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Analyzing Wellness in UMMS Students

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ABSTRACT

Background: Burnout in medical school students is an ongoing, growing issue that can be exacerbated in the clinical years, however, there have been challenges addressing individual student needs due to the variance of wellness practices and academic constraints.

Objective: To provide longitudinal support to third year medical students (MS3s) while identifying sources of stress.

Methods: Beginning in May 2020, MS3s were given four opportunities to participate in large group discussions with fourth year medical students (MS4s) to speak openly about current stressors and concerns. In concert, surveys were sent to MS3s to identify primary causes of stress and concern to guide discussions.

Results: The August survey had a 97% response rate (165/170 responses) and the December survey had a 56% response rate (96/170 responses). Five main themes were identified as sources of stress: *COVID-19, Step 1, No Voice/Feeling Unwanted, Lack of Communication, and Lack of Preparedness/Knowledge*. A 6th non-stress related theme, *Normalization*, was noted in interactions among MS3s and facilitators. These themes continued to be prevalent in responses. In December, students ranked COVID-19 and clerkship grades highest and Step 1 being ranked lower.

Conclusions: Check-ins throughout the year allowed MS3s to express their concerns, and have them validated by peers. Continuing supportive sessions and providing spaces for near-peer interactions can help decrease feelings of burnout and isolation among MS3s. Additionally providing medical students with opportunities to engage with self-identified interventions to support wellness while addressing systemic causes of burnout will be beneficial.

INTRODUCTION

Burnout is described as a state of emotional exhaustion, depersonalization, and reduced personal accomplishment. Throughout medical schools in the United States, there has been a rise in student burnout as early as the first two years of medical school¹. A 2012 national survey of medical students estimated 37%-44% with burnout, 58% screen positive for depression, and 9.4% with suicidal ideation in the past 12 months³. Burnt out medical students are more fatigued and emotionally drained, which can lead to risky behavior including increased substance use and affect patient outcomes. Medical students who suffer burnout in their clinical years show decreased empathy and compassion which can manifest in unprofessional treatment of patients. One study measuring signs of burnout with the Maslach Burnout Inventory, depicted MS3s with higher levels of emotional exhaustion and depersonalization – over 2 points higher – than MS1s³. Depersonalization was shown to increase early in the medical education process with minimal regression after its development². In addition, feelings of burnout in medical students increases their risk of medical school dropout and suicidal ideation².

Few studies have investigated student perspectives on their own and other students' wellness and contributors to burnout. Students have identified excessive workload, difficulties with studying and time management, struggles with work-life balance, peer relations, assessment-related performance pressure, health concerns and lack of access, and financial stressors⁸. Lack of guidance in career planning and mental health have also been large causes of stress for medical students⁸. During the clinical years, stressors for rotating students included poor team dynamics and difficult clinical events that could not be addressed⁴. Lack of guidance in discussing such events with the team appears to have a lasting impact on students' wellbeing⁸. It has been noted that in times of stress, students change their health habits. One study showed an increase in alcohol consumption and a decrease in health habits such as exercise and socialization during periods of stress (ie final exam periods). Students who had decreased positive health habits were at increased risk of depression during periods of stress¹⁰. Students have also commented on feelings of suffering due to the medical education system which students described as isolation, stoicism, loss of identity and roles, powerlessness and witnessing suffering in patients¹².

There have been many studies looking into ways to reduce burnout and promote resilience in medical students. Interventions such as mindfulness, cognitive flexibility and a return to the humanities (ie. art and writing) have had some success in fostering resilience in students that can hopefully be long term^{5,6,7}. However, implementing these interventions into an already compacted curriculum can be difficult and cause further pressure on students. In addition, specific interventions may not address previously described stressors for students – including a sense of lack of guidance. Solitary interventions may not provide the best forms of burnout resolution given the number of stressors in medical students¹¹. It is also important to note that medical students vary in terms of their needs. One study evaluating levels of resilience found that third- and fourth-year medical students' mean resilience was lower than the general population⁸. Some students may have higher levels of resilience than others or have stronger support systems for example. With all these studies tracing negative emotions for medical students, there is a need to follow wellness practices throughout the four years of medical school.

Wellness has had many different definitions over the years with various practices - physical, mental, spiritual - conducted in order to boost the sense of what makes one well. Over

the course of this project, we have found a need to refocus the definition on an individual basis as not everyone will benefit from a solely one form of wellness. Thus our working definition is:

“Wellness is an active, individual, and longitudinal practice of achieving a holistic picture of health outside of the absence of disease or infirmity. This includes a state of emotional, environmental, spiritual, physical, occupational, financial, social, and intellectual well-being. Wellness is not a universal state of being and evolves from person to person over the course of the lifetime.”

Since 2012, the University of Massachusetts Medical School (UMMS) Office of Undergraduate Medical Education has gathered data on medical students’ perceptions of their stress, management of stressors, support systems, and wellness. Aggregate class across all questions demonstrates a drop-in wellness behavior in the third year of medical school (see *Appendix B*). Recovery is seen in the fourth year, but it is unclear the degree of this improvement. What is missing from aggregate data is the range of perspectives of individual students, and an accurate depiction of how wellness and stress might wax and wane throughout the years. In addition this data compiles responses from the end of the academic year, it does not record the fluctuations that occur in students as they are in the midst of their experiences. Do those students whose self ratings of wellness is high at the beginning of medical school stay well? Are those who enter medical school with lower ratings destined to struggle throughout?

It is critical for us to have a more refined understanding of the range of student experiences in order to design needed wellness and resilience programming. It is important for the administration to know where a student begins at the start of their medical school experience and their course to the end – whether there are peaks and troughs or whether there is stagnation regarding wellness. The goal of this project is to re-evaluate this data on an individual basis with the focus on the third year of medical school. By analyzing students’ self-perception and level of wellness practices, we can gauge when and how many students are not able to practice wellness in the context of a medical curriculum. We have focused this goal to the third year Core Clinical Experiences (CCE year) which was marked the lowest point for wellness on aggregate data. Specifically, we are looking at the Class of 2022 due to a foreseen need. Additional stressors for this current class includes: COVID-19 pandemic, shortened CCE year, less vacation time, and less non-clinical opportunities. Substantial efforts have been made in regards to wellness for UMass students and we are grateful for this progression. By distributing this information, having open discussions about this data and documenting changes throughout the CCE year, we hope to gain a better understanding of the stressors prevalent in clinical rotations. We hope that this data analysis will bring awareness to the fluxes of wellness in UMMS students and how it changes over time.

Goals:

1. Provide longitudinal support for the Class of 2022 during their CCE year
 - a. We would like to enhance some of these interventions as well as tailor wellness programs to our identified need - the Class of 2022.
2. Review and adapt current UMass support services to MS3s
 - a. Generate a comprehensive list of effective and available wellness resources for students
 - b. Generate escalation models for students to follow for accessing various resources
 - c. Increase awareness of wellness services at UMMS

3. Provide more regular wellness opportunities in the CCE curriculum
4. Encourage experiences with a near-peer/supervisor to foster resilience and reduce stress

Objectives:

1. Implement three one hour wellness blocks during interstitials periods during CCE year to allow for more regular check ins with near-peer
 - a. Coordinate current UMass support services (peer mentors, GHHS members) to co-lead sessions and provide curriculum outlines for longitudinal use
 - b. Coordinate with student organizations to provide MS3s with multiple practices during wellness blocks
2. Host Wellness discussions during Transition to CCE and Wellness Day to allow MS3s to brainstorm individual practices and perform needs assessment
3. Create and distribute an updated list of wellness resources encompassing academic, social, emotional and physical supports to MS3s
4. Create and implement escalation models for students who need academic, financial, and/or homelife support during their CCE year.
5. Evaluate these interventions via student feedback from annual wellness surveys and session feedback surveys on OASIS.

METHODS

The University of Massachusetts Medical School Undergraduate Medical Education (UMMS OUME) began surveying students annually in 2012 regarding students' perception of their stress, management of stressors, and wellness. Surveys were distributed at the beginning and end of the MS1 year then at the end of the following three years. Students were asked a series of questions regarding wellness and were told to rank their self-perception of wellness from a scale of 1-5 (strongly disagree, disagree, neutral, agree, strongly agree). Responses were then collected and de-identified by the University of Massachusetts Medical School Office of Institutional Research, Evaluation, and Assessment (*IREA*) and placed in various graphs representing overall trends across calendar and class year (MS1, MS2, MS3, MS4). This data was shown to students as a part of *Wellness Day* on December 4, 2020 (see Appendix B).

Beginning in May of 2020, in concert with Interstitial Day course leadership, UMMS OUME, and Dr. Dave Hatem, academic third year medical students (MS3s) from the class of 2022 were given opportunities to participate in open forums led by fourth year academic medical students (MS4s) with no faculty present. On May 27th, 2020, an initial session was held with the entire MS3 class facilitated by 20 volunteer MS4s. De-identified and high level notes were taken by MS4 facilitators that were then collated into an internal document. Using notes collected, an open letter was sent to the MS3 class acknowledging their concerns and providing a list of next steps gathered from discussions with OUME.

On August 27th, 2020 a second session was held available to the entire MS3 class. A week prior to the session, a survey was sent to students asking them to identify what previously reported stressors still apply to them at this point in time and to provide an answer to the question "I am worried about...", as well as providing students with an open response space for any feedback or to bring up any additional concerns they may have (see Appendix C). The one word answers were collated into a word cloud that was then shared with the class to begin discussing their current concerns (see Appendix D). Students were also asked about these stressors during

zoom calls. Students' concerns, perceptions, and comments during the discussion were not recorded, and high level notes were taken and de-identified that were then coded according to broad themes.

