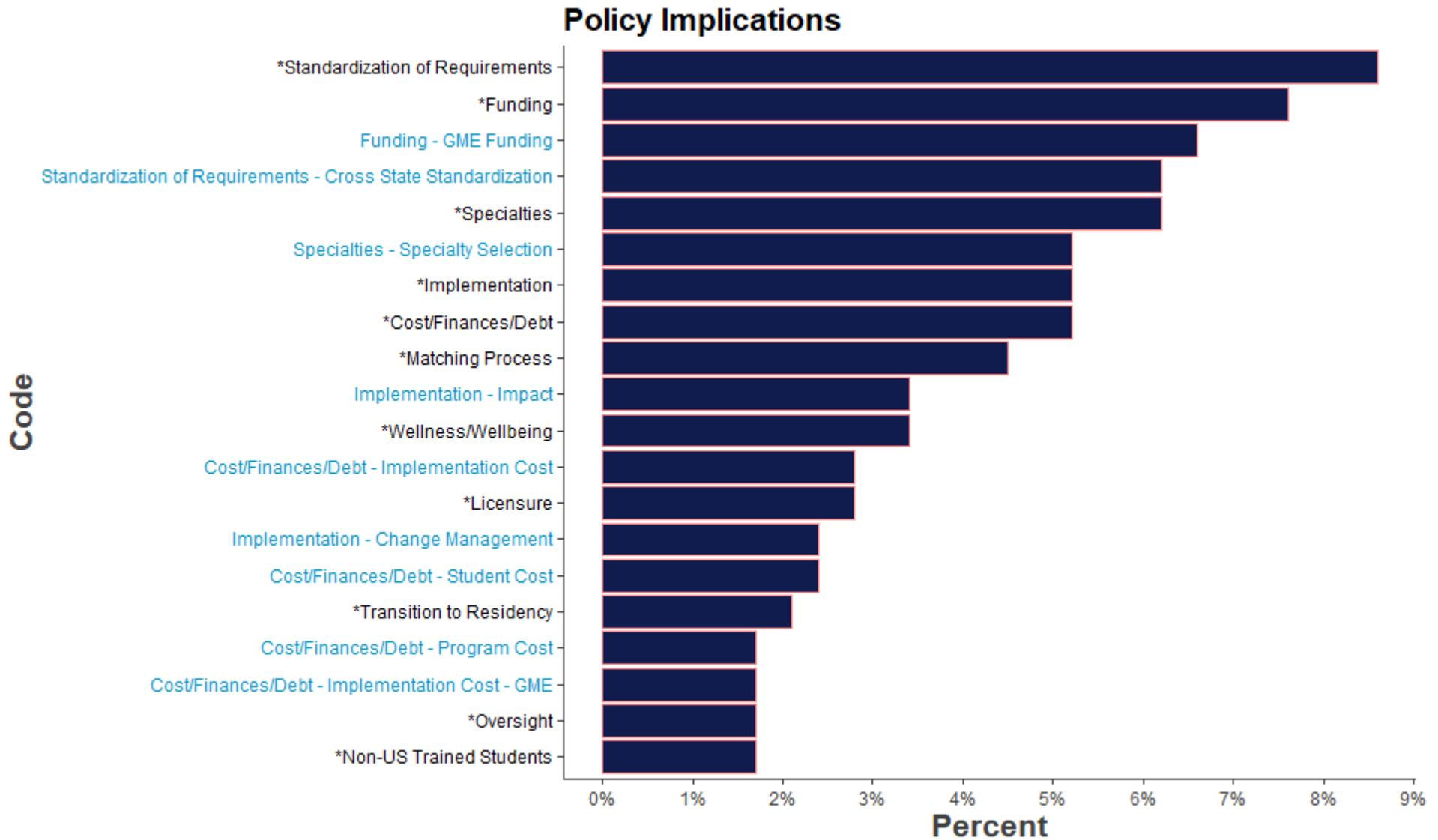
Figure 32: Bigrams for Policy Implications
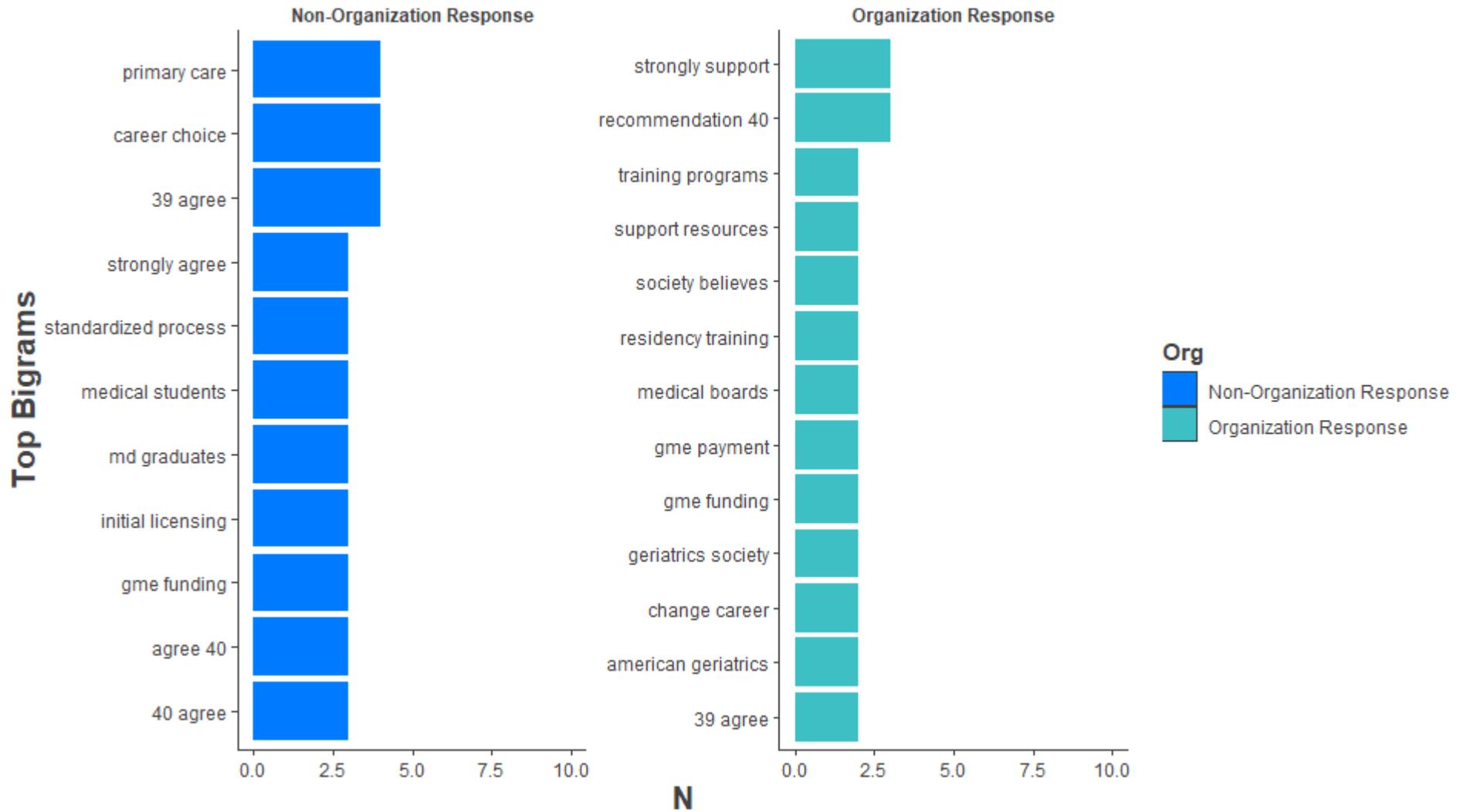
Total Comments: 95

Table 28: Sentiment for Research Questions

Sentiment	N	Percent
Agree	25	40.3%
Disagree	2	3.2%
Mixed	3	4.8%
Total Comments	62	100%