In December 2020, students were provided with multiple sessions to express their concerns and provide opportunities for resilience skill building. A survey was sent to the class the week prior asking them to rate previously identified stressors on a scale from 1-5, rank these stressors, and identify new stressors and what was currently causing them the most concern (see Appendix E). An open response field was included to allow students to report any new concerns or feedback. The first group of sessions was held on December 4th in collaboration with Dr. Dave Hatem as part of *Wellness Day 2020*. The first hour was a joint session, beginning with a didactic by Dr. Hatem about physician wellness and burnout for 15 minutes leading into a class-wide discussion about current concerns and stressors. At this time students were shown visualizations of data created by OUME and IREA to normalize MS3 stress and begin a discussion regarding current stressors. The next hour consisted of various sessions led by a panel of faculty members and MS4s focused on discussing current concerns/stressors, building resilience, and practicing wellness. An additional optional session led by MS4 students was held on December 7th, 2020 to provide a space for students to discuss any outlying concerns. All comments during the 3 sessions were not recorded. Notes were taken in a de-identified manner, cleaned, and then redistributed to the class for final approval and edits.

Open responses were qualitatively coded to generate themes for primary causes of stress and concern for MS3 students.

RESULTS:

In August, the survey had a 97% response rate (165/170 responses). In December, the survey had a 56% response rate (96/170 responses). Various themes were identified from the open responses distributed to Class of 2022 during their third year.

As early as May 2020 five main themes were identified as sources of stress: *COVID-19*, *Step 1*, *No Voice/Feeling Unwanted*, *Lack of Communication*, and *Lack of Preparedness/Knowledge*. A 6th theme, *Normalization*, was noted more so in how students interacted with each other and facilitators, though not a source of stress. These themes continued to be prevalent in responses and discussions in both August and December. In December, students ranked COVID-19 and clerkship grades highest and Step 1 being ranked lower.

COVID-19

Students have continued to identify the COVID-19 pandemic as a high level stressor that has had significant downstream effects on most other aspects of their year including but not limited to: Step 1, experiences on clinical rotations, sudden curricular changes, and relationships with peers and family.

Several students noted the stress put on out-of state members in particular with travel

restrictions preventing them from seeing friends, family, and loved ones. Comments included fear of academics being affected if students were traveling.

One student noted that, *“Being out of state makes everything in terms of social support feel worse...”*

Another comments, *“Upcoming holiday travel for out-of-state students - feeling guilty about going but haven't seen family in over a year is really difficult. What's the guidance? Will that hurt my 3A rotation? or [Flexible Clinical Rotations]?”*

Many students have also reported safety concerns with the pandemic, particularly in the clinical setting. Students discuss the lack of access to proper PPE, exposure by residents and attendings who test positive and not being notified, and a lack of clarity and communication regarding safety protocols in the clinical setting. In December, students report being more concerned, with one writing:

“Covid is concerning now more than August in how many of us are being very careful but are becoming exposed by residents and attendings who are testing positive. It feels like residents do not take covid precautions nearly as seriously, especially with asymptomatic or PUIs, so there is a sort of peer pressure for us not to wear N95s or goggles when no one else is, but at times it feels like we are compromising our safety.”

Additionally, students report changes to the learning environment as a point of stress, with teaching being compromised and skills sessions being canceled. Some students report concerns for a decreased robustness in their clinical education, especially with concerns of future rotations becoming virtual as the pandemic worsens.

Step 1

In May 2020, Step 1 was identified as a stressor for many students as they were entering their third year. Due to the COVID-19 pandemic, board examinations at various locations were cancelled resulting in a significantly lengthened unstructured dedicated study period and in students rescheduling exams in the middle of their CCE year. When asked in August, one student comments:

“...Lastly, the administration's complete lack of understanding that taking Step1 during rotations or even during a 'break' in rotations is unprecedented and detrimental to students' 'wellness' and sanity is astounding. They go from acknowledging how hard of an exam it is on a mental and emotional level, to stating 'a day off prior' to the exam date is enough to get in a mindset every previous year has had a dedicated month to get in.”

Repeat evaluation in December showed that many students ranked Step 1 lower as a stressor (see Figure 1) and was mentioned less frequently in the comments section when compared to August comments (4 mentions vs 9 mentions respectively). Many students reported having taken Step 1 over the course of the preceding months. However, those who had yet to take the exam mentioned fears of proctor sites closing again due to the pandemic. Those who had taken their

exam and received their grade had comments relating to their score and fear of future career planning, matching, or upcoming board exams such as Step 2.

No Voice/Feeling Unwanted

Beginning in August, students began to report feelings of unwantedness in the clinical setting as well as a lack of voice or ability to advocate for themselves. In particular, students commented that, *“No one wants me anywhere”* and *“I’ve been straight up told I don’t matter.”* Comments by students also included reflections on interactions between them and their clinical supervisors (residents and attendings):

“Some of the attendings and residents can be unnecessarily demeaning and rude. I’m learning that I have a much thinner skin than I thought.”

“..we can try to advocate for ourselves but because we are at the bottom of the chain and being evaluated, there is only so much we feel comfortable saying. I know students who tried to advocate for themselves and were burned because of it.”

In December, students continued to report similar interactions and issues. In addition, students began to express burnout and not seeing curricular change to address their concerns. One student comments:

“I just still feel as if the burnout in our class has not been appropriately addressed by administration. I understand that at this point in 3rd year historically everyone feels burnt out, but I feel like our class faces a unique situation that has been fairly forgotten in all the programming.”

Lack of Communication

Upon entering the CCE year, students recounted episodes of conflicting information regarding clinical rotations and unclear goals for rotations. During the May discussion, students mentioned not receiving updates about rotation locations away from the main campus, expectations of clerkships, and necessities to bring on the wards.

“I wish there was more communication and clarity about how we are graded in third year. Some rotations tell us the breakdown of how different evaluations are weighted, but then other rotations keep us completely in the dark. Medical School is the only place of education where students are kept completely out of the loop in terms of how they will be graded and, frankly, it's rather inappropriate especially considering how much we are paying for this education.”

These frustrations continued to be reported through August and December as students mentioned concerns such as being unsure where their feedback was going, not seeing or hearing changes addressing their concerns, and continued lack of communication regarding requirements, grading, and scheduling. Students particularly noted schedule changes at short notice and in disruptive time frames:

“...Furthermore, having our surgical oral exams canceled 20 minutes prior to the scheduled time and then moved out of the time frame of the rotation with no explanation - as in mine will be held on Friday during interstitials - is incredibly frustrating for students who are completely exhausted from a long surgery rotation that they took STEP1 during....”

Lack of Preparedness/Knowledge

In May, students expressed nervousness upon entering clinical rotations. Lack of preparedness/knowledge decreased overtime from August to December - with a greater proportion of students disagreeing with the prompt.

As the year went on, students reported feeling more prepared for clerkships yet still struggling with feeling successful on the wards. One student reflects on their summer rotations:

“I felt prepared for third year in many ways, but I don't think I realized how much self advocacy would need to take place and how little structured teaching was going to be happening in the clinical setting. It seems like a lot of the educational onus is on us as the student, which I was not prepared for.”

In December, students reported feeling prepared for rotations, but having difficulty during examination sessions (ie. shelf exams, OSCE/standardized patients) which became a listed stressor starting in August and remained highly ranked in December (see Figure 1). Students mentioned episodes of inconsistency between standardized patients and expectation of students among different clinical rotations.

Normalization

During discussions, students often responded to peers with comments such as: *“I thought I was the only one”* and *“same here”* when discussing hardships. Students consistently expressed feelings of being the only one struggling until hearing of similar experiences from their peers. These acknowledgements were repeated when students were shown IREA data, word cloud, and class charts (See Appendix B, D, and E respectively). Hardships such as burnout, exhaustion, inconsistencies among clerkships, evaluations, and examinations were all experienced by more than one student.

DISCUSSION:

Surveys and discussions with students in the Class of 2022 identified many stressors during the first 6 months of their CCE year. Responses from surveys allowed students to describe specific stressors which guided confidential discussions, during which students were provided a space to express additional concerns and share their experiences with peers and facilitators. As the year progressed, stressors have continued to fluctuate.

The COVID-19 pandemic created drastic change for the Class of 2022 - canceling and rescheduling board exam dates, lengthening a period of unstructured and intense board studying, condensing their academic year while maintaining grading expectations, creating concerns for personal safety, and isolating them from loved ones and peers. Many stressors typically present in the CCE year were heightened due to the pandemic, and efforts to create a sense of “normalcy” may have inadvertently created more tension for students. Students expressed

frustration over expectations on the wards and on exams, having to adapt to virtual platforms in a further condensed curriculum. Throughout the year, the stress caused by COVID-19 only increased with more students believing it to have a negative impact on their educational experiences when comparing responses in August and December (Figure 2). Those impacted heavily were out of state students who had added concerns regarding travel policies and furthering senses of isolation. During pandemic surges, these concerns grew based on survey comments. Personal safety was also affected as policies changed in regards to personal protective equipment (PPE) and what patients students were allowed to have contact with. Information about what autonomy CCE students had in regards to patient care differed among locations furthering student confusion and creating discrepancy between expectations from the school versus the wards. Despite seeking guidance from UMMS administration, clinical supervisors, and clinical staff in the hospital, students report continued inconsistencies, suggesting a need for regularly updated information.

Many stressors reported by students were academic in nature (ie. clerkship grades, Step 1, shelf examinations, OSCE/standardized patients). When asked to expand on these stressors during discussions, students explained a significant portion of their stress originates from a lack of formative feedback for future growth, an inability to access resources, and an absence of transparent grading schema. While students felt more prepared for their clerkships as the year went on (Figure 4), the stress of grading remained consistently high (Figure 1), suggesting that the format and method of evaluation itself is a significant source of stress for students, and not the information they are expected to learn.

Reported stress due to Step 1 greatly decreased from May to December (based on the number of Step 1 related comments in May and August compared to December). When asked to rank Step 1 among other stressors in December, the majority of students (60%, 58/96 responses) ranked it as causing the least stress. It is important to note, however, that among students who have yet to take Step 1, that it is still a significant source of stress and anxiety. This is particularly notable compared to previous class years, where third year students have not simultaneously been on clinical rotations while preparing to take Step 1. Of note, while Step 1 was mentioned less frequently in December (likely due to those students who have taken the exam and received their score), new concerns such as Step 2 and career planning were reported. This coincides with sessions in December regarding planning fourth year schedules (see Appendix F). Thus, it appears that while academics are a consistently high source of stress for the majority of students, stress related to specific topics and events are brief and rapidly transfer to new academically related topics. As such, creating consistency and supporting students through stressors such as standardized patient encounters and evaluations may provide an avenue to relieve academic stress experienced by third year medical students.

Themes of no voice and feeling unwanted were described in further detail by students primarily during open discussions. Students recounted episodes of mistreatment or judgement on the clinical wards that negatively impacted their clerkship experiences. Questions arose regarding whether or not some actions could be described as mistreatment, whether such experiences were common, or whether such experiences should be expected. Such discussions showcase how students are not adequately prepared for encounters they may face on the wards and how to appropriately address them in a way that protects them from further mistreatment. Many students report either a lack of knowledge of the mistreatment reporting system, a lack of clarity of when to report, or discomfort with reporting. Students may also be less likely to talk

about these situations because of feelings of inadequacy and inability to advocate for themselves. Additionally, students reported feeling they could not mention mistreatment due to a perceived position of powerlessness on clinical teams and fear of a negative impact on their grades (a higher stressor shown in *Figure 1*). Thus, students feel incentivized to not advocate for themselves in order to prevent further jeopardy on their academic career. Being exposed to demeaning or rude remarks by supervisors (ie. residents and attendings) negatively impacts a student's clerkship experience, prevents them from seeking support in an already stressful environment, and heightens risk of burnout. Students who face challenges in the clinical setting - with difficult patient encounters, death of patients, feelings of inadequacy on the wards - begin to struggle if they cannot turn to their team to debrief these situations.

Students also report feeling unheard when they are expressing concerns to administration only to receive no response or no sense of change. Students note sudden changes where they are asked for flexibility but are not given similar flexibility when they ask for further communication or detail. This can further their frustration and sense of burnout in an already uncertain environment. Feelings of not being heard blend with the lack of communication present during the CCE year, requiring a need for more frequent and transparent responses from administration to address issues students are facing. Creating a welcoming atmosphere on the wards that respects student input will encourage clinical students to express challenging moments more frequently and seek support from their clinical colleagues.

Finally, many students reported feeling as if they were the only one struggling in isolation; with a majority not expressing their concerns or struggles due to a perceived cultural norm. Multiple students encountered similar challenges reported by their peers and felt validated in their concerns and hardships when hearing their peers speak about similar issues. This normalization allowed students to feel as though they were not isolated in their difficulties and were able to discuss their experiences in a non-judgemental setting. Of note, students particularly appreciated hearing faculty and MS4s sharing their own difficult experiences as medical students to normalize what they themselves were experiencing.

Limitations:

It is important to note that a majority of students were frustrated by sessions focused on wellness and would have preferred time to themselves. This coincides with previous findings of individual interventions not providing the best resolution to established or unique stressors¹¹. However, this creates a difficult balance between students having enough breaks from a rigorous academic curriculum, especially in a year with already condensed breaks, and providing clinical students long-term skill building and resources in the face of future challenges. Students particularly expressed frustration at mandatory sessions and the concept of "forced wellness" due to their already accelerated and compact academic schedule. When asked in an anonymous poll "I am frustrated by 'forced wellness'" and "I know what practices make me well", responses indicated a majority of the class agree with these sentiments in both August and December (see *Figure 5* below). Additionally, students expressed frustration towards an onus placed on them as individuals to address wellness and burnout without any clear perceived effort of addressing systemic sources of burnout and stress, suggesting a need for more rapid cycles of feedback and change with transparent communication.

Another limitation was that students did not receive the same survey each month, but instead received questions based off of their previous responses in order to better assess evolving needs and concerns. As such, the December survey included additional questions to allow students to rank their stressors and categorize subjects from most to least stressful. These changes were made to obtain a better sense of emergent stressors for the class of 2022 that were identified in both May and August of that year. In the future, it would be beneficial for students to receive a more standardized survey throughout the year to avoid biases presented in language. The number of survey participants also changed between sessions with 165 participants in August and 96 in December. As December only has about a 56% response rate in comparison to the 97% response rate present in August, there is less reliability of the December responses being an accurate measure of the current state of the Class of 2022. This difference can skew the December results misleading one to believe students are more or less affected by certain stressors. This difference in response rates may be due to a lack of clear communication as to when to complete the survey in December or disengagement from students due to disinterest or burnout.

It is important to keep in mind that CCE students are not taking the same curriculum at the same time as was the case for non-clinical students. Whereas MS1 and MS2 students all take the same courses, CCE students will be in different rotations and locations resulting in varying experiences. For example, the demands of a surgery rotation will be different from the demands of psychiatry which can impact a student's level of wellness depending on what time of year and where they are participating in said rotations. For the sake of anonymity students were not asked about their locations and rotations, however, this information may be important for determining which periods of time provide more opportunities for wellness than others. Such information may be important for determining how differing rotations and sites affect student wellness, and would need to be de-identified prior to distribution and discussion. Additionally, the variance of scheduling may lead to a generalization of the data where student wellness may not change throughout the year because $\frac{1}{3}$ of the class is in a "more well rotation" than the other at any point in time.

Similarly, the time students received the surveys (August, December, and January) coincided with interstitial days which were re-organized due to the pandemic's effects on the CCE year calendar. This rigidity meant that students were not responding to the survey at neutral points in the year. Instead, the August and December surveys were distributed when students were at the end Block 1 and Block 2 respectively whereas the January survey will be distributed prior to starting Block 3 (*see Appendix F for CCE schedule of 2020-2021 year*). Thus, students may not experience significant change in their stressors from December to January as they are not participating in as many clinical events at that time. Future surveying of students would benefit from organizing the timeline of survey distribution to coincide with the academic calendar (ie. three surveys each one distributed at the end of a block) to better assess needs throughout the year.

Finally, students report a negative perception of the concepts of mindfulness and wellness, particularly "forced wellness," reporting the perception that such sessions are held to comply with trends in educational schema and focused on specific practices. Students report feeling that an onus is placed on their time with no real benefit to their needs, concerns, or individual wellness. Part of the difficulty in engaging a significant portion of students in

discussions and interventions may stem from this stigma. As such, renaming this initiative from “wellness” may result in improved engagement and perception from the student body. Surveys and discussions in January 2021 will show whether or not this change is positively received by students.

Next steps:

The goal is to continue the CCE Wellness Initiative into future years. It will be beneficial to continue observing stressful points during the CCE year and the changes that occur during that year. COVID-19 was a major stressor for students in regards to their education, health, and safety on the wards. It is likely COVID-19 will not be as high of a stressor in future years, thus making academics (gradings, and standardized patients) higher stress points.

While a majority of students felt prepared going into their third year, there were comments made by students about not receiving adequate formative feedback or contradicting feedback during testing sessions. This led to confusion regarding who to seek for help. Having an escalation model in place that students can access will benefit them as a guiding reference for academic or personal challenges. An escalation model was one of the goals presented in this project, however was not achieved at this time. There is continued work going on in the Spring of 2021 to develop a model students can use as a reference in times of challenges.

Providing opportunities for students to openly discuss hardships with fourth year medical students creates an informal mentorship for CCE students. It would be beneficial if these sessions continue in the future with the possibility of expansion. For example, small group sessions already built into the third year curriculum such as Longitudinal Preceptor in Medicine (LPM) during the medicine block and didactics in the surgery block can be opportune times for fourth year students to be available as a resource for CCE students. As noted previously, having more time for CCE students to discuss their hardships and be validated will promote individual advocacy.

Conclusions:

Burnout continues to be a growing problem in medical students. While there are different initiatives in place to address burnout, there needs to be recognition that certain stressors cannot be addressed by individual initiatives. Furthermore, it is important to recognize that practices to combat burnout and support wellness differ individual to individual and encompass a multitude of experiences. Third year medical students have a strong sense of what interventions work for them and would benefit from the opportunity to engage with such practices. However this is difficult due to a condensed schedule and the isolating nature of the clerkship year - which has all been exacerbated by the COVID-19 pandemic. Having check-ins throughout the year allowed students to have their concerns validated by their peers and have students recognize they are not alone in their experiences. Continuing to have these sessions where students are free to practice wellness while also providing spaces for near-peer interactions and support can help decrease burnout and isolation for third year medical students. More frequent communication regarding systemic changes will also help students adapt in times of uncertainty and for future planning.

ATTRIBUTION:

A majority of the project was worked on collaboratively including attendance at advisory meetings, write-ups, survey creation, and presentation of data. Work was equally divided up

between creating presentations and collaborating with administration, and for optimizing IREA data.