Figure 33: Sentiment for Research Questions
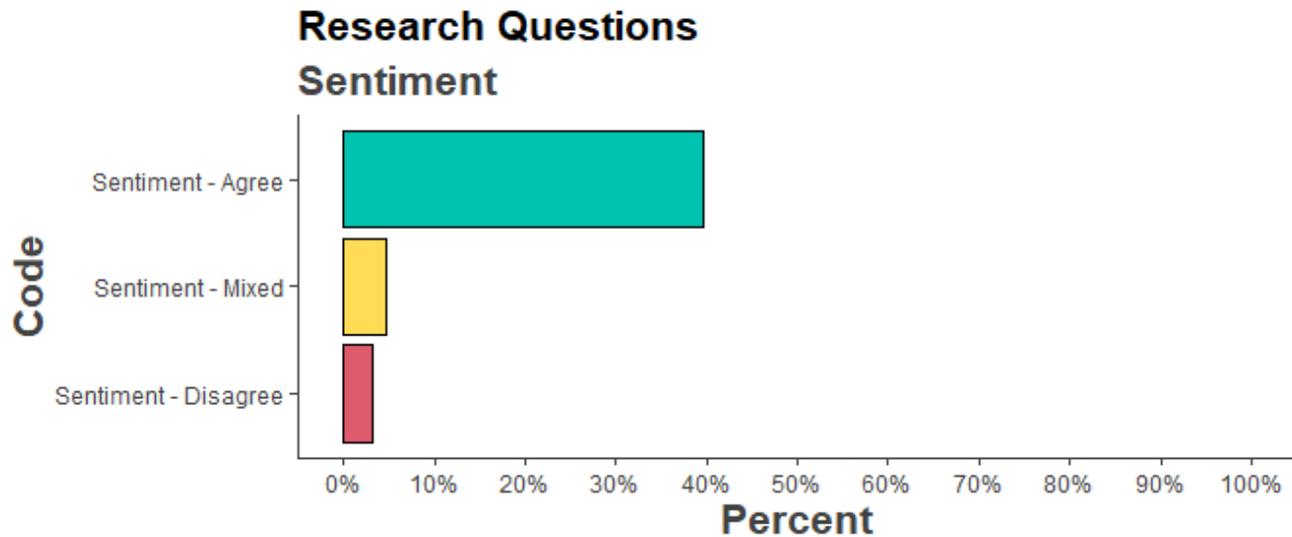
Research Questions: Selected Verbatim

Are you considering doing some hypothetical modeling to determine if you looked at student application patterns then randomly assign them to a program how that might look? A lot of time and energy is spent on this and maybe its more about programs providing quality information about their program, let students investigate that and see what programs best fit their interests and apply based on that. Let the program just randomly decide. We keep deluding ourselves into thinking this process somehow gives agency to students and programs, but in the end it is still an algorithm that makes the decision. (Role: Faculty Member of a Medical School)

Table 29: Code Application Counts for Research Questions

Code	N	Percent
*Applications	3	2.9%
*Assessment	2	1.9%
Assessment - Standardized Exams	2	1.9%
*Assessment and Performance Data	2	1.9%
Assessment and Performance Data - Grades & Grading Pass Fail	2	1.9%
*Competencies	2	1.9%
Competencies - EPAs (Entrustable Professional Activities)	2	1.9%
*Cost/Finances/Debt	5	4.8%
Cost/Finances/Debt - Implementation Cost	3	2.9%
*Data Transparency & Availability	3	2.9%
Data Transparency & Availability - Data to Support Informed Decisions	2	1.9%
Data Transparency & Availability - Database of Program Info	2	1.9%
Data Transparency & Availability - Filters	2	1.9%
*DEI	9	8.7%
DEI - Bias	3	2.9%
DEI - Fairness	2	1.9%
DEI - Inclusion	2	1.9%
*Funding	6	5.8%
*Implementation	9	8.7%
Implementation - Impact	7	6.7%
*Matching Process	4	3.8%
Matching Process - Unmatched	2	1.9%
*Non-US Trained Students	5	4.8%
Non-US Trained Students - IMG	2	1.9%
*Physician Shortage	3	2.9%
*Research	10	9.6%
*Specialties	6	5.8%
Specialties - Specialty Selection	2	1.9%
Total	104	100%