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- 7 Houser MM, Worzella G, Burchsted S, et al. *Wellness Skills for Medical Learners and Teachers: Perspective Taking and Cognitive Flexibility.* MedEdPORTAL. 2018 Jan 26;14:10674
- 8 Hill MR, Goicochea S, Merlo LJ. *In their own words: stressors facing medical students in the millennial generation.* Med Educ Online. 2018 Dec;23(1):1530558.
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- 10 Ball S, Bax A. *Self-care in medical education: effectiveness of health-habits interventions for first year medical students.* Academic Medicine. 2002 Sep;77(9):911-7
- 11 Slavin SJ, Schindler DL, Chibnall JT. *Medical student Mental health 3.0: Improving Student Wellness Through Curricular changes.* Academic Medicine. 2014 Apr;89(4):573-7
- 12 Egnaw TR, Lewis PR, Meyers KR, Phillips WR. *The Suffering Medical Students Attribute to Their Undergraduate Medical Education.* Family Medicine. 2018 Apr;50(4):296-299.

APPENDIX:

Appendix A- Figures

Please rank the following factors from most to least stressful.

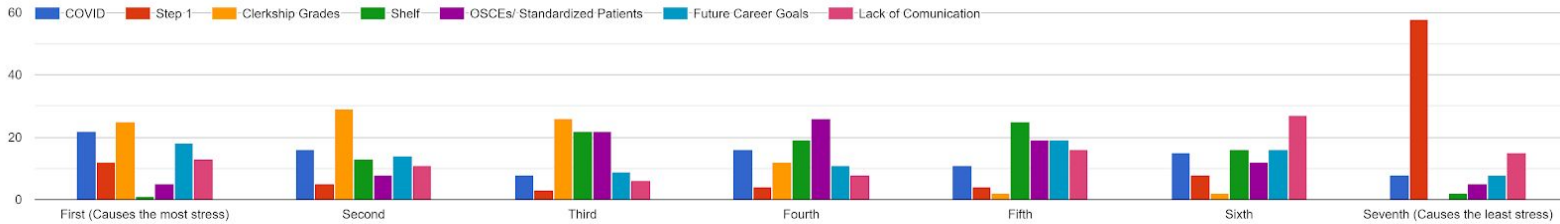
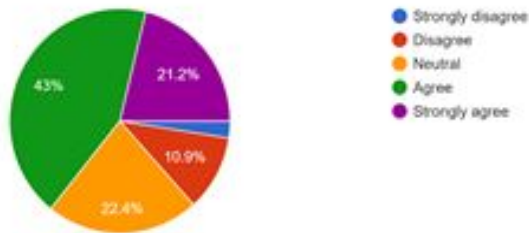


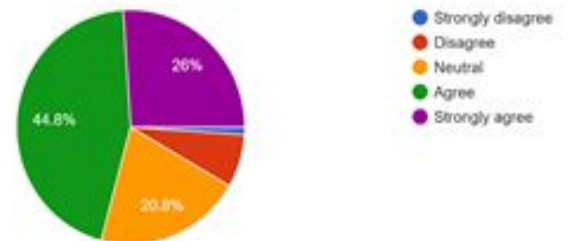
Fig 1. Students ranked factors causing stress from numbers 1-7 in December. 1 being the cause of most stress and 7 being the cause of least stress. Stressors include COVID, Step 1, Clerkship (CCE) grades, Shelf examinations, objective structured clinical examination (OSCE)/ standardized patients, future career goals, and lack of communication.

I believe COVID-19 has negatively impacted my learning experience on rotations
165 responses



August 2020

I believe COVID-19 has negatively impacted my learning experience on rotations
96 responses



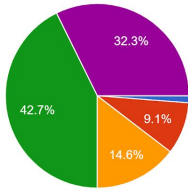
December 2020

Fig 2: Student responses to COVID-19 being a negative impact on learning experiences in both August and December 2020

August 2020

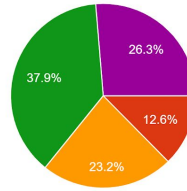
December 2020

I am frustrated by the lack of communication regarding rotations
164 responses



● Strongly disagree
● Disagree
● Neutral
● Agree
● Strongly agree

I am frustrated by the lack of communication regarding rotations
95 responses



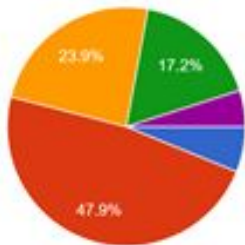
● Strongly disagree
● Disagree
● Neutral
● Agree
● Strongly agree

Fig 3. Student responses to frustration from lack of communication of rotations in August and December 2020

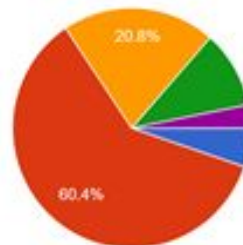
August 2020

December 2020

I do not feel prepared for third year
163 responses



I do not feel prepared for third year
96 responses



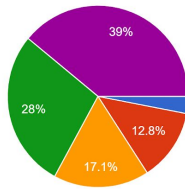
● Strongly Disagree
● Disagree
● Neutral
● Agree
● Strongly Agree

Fig 4. Student responses to feelings of preparedness to the CCE year.

August 2020

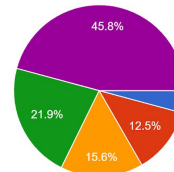
December 2020

I am frustrated by "forced wellness"
164 responses



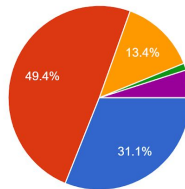
● Strongly disagree
● Disagree
● Neutral
● Agree
● Strongly agree

I am frustrated by "forced wellness"



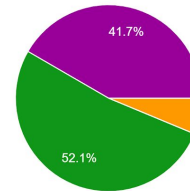
● Strongly disagree
● Disagree
● Neutral
● Agree
● Strongly agree

I know what practices make me well
164 responses



● Strongly Agree
● Agree
● Neutral
● Disagree
● Strongly Disagree

I know what practices make me well

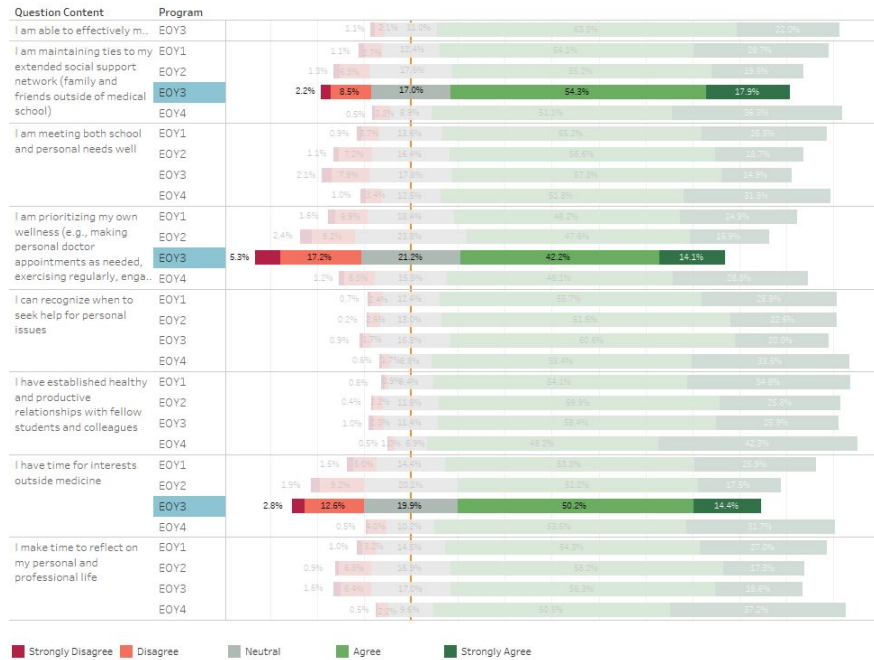


● Strongly Disagree
● Disagree
● Neutral
● Agree
● Strongly Agree

Fig 5. Student responses to wellness practices and "forced wellness" in August and December 2020. 1) I know what practices make me well 2) I am frustrated by "forced wellness".

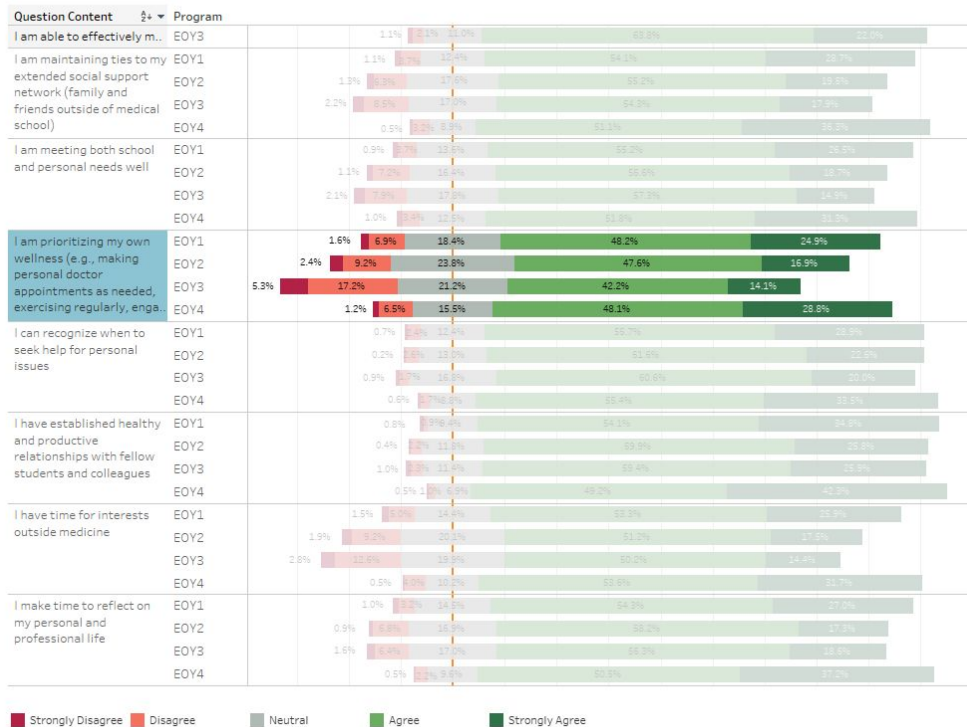
Appendix B - IREA data presented to CCE students on December 4, 2020

Gantt Bar Chart: Shift in % Rating over Time



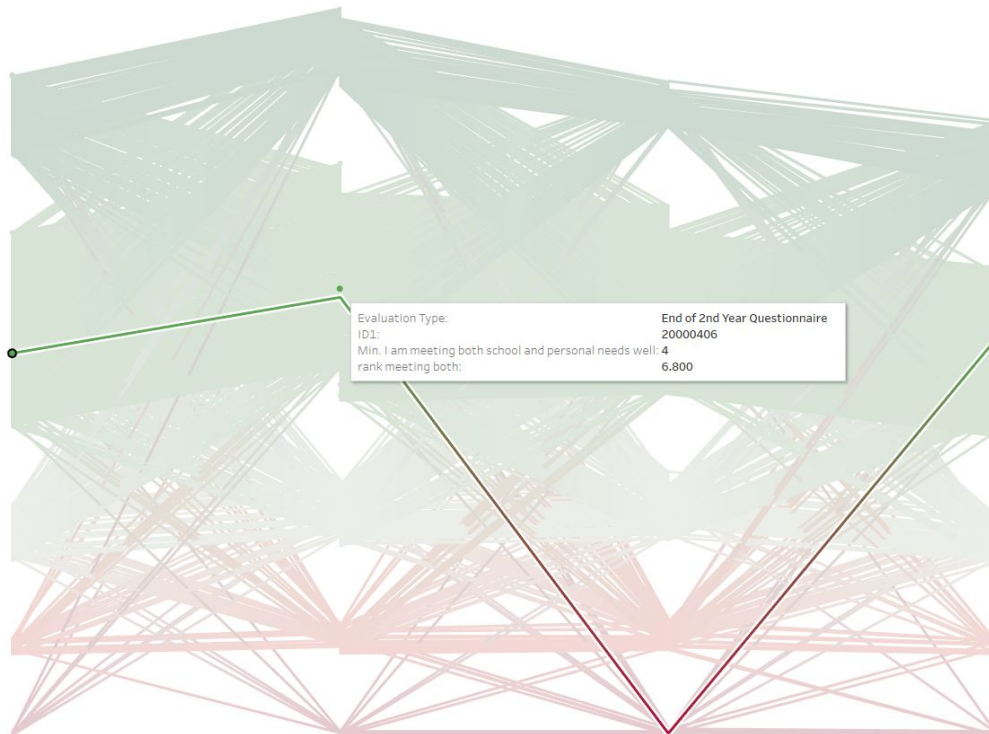
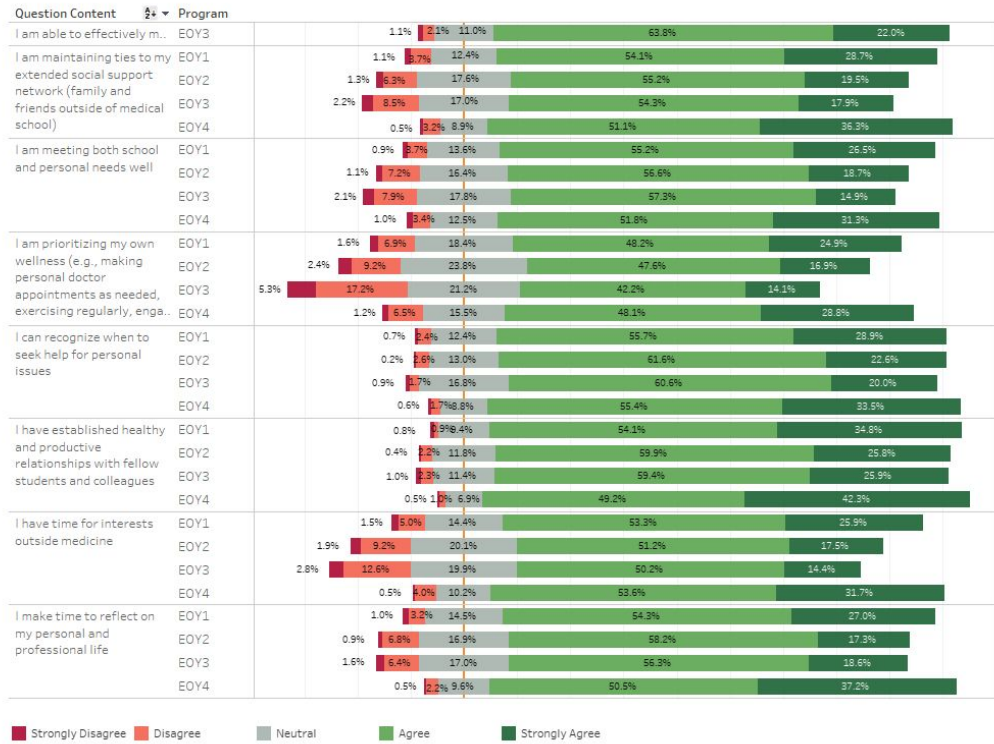
Strongly Disagree Disagree Neutral Agree Strongly Agree

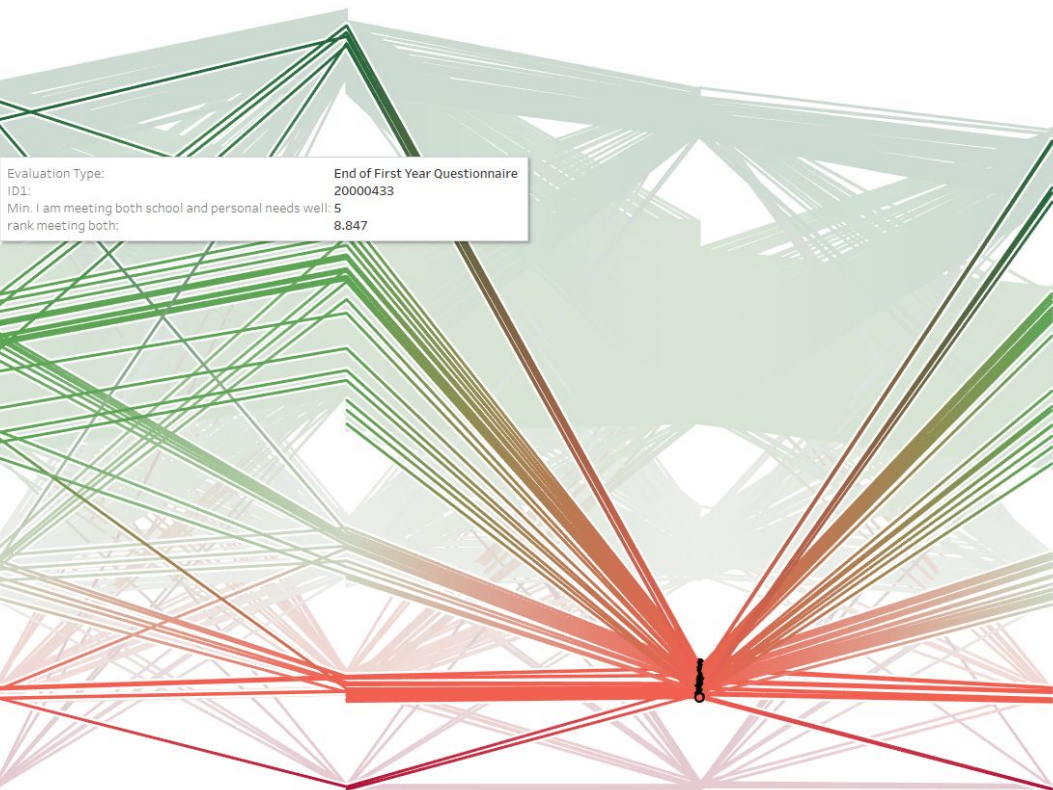
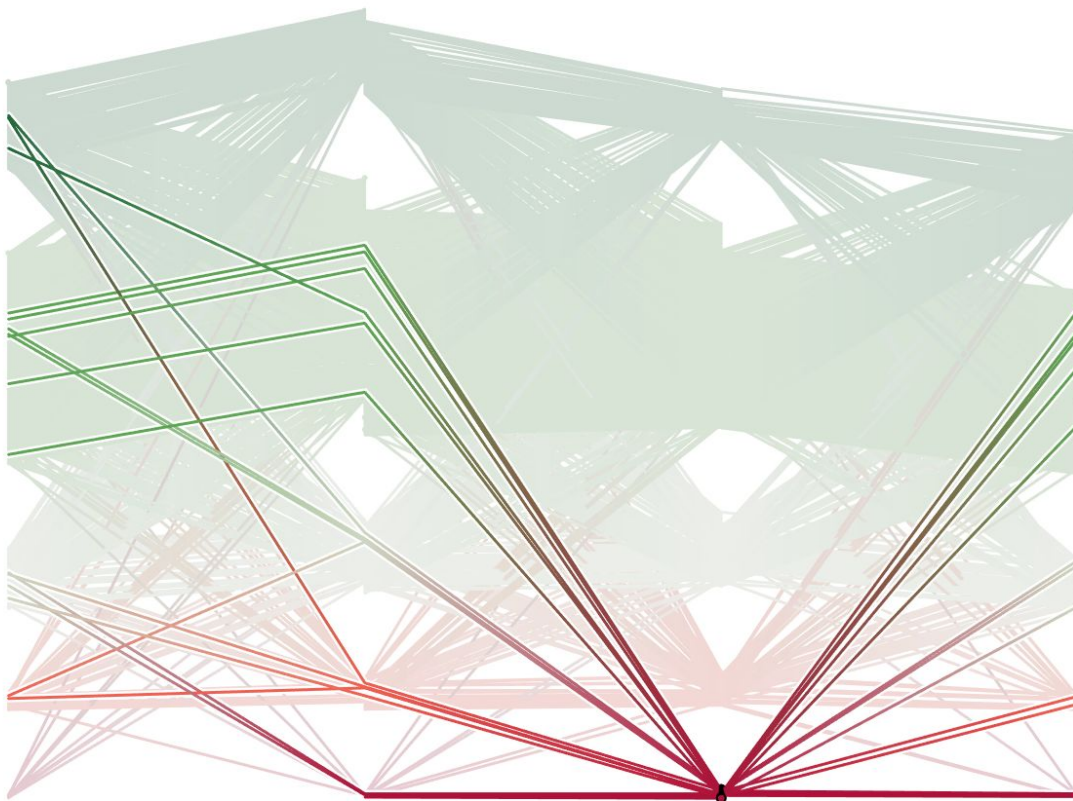
Gantt Bar Chart: Shift in % Rating over Time