Figure 34: Code Application for Research Questions
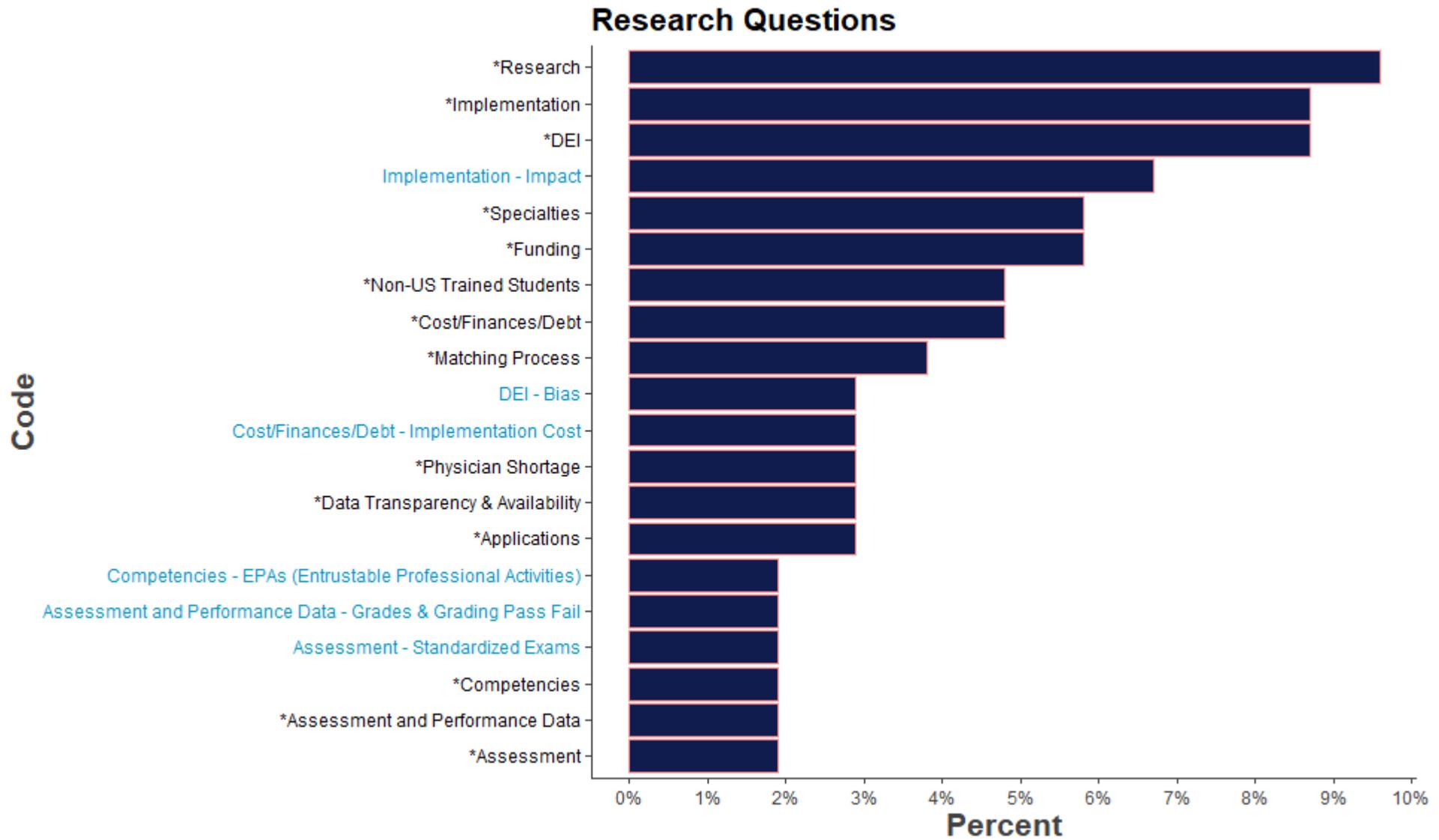
Figure 35: Bigrams for Research Questions
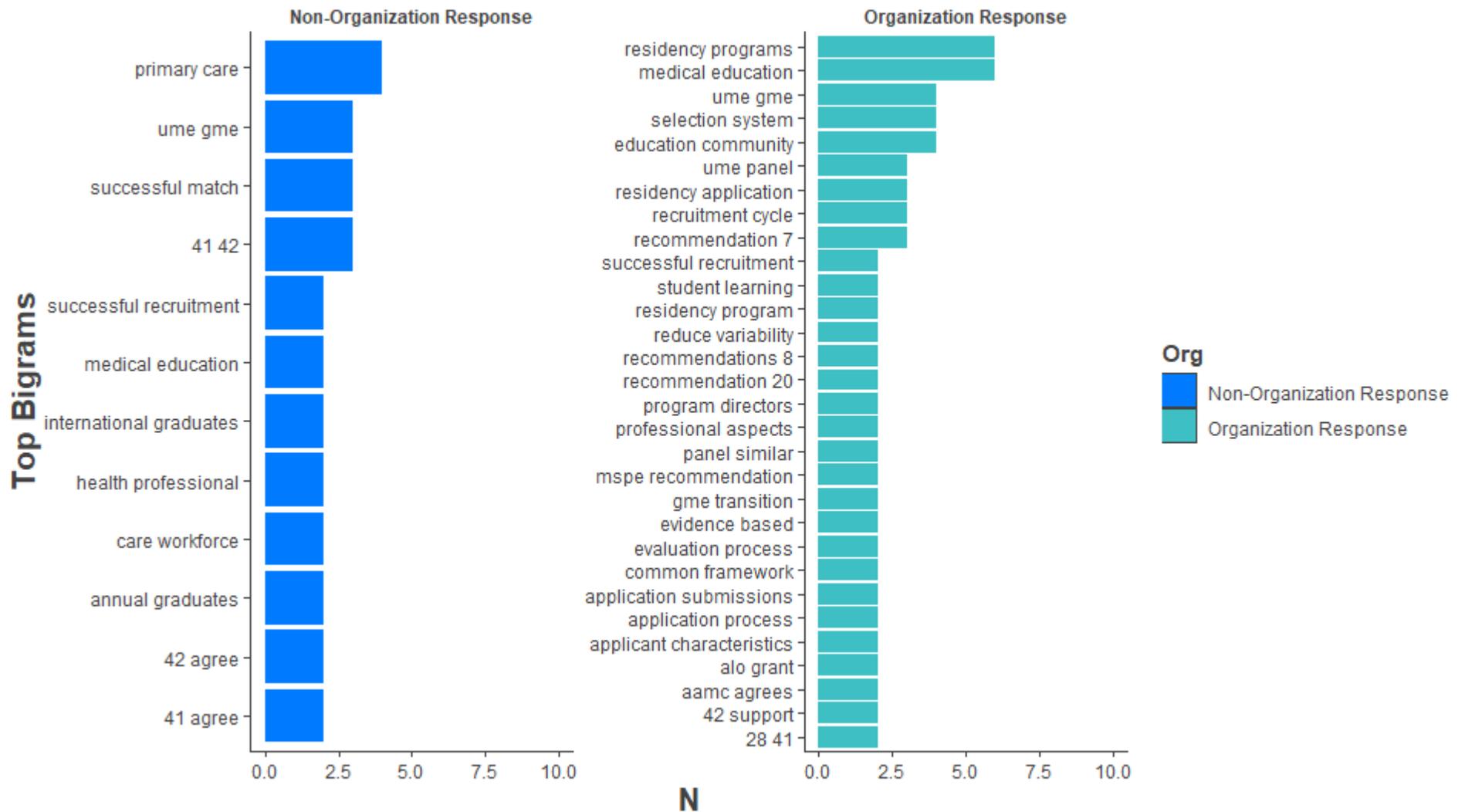
Total Comments: 62

Table 30: Sentiment for Other Comments

Sentiment	N	Percent
Agree	33	11.6%
Disagree	15	5.3%
Mixed	8	2.8%
Total Comments	284	100%

Figure 36: Sentiment for Research Questions
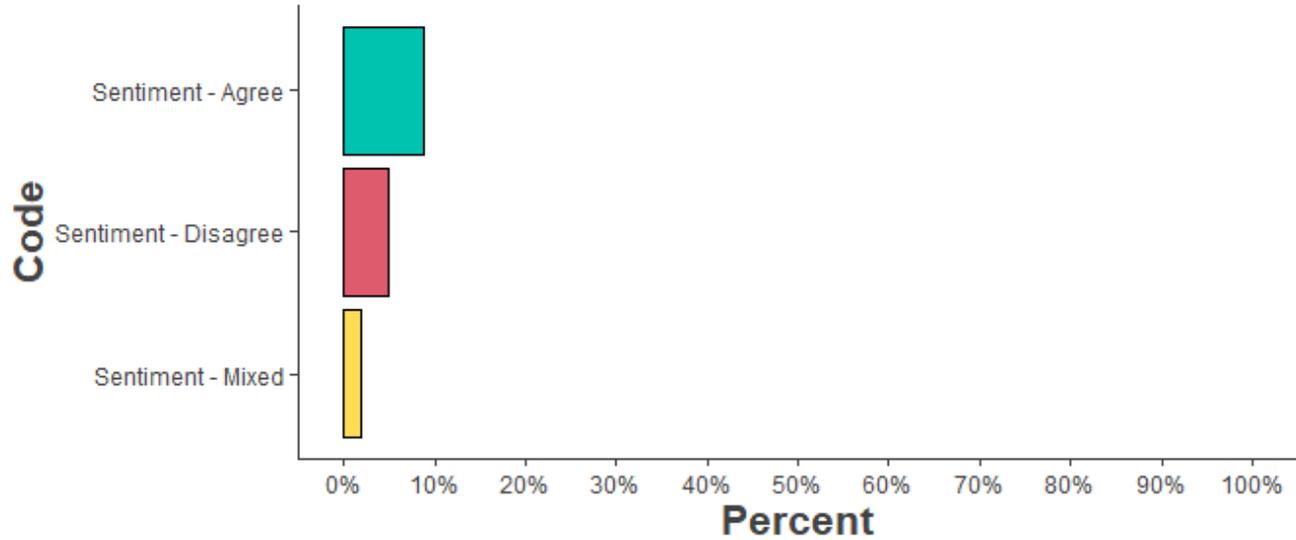
Other Comments: Selected Verbatims

1. Residencies should be made to filter by score only after philosophical/program characteristic matches are made. Scores are often used first, and they are a poor measure of ability and fit to many programs.   2. Interviews should be offered virtually. But applicants should be limited on the amount of interviews they can accept if they choose this option.   3. Non-US IMGs should not be allowed to participate in the Match. Many of my colleagues think very highly of the candidates, but they feel that it is unfair that a candidate can come from a program where all expenses were paid and they had 6+ months to prepare for their boards. Those advantages are not fair to US graduates and US IMGs, who do not have those luxuries.   I just wanted to say thank you otherwise for allowing opinions on these matters. (Role: Medical School Student)

I am very concerned about the new Pathways rule restricting many IMG's with Provisional Training Certificates with limited supervision unable to apply for the residency matching process. Seems like a rule which singles out the older IMG pool who might have tended to tasks like motherhood/fatherhood, other responsibilities including raising families or helping out parents or going through a tedious immigration process to finally settle in the US or busy nurturing their little ones after medical school, essentially coming back to their passion and given USMLE's, done rotations and now trying to apply in residency training programs. Essentially we have closed the doors to such candidates and making it very hard for them to successfully apply for training even if they have completed all prerequisites including medical schooling, wonderful USMLE scores, recent US rotations etc. I think we should rethink the pathways a little bit more. I have personally trained and met many such older IMG's who have done a phenomenal job returning back to medicine finding their true passion and working so hard to make a difference in the lives of our patients while working tirelessly at the front lines to help our communities. Please reconsider the pathway and make the process more structured but at least possible for such wonderful people who add value to medicine. Thank you.   (Role: Residency Program Director, MD)

*We appreciate the work that the Coalition did produce the recommendations […] Here we list more specific reactions: *   Many of the recommendations are so general that it is hard to imagine what the final product for any recommendation might look like. Thoughtful feedback is difficult without implementation details.   *   It is hard to overlay the framework of transactional, investigational and transformational actions with the 42 recommendations or even the 12 categories.   *   It was not always clear where the effort/redesign would be at a local level versus a national level.   *   There are many instances of asking for analytics, CQI assessments that many schools and small residency programs likely do not have the personnel/skills to accomplish.   *   There seemed to be an assumption that any observed differences in metrics between subgroups (perhaps defined by gender or race/ethnicity) are evidence of bias. That is, differences equal bias.   *   Many of the recommendations, for example those within Advising of Learners and Competencies and Assessments will require a lot of faculty time (and skills) to implement well. Any time away from clinical venues is expensive.   *   Finally, we would welcome some thought on how one changes culture. For decades, through the former Dean's letter to iterations of the MSPE, there have been attempts to increase transparency of performance data transmitted from UME to GME. We would love to hear some ideas on what is different now.   *   The collective "we" learned a lot this year (or we could with more analyses) about what happens with virtual interviewing and no/few away rotations. We should be agile in using this data while it is still fresh. Overall, it is a very good document. It is thorough and thoughtful and very encouraging that diverse stakeholders are having collaborative and productive discussions. We look forward to the next version, perhaps addressing priorities, budgets, and timelines.*   (Role: I am responding on behalf of an organization or group in an official capacity)

Table 31: Code Application Counts for Other Comments

Code	N	Percent
*Advice & Coaching	2	0.7%
*Applications	13	4.8%
Applications - Caps and Limits	8	2.9%
Applications - MSPE (Medical School Performance Evaluation)	3	1.1%
Applications - Standardization of Application Process	2	0.7%
*Assessment	5	1.8%
*Assessment and Performance Data	6	2.2%
Assessment and Performance Data - Grades & Grading Pass Fail	3	1.1%
*Cost/Finances/Debt	10	3.7%
Cost/Finances/Debt - Implementation Cost	2	0.7%
Cost/Finances/Debt - Student Cost	4	1.5%
Cost/Finances/Debt - Student Debt	4	1.5%
*COVID Impact	5	1.8%
*Data Transparency & Availability	2	0.7%
*DEI	19	7%
DEI – Diversity	3	1.1%
DEI – Inclusion	10	3.7%
*DO/Osteopathy/Osteopathic	2	0.7%
*Faculty	2	0.7%
Faculty - Faculty Development	2	0.7%
*Funding	12	4.4%
Funding - Influence of Private Equity	5	1.8%
Funding - Unfunded Mandate	3	1.1%
*Implementation	12	4.4%
Implementation - Change Management	2	0.7%
Implementation - CQI (Continuous Quality Improvement)	3	1.1%
Implementation - Impact	3	1.1%
*Interviews	21	7.7%
Interviews - Interview Caps and Limits	7	2.6%
Interviews - Virtual Interviews	13	4.8%
*Matching Process	16	5.9%
Matching Process - Slots	2	0.7%
Matching Process - SOAP (Supplemental Offer and Acceptance Program)	3	1.1%
Matching Process - Unmatched	8	2.9%
*Non-US Trained Students	5	1.8%
Non-US Trained Students - IMG	2	0.7%
*Oversight	7	2.6%
*Physician Shortage	3	1.1%
*Research	2	0.7%

Table 31: Code Application Counts for Other Comments

Code	N	Percent
*Roles	5	1.8%
Roles - Program Directors	4	1.5%
*Rotations	6	2.2%
Rotations - Away Rotations	6	2.2%
*Standardization of Requirements	5	1.8%
*Transition to Residency	4	1.5%
*Wellness/Wellbeing	7	2.6%
Total	273	100%

Figure 37: Code Application for Other Comments
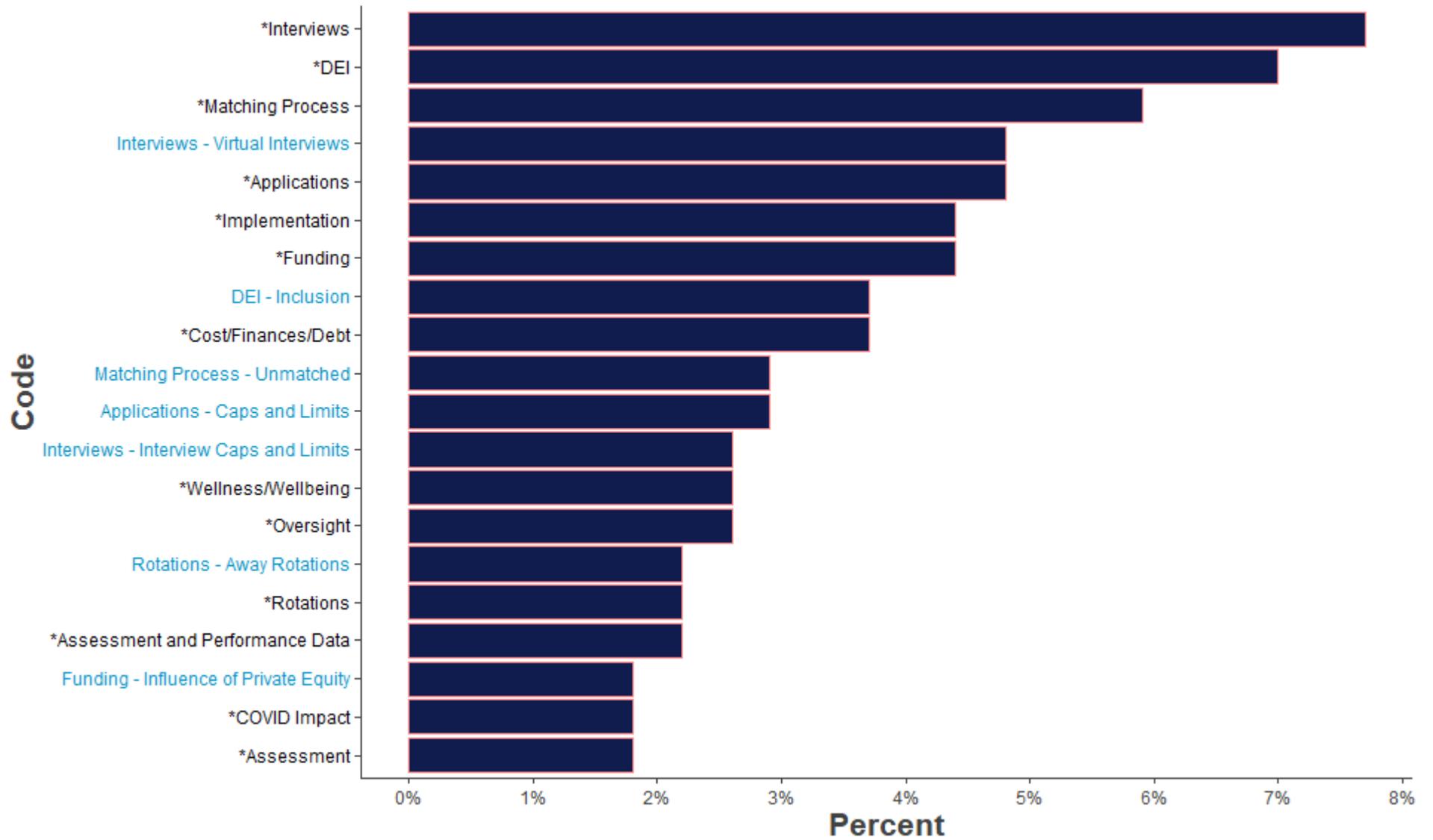
Figure 38: Bigrams for Other Comments