Strongly Disagree Disagree Neutral Agree Strongly Agree

Gantt Bar Chart: Shift in % Rating over Time





Evaluation Type:	End of First Year Questionnaire
ID1:	20000433
Min. I am meeting both school and personal needs well:	5
rank meeting both:	8.847

Appendix C - Surveys for CCE students

August Survey:

Wellness Initiative: August Checkpoint

Thank you for taking the time to fill out this poll!

Please let us know if any of the following previously identified stressors still apply to you as you are going through your third year

I am frustrated by the lack of communication regarding rotations

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

I believe COVID-19 has negatively impacted my learning experience on rotations

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

I am frustrated by "forced wellness"

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

I know what practices make me well

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

I feel like I do not have enough time to practice my form of wellness

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

I do not feel prepared for third year

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

Anything new that has come up that you would like us to know about?

Long answer text

Please answer in one word to a short phrase. I am worried about...

Short answer text

December Survey:

Wellness Initiative: December Checkpoint

Thank you for taking the time to fill out this poll!

Please rate how the following factors apply to you now since August. As always, feel free to reach out to us if you have questions.

-Pooja Gupta, Abhi Gazula, and Martha Gowaski

* Required

I am frustrated by the lack of communication regarding rotations

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

I believe COVID-19 has negatively impacted my learning experience on rotations

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

I am frustrated by "forced wellness"

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

I know what practices make me well

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

I feel like I do not have enough time to practice my form of wellness

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

I do not feel prepared for third year

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

I have time for interests outside of medicine

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

I am maintaining ties to my extended social support network (family and friends outside of medical school)

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

These are common stressors that your class has identified from the August Checkpoint.

Please rank your level of stress for each item listed below.

COVID-19 *

1 2 3 4 5

does not cause great stress

causes great stress

STEP 1 *

1 2 3 4 5

does not cause great stress

causes great stress

Clerkship Grades *

1 2 3 4 5

does not cause great stress

causes great stress

Shelf Exams *

1 2 3 4 5

does not cause great stress

causes great stress

OSCE/Standardized Patients *

1 2 3 4 5

does not cause great stress

causes great stress

Future Career Goals *

1 2 3 4 5

does not cause great stress

causes great stress

Lack of Communication *

1 2 3 4 5

does not cause great stress

causes great stress

Please rank the following factors from most to least stressful. *

	COVID	Step 1	Clerkship Grades	Shelf	OSCEs/ Standardized Patients	Future Career Goals	Lack of Communication
First (Causes the most stress)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Second	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Third	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fourth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fifth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sixth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seventh (Causes the least stress)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If a stressor is not listed above, please specify and rank it below (#1-7) *

Your answer _____

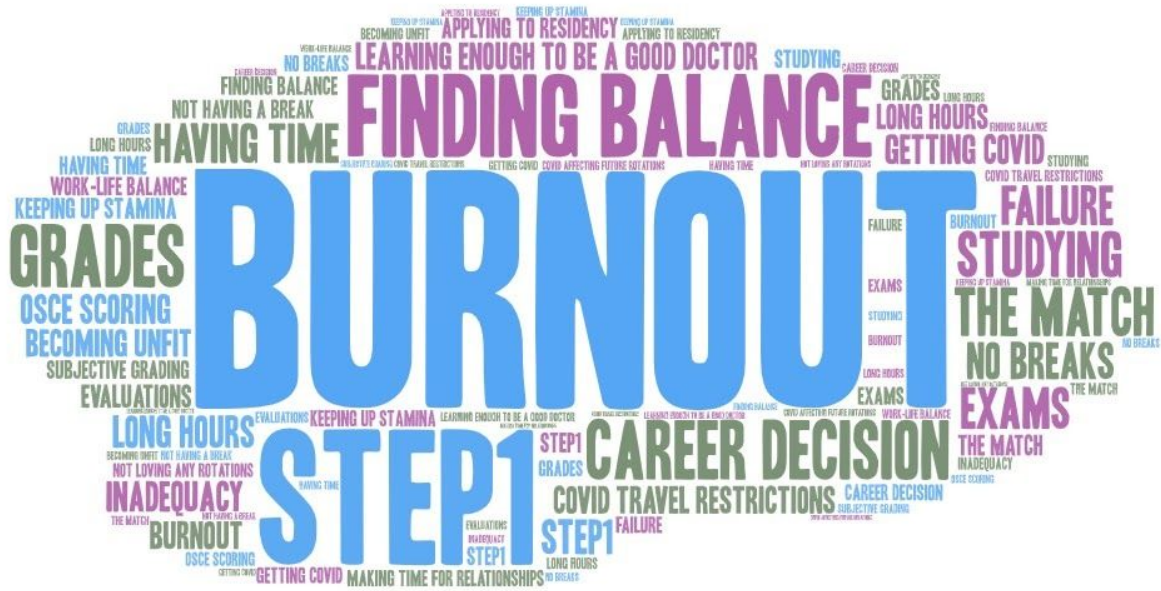
Anything new that has come up that you would like us to know about?

Your answer _____

Please answer in one word to a short phrase. I am worried about...

Your answer _____

Appendix D - Word Cloud

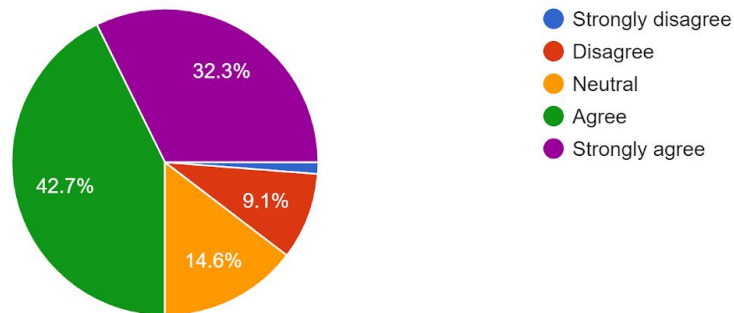


Appendix E - Survey responses: Chart Results

August:

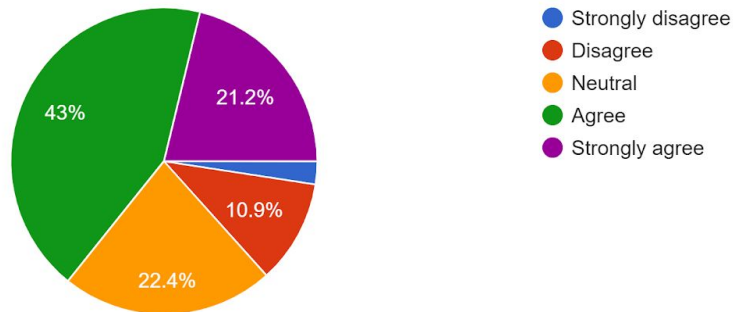
I am frustrated by the lack of communication regarding rotations

164 responses



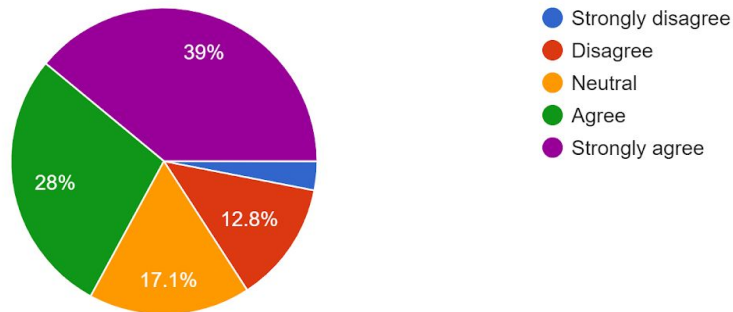
I believe COVID-19 has negatively impacted my learning experience on rotations