Total Comments: 284
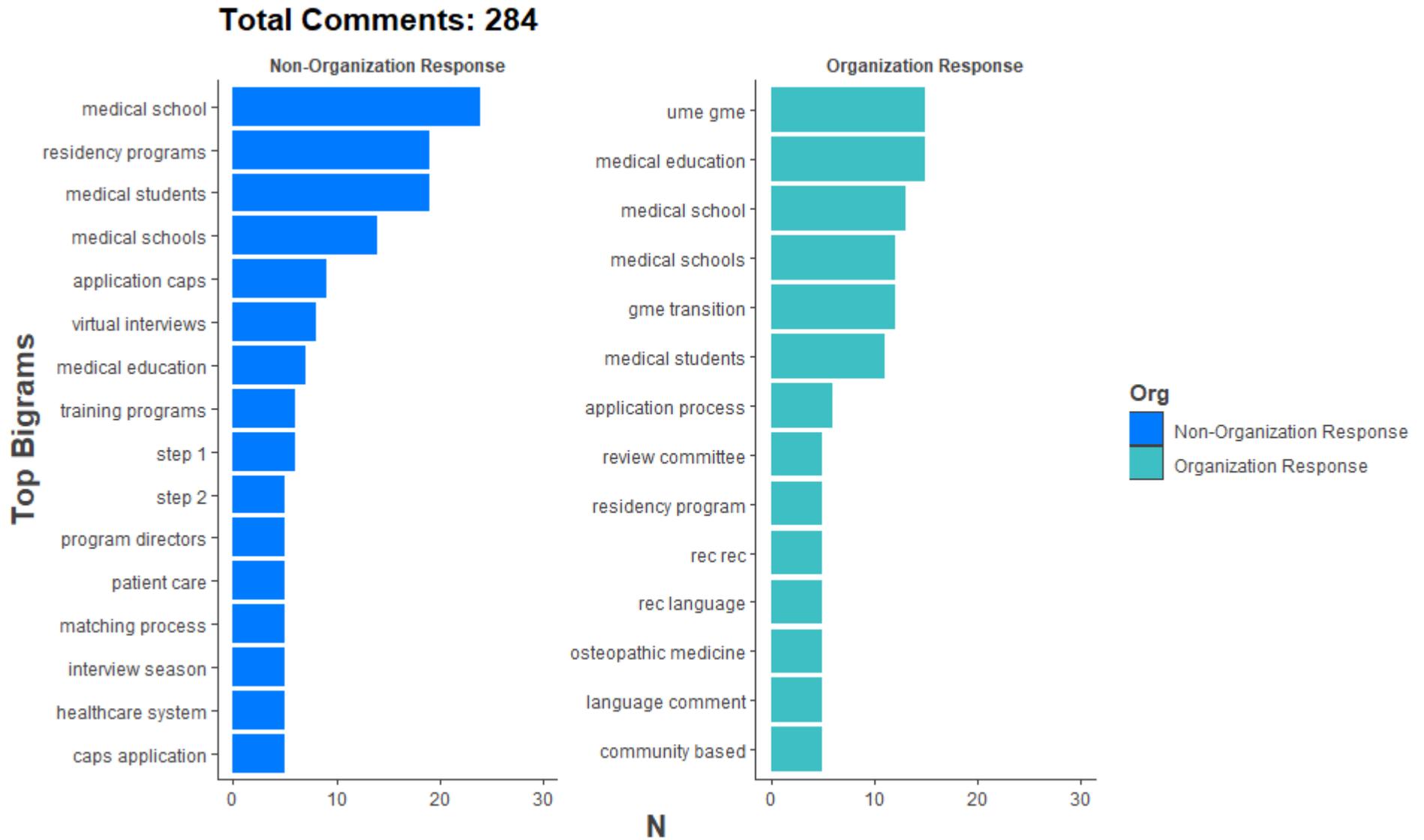
SURVEY DEMOGRAPHICS

Which of these choices best represents your reason for responding to the UGRC recommendations survey?

Which of these choices best represents your reason for responding to the UGRC recommendations survey?	N	Percent
I am responding on behalf of an organization or group in an official capacity	105	13.7%
I am responding for myself	663	86.3%
Total	768	100%

Which of the following describes your primary role?

Which of the following describes your primary role?	N	Percent
Clerkship Director	20	3%
Designated Institutional Official (DIO)	12	1.8%
Faculty Member of a Medical School	79	11.9%
General Public	6	0.9%
I serve, or have served, on a State Medical Board	8	1.2%
Intern/Resident/Fellow	27	4.1%
Medical School Assistant/Associate Dean	64	9.6%
Medical School Dean	6	0.9%
Medical School Student	204	30.7%
Non-Practicing Physician/Clinician	17	2.6%
Other	75	11.3%
Practicing Physician/Clinician	22	3.3%
Residency Program Director	125	18.8%
Total	665	100%

Which of the following describes your primary role? – Other (please specify)

Which of the following describes your primary role? - Other (please specify)
administrative staff
Assistant Residency Program Director, Emergency Medicine Subspecialty Advisor, Chair of Council of Residency Directors in EM Application Process Improvement Committee
Associate Chair of Education (Med School Faculty, UME and GME stakeholder)
Associate Fellowship Director, Director of Recruitment
Associate Program Director
Associate Program Director
Career Advising of Medical School
Career Advisor
Clerkship Director and Assistant Residency Program Director
Coordinator
Dean Emeritus; Membership NBME
Department Chair-Emergency Medicine
Director of Assessment
Director of Medical Education
EDI Leadership at institution
Educator
Fellowship APD
Fellowship Coordinator
Fellowship director, vice chair for education
Foreign medical graduate
former Dean and now Provost
Fully Qualified Medical Graduate
Institutional Director
Institutional GME Program Administrator (Accreditation Specialist)
International Medical graduate

Which of the following describes your primary role? – Other (please specify) Continued

Which of the following describes your primary role? - Other (please specify)
International medical graduate US CITIZEN
International medical postgraduate
International Medical School Graduate
Leader of national group of transition to residency course educators (and faculty member)
Medical graduate
Medical graduate
Medical School Staff
Medical school staff member - Career Counselor
Medical School Student Affairs Staff
medical student (allopathic) on leave of absence
Most of the above, was a full professor with published research involving workforce and basic health access and rural health, rural medical education leader
Non-US International Medical Graduate
Post IMG-medical graduate
Postdoctoral fellow in search of finishing residency to be able to practice postdoc.
Practicing foreign medical graduate
Program Administrator
Program Administrator
Program Coordinator
Program coordinator
Program Manager
Recently retired Associate Dean
Recently retired physician engaged primarily in med ed
Residency & fellowship program administrator/coordinator
Residency associate program director
Residency Associate Program Director
Residency Associate Program Director

Which of the following describes your primary role? – Other (please specify) Continued

Which of the following describes your primary role? - Other (please specify)
Residency Coordinator
Residency Coordinator
Residency Coordinator
Residency faculty and clinic lead
Residency Program Administrator
Residency Program Coordinator
Residency Program Coordinator
Residency Program Manager
residency/fellowship coordinator
retired former dean
Retired physician medical educator
School of GME senior associate dean
staff member of a medical school
State Medical Society Executive
unmatched
Unmatched doctor
Unmatched MD
US Citizen International Medical Graduate (IMG).
US IMG
Vice Chair for Academic Affairs
vice chair for education
Vice Chair of Education
Vice Chair of Education and Assistant Dean of GME
Vice Provost for Academic Programs (background in UME)

In which type of medical school are you currently enrolled?