165 responses



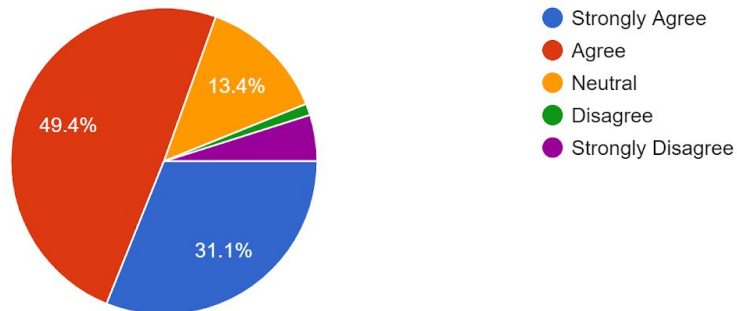
I am frustrated by "forced wellness"

164 responses



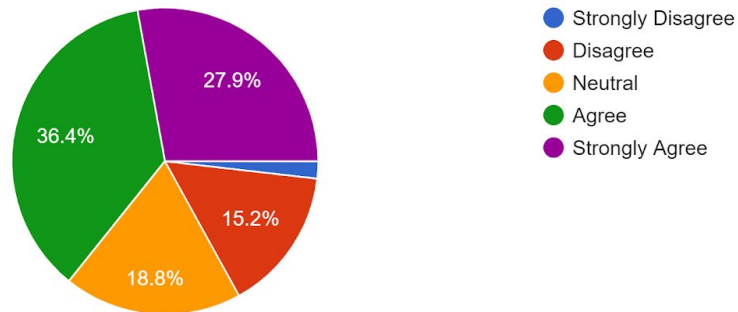
I know what practices make me well

164 responses



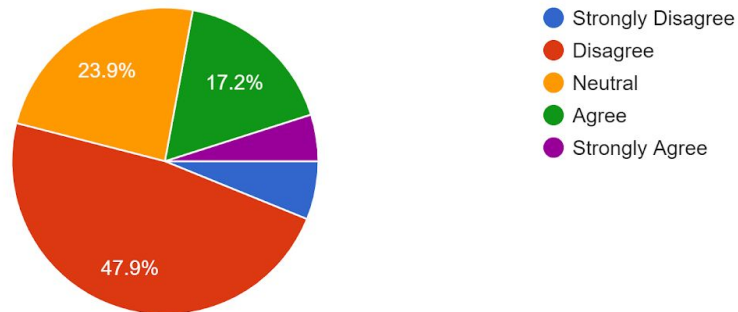
I feel like I do not have enough time to practice my form of wellness

165 responses



I do not feel prepared for third year

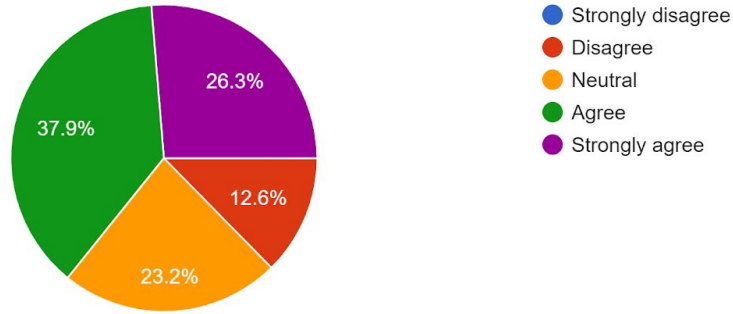
163 responses



December:

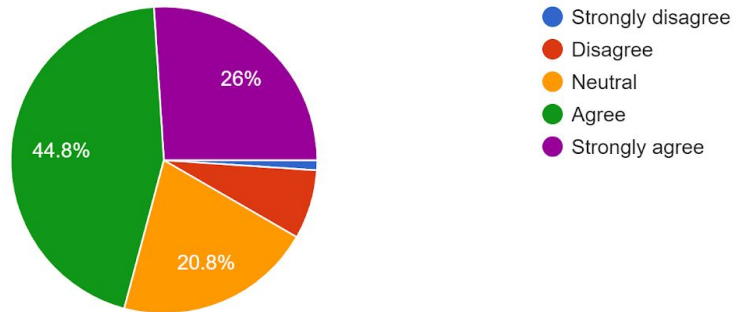
I am frustrated by the lack of communication regarding rotations

95 responses



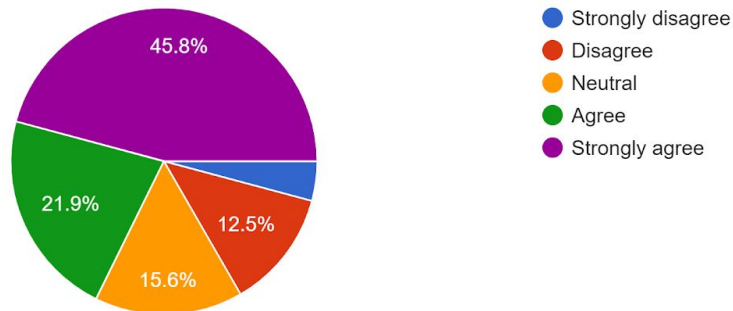
I believe COVID-19 has negatively impacted my learning experience on rotations

96 responses



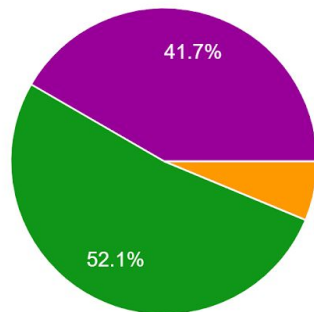
I am frustrated by "forced wellness"

96 responses



I know what practices make me well

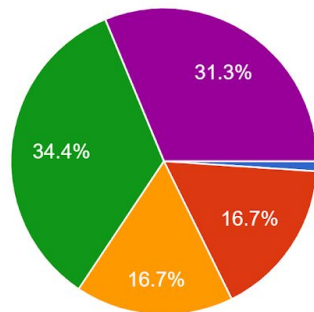
96 responses



- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

I feel like I do not have enough time to practice my form of wellness

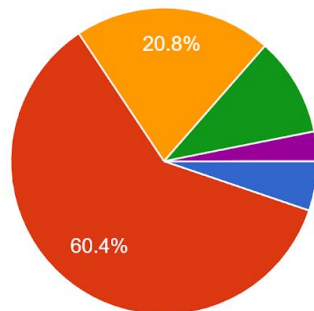
96 responses



- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

I do not feel prepared for third year

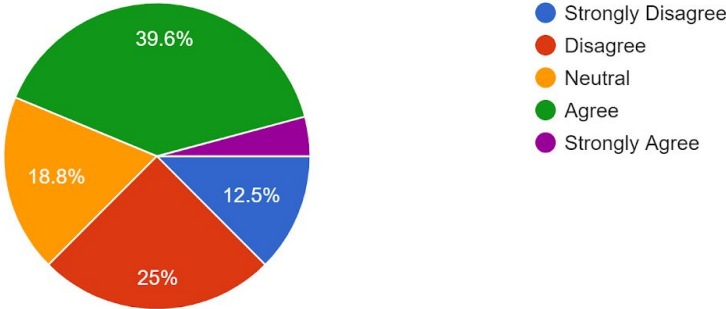
96 responses



- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

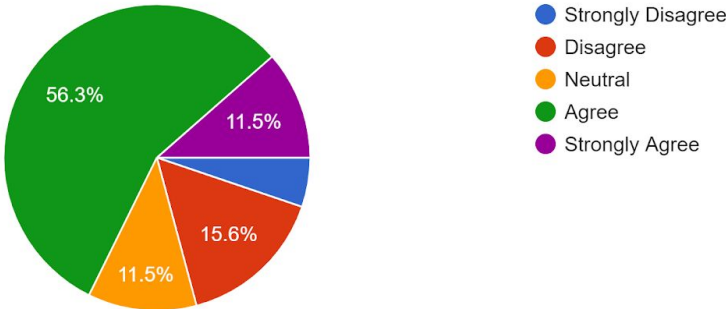
I have time for interests outside of medicine

96 responses



I am maintaining ties to my extended social support network (family and friends outside of medical school)

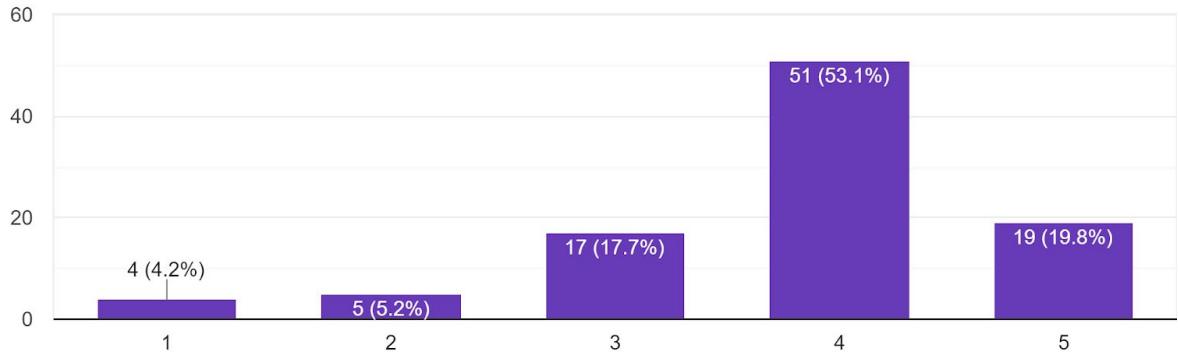
96 responses



These are common stressors that your class has identified from the August Checkpoint.