In which type of medical school are you currently enrolled?	N	Percent
Allopathic	170	83.7%
Osteopathic	33	16.3%
Total	203	100%

Are you currently a practicing physician/clinician?

Are you currently a practicing physician/clinician?	N	Percent
Yes	329	78.5%
No	90	21.5%
Total	419	100%

Which of the following medical degrees do you have?

Which of the following medical degrees do you have?	N	Percent
None of the above	52	11.5%
MD	326	71.8%
DO	50	11%
MBBS	26	5.7%
Total	454	100%

What is the location of the medical school from which you graduated?

What is the location of the medical school from which you graduated?	N	Percent
United States or Canada	337	83.8%
Other	65	16.2%
Total	402	100%

Other Medical School Locations

What is the location of the medical school from which you graduated? - Other (please specify)
Ateneo de Zamboanga School of Medicine, Philippines
Barbados
Caribbean island
Carribean
cuba
Cuba
Dominican Republic
Dominican Republic
Egypt
Egypt
Fatima jinnah medical University, Pakistan
Ghana
Grenada
Grenada
Grenada
Guatemala
Haiti
India
India
India
India
India
India
India
India
INDIA

Other Medical School Locations Continued

What is the location of the medical school from which you graduated? - Other (please specify)
International
Iran
Iran
Iraq / Baghdad
Iraq / Baghdad
Iraq / Baghdad
Kampala , UGANDA
Kazakhstan
Kharkov Medical University, Ukraine
Lahore, pakistan
Mexico
Nepal
Nepal
Nepal
Nepal
Nepal
New York
nigeria
Other
Pakistan
Pakistan
Pakistan
Pakistan
Pakistan, Karachi, DOW Medical College
Philippines

Other Medical School Locations Continued

What is the location of the medical school from which you graduated? - Other (please specify)

Philippines
S
Saudi
South America
Sudan
SUDAN
The Netherlands
Turkey
UAG, Guadalajara, Mexico
UK
University of Glasgow, Scotland
University of Science Arts & Technology School of Medicine
USAT
Xavier University School of Medicine

In what year did you complete your residency?

In what year did you complete your residency?	N	Percent
1960 - 1969	2	0.6%
1970 - 1979	13	3.8%
1980 - 1989	57	16.5%
1990 - 1999	67	19.4%
2000 - 2009	121	35%
2010 - 2019	85	24.6%
2020 - 2021	1	0.3%
Total	346	100%

What is your core medical specialty?

What is your core medical specialty?	N	Percent
Allergy and Immunology	1	0.3%
Anesthesiology	14	3.7%
Dermatology	4	1%
Emergency Medicine	55	14.4%
Family Medicine	55	14.4%
Internal Medicine	74	19.3%
Neurological Surgery	2	0.5%
Neurology	10	2.6%
Obstetrics and Gynecology	14	3.7%
Ophthalmology	3	0.8%
Orthopaedic Surgery	4	1%
Osteopathic Neuromusculoskeletal Medicine	11	2.9%
Other	14	3.7%
Otolaryngology - Head and Neck Surgery	10	2.6%
Pathology	8	2.1%
Pediatrics	51	13.3%
Physical Medicine and Rehabilitation	3	0.8%
Plastic Surgery	2	0.5%
Preventive Medicine	1	0.3%
Psychiatry	24	6.3%
Radiology	6	1.6%
Surgery	14	3.7%
Thoracic Surgery	1	0.3%
Transitional Year	2	0.5%
Total	383	100%

Other Core Specialties

What is your core medical specialty? - Other (please specify)
after I finish medical school , I start residency in internal medicine but could not finish because I escaped from Baghdad situation
Clinical Research
Critical care
Gastroenterology/Internal Medicine
General practitioner
I was unable to obtain residency or sit for my Board exams dues to ECFMG delaying my application as well as 50% of medical schools that they unaccredited in 2019. They still would not approve me to take my exam even though I graduated prior to the unaccreditation
Internal medicine-pediatrics
Laboratory Medicine (Clinical Pathology)
med/peds
Med/Peds
NA
osteopathic neuromusculoskeletal medicine
Unmatched
Unmatched

What is the location of the institution where your primary role is…

What is the location of the institution where your primary role is...	N	Percent
United States or Canada	618	94.1%
Other	39	5.9%
Total	657	100%

What is the location of the institution where your primary role is… Other Locations

What is the location of the institution where your primary role is... - Other (please specify)
(I have not been granted a residency position)
AIIMS Mangalagiri
Ain shams university
Bahrain
BANGALORE,INDIA
Caribbean
carribean
Curacao
Dominica
Dominican Republic
Ghana
India
India
INDIA
Iraq / Baghdad
Iraq / Baghdad
Iraq / Baghdad
Kasturba Medical College Manipal India
Kazakhstan
Lahore, pakistan
NA
Nepal
Nepal
Nepal
Nepal
Nepal

What is the location of the institution where your primary role is… Other Locations Continued

What is the location of the institution where your primary role is... - Other (please specify)
nigeria
Nigeria
Omdurman Islamic University
Pakistan
Pakistan
Pakistan
Pakistan, Karachi
Philippines
Qatar
San Pedro Dominican Republic
Saudi
serbia
Southampton, UK

Do you directly supervise residents?

Do you directly supervise residents?	N	Percent
Yes	299	70%
No	128	30%
Total	427	100%

What is your gender identity?

What is your gender identity?	N	Percent
Woman	309	46.7%
Man	316	47.8%
Genderqueer or non-binary	4	0.6%
Gender fluid	0	--
Agender	0	--
Prefer not to answer	31	4.7%
Prefer to self describe	1	0.2%
Total	661	100%

Other Gender Identities

What is your gender identity? - Prefer to self describe
Dude.

What is your race or ethnic identity? Select all that apply.

What is your race or ethnic identity? Select all that apply. -	N	Percent
White or Caucasian	428	55.7%
Asian	98	12.8%
Prefer not to answer	65	8.5%
Black or African American	42	5.5%
Hispanic, Latina/o/x, or of Spanish Origin	38	4.9%
Other race/ethnicity not already specified	11	1.4%
American Indian or Alaska Native	8	1.0%
Native Hawaiian or Other Pacific Islander	1	0.1%
Total Respondents	768	100%

Other Race/Ethnic Identities

What is your race or ethnic identity? Select all that apply. - Other race/ethnicity not already specified
Arab American
Coptic middle eastern
Cracker
East Indian
Egyptian
human race
I don't believe in this category. I am White or Caucasian but underrepresented minority.
Middle Eastern
Middle Eastern
Pakistani
West African

Code
*Advice/Coaching
Alternative Careers
Career Advising
Coaching
Specialty-specific Advising
Staff training to support students
*Applications
Application Caps and Limits
Application Process
Application Redundancy
Biasing applications
LOR (Letters of Recommendation)
MSPE (Medical School Performance Evaluation)
Objective Metrics to Gauge Applicants
Personal Statements
School Enrollment Targets
SEL (Structured Evaluative Letters)
Standardization of Application Process
*Assessment
Accurate assessments
Standardized Exams
Inequality in Scaling
Licensing exam quality differences
Single Licensing Exam
Turnaround Time for USMLE Scores

Code
*Assessment and Performance Data
Grades/Grading/Pass Fail
Holistic review
ILPs (Individualized Learning Plans)
*Communication
*Competencies
EPAs (Entrustable Professional Activities)
Milestones
*Cost/Finances/Debt
Implementation Cost
GME Cost
UME Cost
Program Cost
Student Cost
Student Debt
*COVID Impact
*Data Transparency & Availability
Dashboard or Portfolio
Data to Support Informed Decisions
Database of Program Info
Filters
*DEI
Balance when it comes to DEI
Bias
Racial Bias
Diversity
Diversity Monitoring of Programs
Diversity Quotas

Code
Policy Implications
Elimination of Honors
Equity
Fairness
First-gen med student support
Inclusion
Community outreach program(s)
Reputation
School resource availability
SES
Small program(s)
URM
Black Medical Students
Non-URMs being put at disadvantage
*DO/Osteopathy/Osteophathic
*Faculty
Faculty Development
*Funding
GME Funding
Influence of Private Equity
Unfunded mandate
*Implementation
Change management
Cohesive Policy
CQI (Continuous Quality Improvement)
Impact
*Interviews
Interview Caps and Limits

Code
Interview Selection Criteria
Tickets
Virtual Interviews
*Licensure
*Matching process
Couples
Early Decision/Matches
Matched
Second looks
Slots
SOAP (Supplemental Offer and Acceptance Program)
Unmatched
*Medical School Presitige
*Mid-Level Practicioners
*Non-US Trained Students
IMG
US IMG
*Oversight
Cohesive Oversight Committee
*Physician Shortage
*Public health
*Research
*Roles
DIO (Designated Institutional Officer)
Other Roles
Program Directors
*Rotations
Audition Rotations

Code
Away Rotations
*Specialties
Competitive Specialties
Specialty Selection
*Standardization of Requirements
Cross Specialty Standardization
Cross State Standardization
*Training
*Transition to Residency
Bootcamp
Learner handover
Orientation
Timing
*Wellness/Wellbeing
Life Changes

* Denotes Parent Code

Tag
Combine Potential
Concerning Comment
Interesting Comment
Organizations
Personal Anecdote
Priority/prioritize
Skepticism
Source Cited
Suggestion
Unintended Consequences

Coalition for Physician Accountability

Dear Stakeholder,

Thank you for your interest in participating in the public comment period for the preliminary recommendations of the Coalition for Physician Accountability's Undergraduate Medical Education to Graduate Medical Education Review Committee (UGRC).

Please review the Initial Summary Report and Preliminary Recommendations of the UGRC before you begin the survey. We recommend keeping the report open throughout the duration of the survey to provide you with additional background information and context. A glossary of terms used in the survey is available for your consideration here.

The deadline to submit your feedback to the UGRC's preliminary recommendations is **May 26, 11:59PM EDT**. If you have questions or need assistance, please email CoalitionUGRC@gmail.com.

* Which of these choices best represents your reason for responding to the UGRC recommendations survey?

- o I am responding on behalf of an organization or group in an official capacity
- o I am responding for myself

*Please indicate the name of the organization or group for which you are responding. [TEXT BOX]

The first section of the survey will gather background information to help us understand the perspective you provide in your response to the UGRC Preliminary Recommendations.

* Which of the following describes your primary role?
- o Medical School Student
- o Intern/Resident/Fellow
- o Faculty Member of a Medical School
- o Clerkship Director
- o Residency Program Director
- o I serve, or have served, on a State Medical Board
- o Designated Institutional Official (DIO)
- o Medical School Dean
- o Medical School Assistant/Associate Dean
- o Practicing Physician/Clinician

- Non-Practicing Physician/Clinician
- General Public
- Other (please specify) [TEXT BOX]

In which type of medical school are you currently enrolled?
- Allopathic
- Osteopathic

*Are you currently a practicing physician/clinician?
- Yes
- No

Which of the following medical degrees do you have?
- MD
- DO
- MBBS
- None of the above

* What is the location of the medical school from which you graduated?
- United States or Canada
- Other (please specify) [TEXT BOX]

In what year did you complete your residency?
[TEXT BOX]

What is your core medical specialty?
[TEXT BOX]

* What is the location of the institution where your primary role is: {Role Response}?
- United States or Canada
- Other (please specify) [TEXT BOX]

* Do you directly supervise residents?
- Yes
- No

What is your gender identity?
- Woman
- Man
- Genderqueer or non-binary
- Gender fluid
- Agender
- Prefer not to answer
- Prefer to self describe [TEXT BOX]

What is your race or ethnic identity? Select all that apply.
- ☐ American Indian or Alaska Native
- ☐ Asian
- ☐ Black or African American

- ☐ Hispanic, Latina/o/x, or of Spanish Origin
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ White or Caucasian
- ☐ Other race/ethnicity not already specified [TEXT BOX]
- ☐ Prefer not to answer

In the next section of the survey you will able to review the UGRC Preliminary Recommendations and provide commentary to specific recommendations.

For your reference, you can find the Initial Summary Report and Preliminary Recommendations <u>here</u>. A glossary of terms used in the survey is available for your consideration <u>here</u>.

* Please indicate which recommendation theme(s) you wish to comment on?
- ☐ Oversight: #1
- ☐ Advising of Learners: #2 - #6
- ☐ Competencies and Assessments: #7 - #14
- ☐ Away Rotations: #15
- ☐ Diversity, Equity and Inclusion (DEI) in Medicine: #16 - #19
- ☐ Application Process: #20 - #24
- ☐ Interviewing: #25 - #27
- ☐ Matching Process: #28
- ☐ Faculty Support Resources: #29 - #30
- ☐ Post-Match Transition to Residency: #31 - #38
- ☐ Policy Implications: #39 - #40
- ☐ Research Questions: #41 - #42
- ☐ I do not wish to comment on any of the recommendations

Oversight
1. Convene a national ongoing committee to manage continuous quality improvement of the entire process of the UME-GME transition, including an evaluation of the intended and unintended impact of implemented recommendations.

Please use the space below to comment on the recommendation relating to **Oversight**.

Advising of Learners
2. Educators should develop a best-practice curriculum for UME career advising, including guidelines for equitable curriculum delivery and outcomes.
3. A single, comprehensive electronic professional development career planning

resource for students will provide universally accessible, reliable, up-to-date, and trustworthy information and guidance.
4. Advising about alternative career pathways should be available for those individuals who choose not to pursue clinical careers. National career awareness databases such as Careers in Medicine should include information on these alternative pathways.
5. Evidence-informed, general career advising resources should be available for all medical school faculty and staff career advisors, both domestic and international. General career advising should focus on students' professionalization; inclusive practices such as valuing diversity, equity, and belonging; clinical and alternate career pathways; and meeting the needs of the public.
6. To support evidence-informed, student focused, specialty-specific advising for all medical students, advising resources should be available for and used by advisors, both domestic and international.

Use the space below to comment on the recommendations relating to **Advising of Learners.**

Please reference the specific recommendation(s) in your comment ,e.g.,

2: Your comment...
3: Your comment...

Competencies and Assessments
7. UME and GME educators, along with representatives of the full educational continuum, should jointly define and implement a common framework and set of outcomes (competencies) to apply to learners across the continuum from UME to GME.
8. The UME community, working in conjunction with partners across the continuum, must commit to using robust assessment tools and strategies, improving upon existing tools, developing new tools where needed, and gathering and reviewing additional evidence of validity.
9. Using the shared mental model of competency and assessment tools and strategies, create and implement faculty development materials for incorporating competency-based expectations into teaching and assessment.
10. A convened group including UME and GME educators should reconsider the content and structure of the MSPE as new information becomes available in order to improve access to longitudinal assessment data about applicants. Short term improvements should include structured data entry fields with functionality to enable searching.
11. Meaningful assessment data based on performance after the MSPE must be collected and collated for each graduate, reflected on by the learner with an educator or coach, and utilized in the development of a specialty-specific individualized learning plan to be presented to the residency program for continued utilization during training. Guided self-assessment by the learner is an important component in this process and

may be all that is available for some international medical graduates.
12. Targeted coaching by qualified educators should begin in UME and continue during GME, focused on professional identity formation and moving from a performance to a growth mindset for effective lifelong learning as a physician. Educators should be astute to the needs of the learner and be equipped to provide assistance to all backgrounds.
13. Structured Evaluative Letters (SELs) should replace all Letters of Recommendation (LOR) as a universal tool in the residency program application process.
14. Convene a workgroup of educators across the continuum to begin planning for a dashboard/portfolio to collect assessment data in a standard format for use during medical school and in the residency application process. This will enable consistent and equitable information presentation during the residency application process and in a learner handover.

Use the space below to comment on the recommendations relating to **Competencies and Assessments.**

Please reference the specific recommendation(s) in your comment ,e.g.,

7: Your comment...

8: Your comment...

Away Rotations
15. Convene a workgroup to explore the multiple functions and value of away rotations for applicants, medical schools, and residency programs. Specifically, consider the goals and utility of the experience, the impact of these rotations, and issues of equity including accessibility, assessment, and opportunity for students from groups underrepresented in medicine and financially disadvantaged students.

Please use the space below to comment on the recommendation relating to **Away Rotations.**

Diversity, Equity and Inclusion (DEI) in Medicine
16. To raise awareness and facilitate adjustments that will promote equity and accountability, demographic information of applicants (race, ethnicity, gender

identity/expression, sexual identity/orientation, visa status, or ability) should be measured and reported to key stakeholders, including programs and medical schools, in real time throughout the UME-GME transition.

17. Specialty-specific best practices for recruitment to increase diversity across the educational continuum should be developed and disseminated to program directors, residency programs, and institutions.

18. In order to eliminate systemic biases in grading, medical schools must perform initial and annual exploratory reviews of clinical clerkship grading, including patterns of grade distribution based on race, ethnicity, gender identity/expression, sexual identity/orientation, visa status, ability, and location (e.g., satellite or clinical site location), and perform regular faculty development to mitigate bias. Programs across the UME-GME continuum should explore the impact of bias on student and resident evaluations, match results, attrition, and selection to honor societies, such as Alpha Omega Alpha and the Gold Humanism Honor Society.

19. A committee must be formed to explore the growing number of unmatched physicians in the context of a national physician shortage, including root causes, and disparities in unmatched students based on specialty, demographic factors, and grading systems. The committee should report on data trends, implications, and recommended interventions.

Use the space below to comment on the recommendations relating to

Diversity, Equity, and Inclusion (DEI) in Medicine.

Please reference the specific recommendation(s) in your comment ,e.g.,

16: Your comment...

17: Your comment...

Application Process
20. A comprehensive database with verifiable residency program information should be available to all applicants, medical schools, and residency programs and at no cost to the applicants.
21. Create a widely accessible, authoritative, reliable, and searchable dataset of characteristics of individuals who applied, interviewed, were ranked, and matched for each GME program/track to be used at no cost by applicants, and by their advisors. Sort data according to medical degree, demographics, geography, and other characteristics of interest.
22. To optimize utility, discrete fields should be available in the existing electronic application system for both narrative and ordinal information currently presented in the MSPE, personal statement, transcript, and letters. Fully using technology will reduce redundancy, improve comprehensibility, and highlight the unique characteristics of each applicant.

23. Filter options available to programs for sorting applicants within the application system should be carefully created and thoughtfully reviewed to ensure each one detects meaningful differences among applicants and promotes review based on mission alignment and likelihood of success at a program.
24. To promote equitable treatment of applicants regardless of licensure examination requirements, comparable exams with different scales (COMLEX-USA and USMLE) should be reported within the ERAS filtering system in a single field.

Use the space below to comment on the recommendations relating to **Application Process.**

Please reference the specific recommendation(s) in your comment ,e.g.,

20: Your comment...
21: Your comment...

Interviewing
25. Develop and implement standards for the interview offer and acceptance process, including timing and methods of communication, for both the learners and programs to improve equity and fairness, to minimize educational disruption, and improve wellbeing.
26. Interviewing should be virtual for the 2021-2022 residency recruitment season. To ensure equity and fairness, there should be ongoing study of the impact and benefits of virtual interviewing as a permanent means of interviewing for residency.
27. Implement a centralized process to facilitate evidence-based, specialty-specific limits on the number of interviews each applicant may attend.

Use the space below to comment on the recommendations relating to **Interviewing.**

Please reference the specific recommendation(s) in your comment ,e.g.,

25: Your comment...
26: Your comment...

Matching Process

28. To promote holistic review and efficiency, utilize the best available modeling and data to redesign the mechanics of the residency application process. The redesigned process – such as an optional early decision application cycle and binding match – must reduce application numbers while concentrating applicants at programs where mutual interest is high.

Please use the space below to comment on the recommendation relating to **Matching Process.**

Faculty Support Resources

29. Develop a portfolio of evidence-based resident support resources for program directors (PDs), designated institutional officials (DIOs), and residency programs. These will be identified as best practices, and accessible through a centralized repository.

30. Educators across the continuum must receive faculty development regarding anti-racism; avoiding bias; and improving equity in student and resident recruitment, mentorship and advising, teaching, and assessment.

Use the space below to comment on the recommendations relating to **Faculty Support Resources.**

Please reference the specific recommendation(s) in

your comment ,e.g., **29: Your comment...**
30: Your comment...

Post-Match Transition to Residency

31. Anticipating the challenges of the UME-GME transition, schools and programs should ensure that time is protected, and systems are in place, to ensure that individualized wellness resources – including health care, psychosocial supports, and communities of belonging – are available for each learner.

32. Using principles of inclusive excellence, program directors, programs, and institutions must incorporate activities in diversity, equity, and inclusion for faculty, residents, and staff beginning in orientation and ongoing, in order to promote belonging, eliminate bias, and provide social support.

33. Specialty-specific, just-in-time training must be provided to all incoming first-year residents, to support the transition from the role of student to a physician ready to assume increased responsibility for patient care.

34. Residents must be provided with robust orientation and ramp up into their specific program at the start of internship. In addition to clinical skills and system utilization, content should include introduction to the patient population, known health disparities, community service and engagement, faculty, peers, and institutional culture.
35. A specialty-specific, formative, competency-based assessment that informs the learner's individualized learning plan (ILP) must be performed for all learners as a baseline at the start of internship.
36. Early and ongoing specialty-specific resident assessment data should be automatically fed back to medical schools through a standardized process to enhance accountability and continuous improvement of UME programs and learner handovers.
37. Adequate and appropriate time must be assured between graduation and learner start of residency to facilitate this major life transition.
38. All learners need equitable access to adequate funding and resources for the transition to residency prior to internship launch.

Use the space below to comment on the recommendations relating to **Post-Match Transition to Residency.**

Please reference the specific recommendation(s) in your comment ,e.g.,

31: Your comment...
32: Your comment...

Policy Implications
39. There should be a standardized process throughout the United States for initial licensing at entrance to residency in order to streamline the process of credentialing for both residency training and continuing practice.
40. Recommend to the U.S. Centers for Medicare and Medicaid Services (CMS) that they change the current GME funding structure so that the Initial Residency Period (IRP) is calculated starting with the second year of postgraduate training. This will allow career choice reconsideration, leading to resident wellbeing and positive effects on the physician workforce.

Use the space below to comment on the recommendations relating to **Policy Implications.**

Please reference the specific recommendation(s) in your comment ,e.g.,

39: Your comment...
40: Your comment...

Research Questions
41. To guide future improvements in resident selection and transition, conduct research to understand which residency applicant characteristics, residency curriculum experiences, and learning environment factors are most likely to translate into physicians who fulfill the specialty specific physician workforce needs of the public (e.g., primary care, demographics, geographic distribution).
42. Build consensus around the components of a successful recruitment cycle, utilizing input from all stakeholders. Identify which characteristics of applicants and programs predict a successful recruitment cycle outcome.

Use the space below to comment on the recommendations relating to **Research Questions.**

Please reference the specific recommendation(s) in your comment ,e.g.,

41: Your comment...
42: Your comment...

Please share any other comments you have about the UGRC Preliminary Recommendations.

Thank you for your participation in this survey!

If you have any questions, please email CoalitionUGRC@gmail.com.

Coalition for Physician Accountability

The Coalition for Physician Accountability's Undergraduate Medical Education-Graduate Medical Education Review Committee (UGRC):

Recommendations for Comprehensive Improvement of the UME-GME Transition