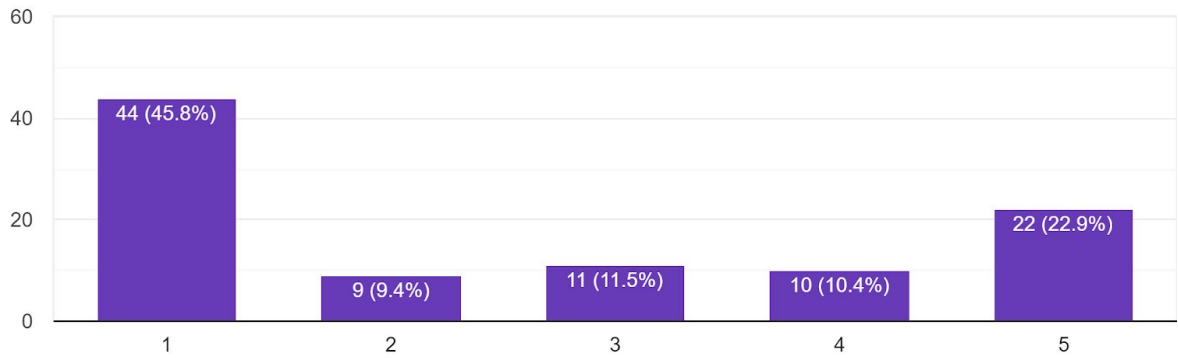
COVID-19

96 responses



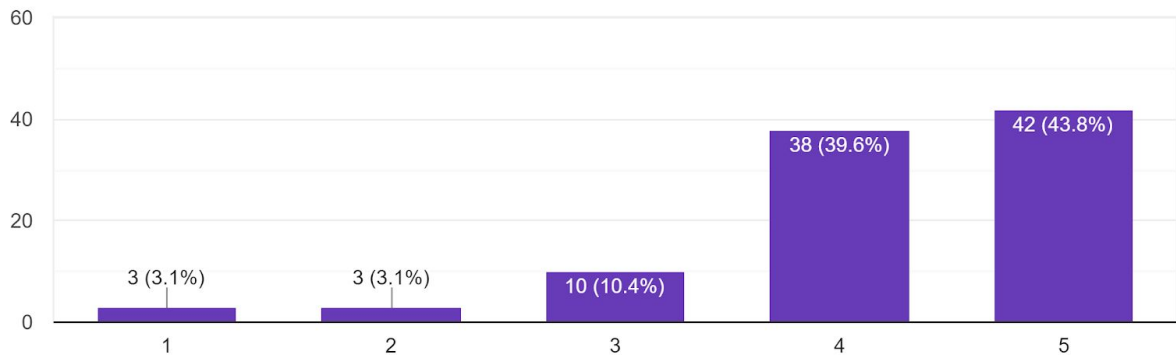
STEP 1

96 responses



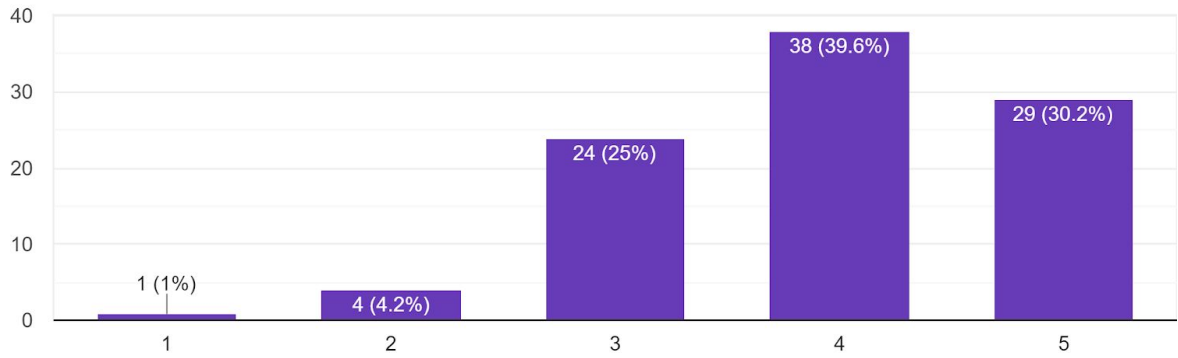
Clerkship Grades

96 responses



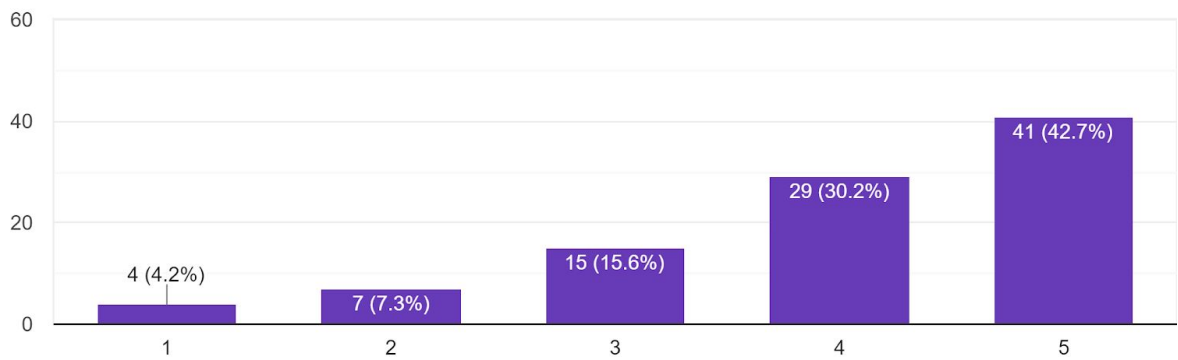
Shelf Exams

96 responses



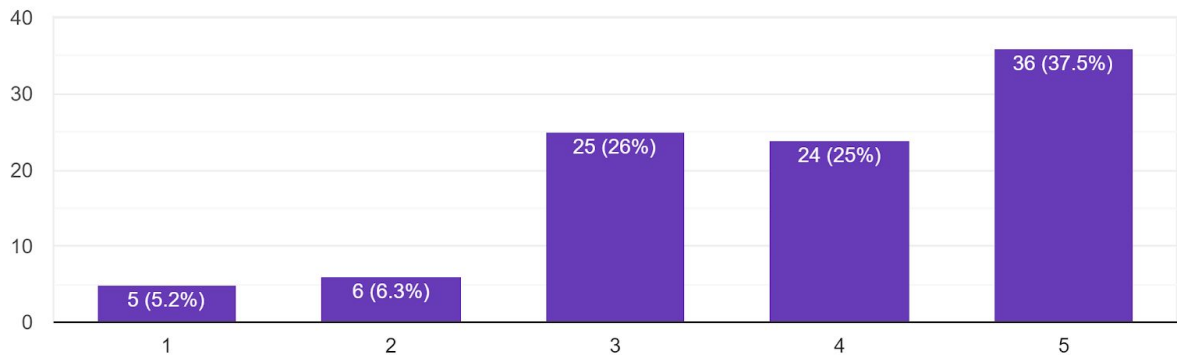
OSCE/Standardized Patients

96 responses



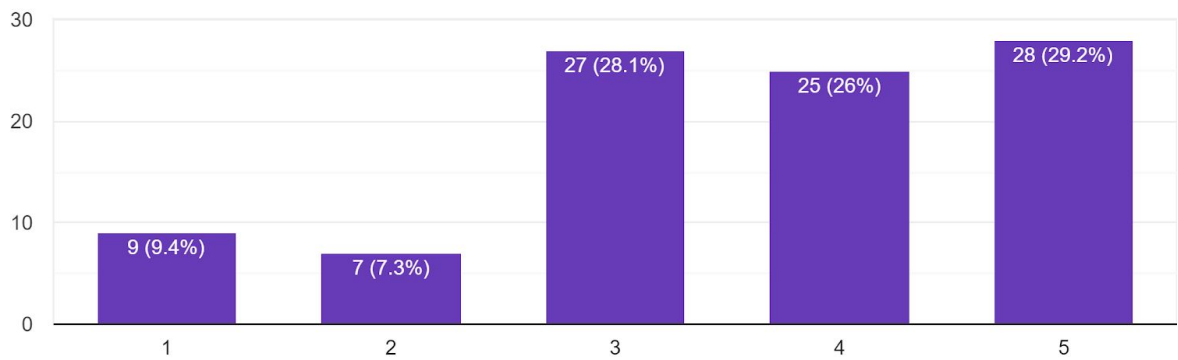
Future Career Goals

96 responses

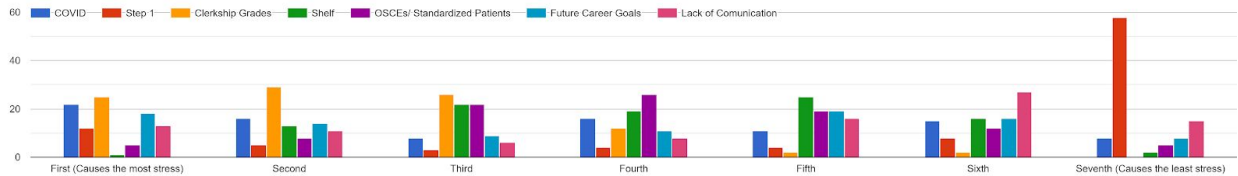


Lack of Communication

96 responses




Please rank the following factors from most to least stressful.



Appendix F - CCE year 2020-2021 calendar

CORE CLINICAL EXPERIENCES BLOCK SCHEDULE 2020 – 2021
UNIVERSITY OF MASSACHUSETTS MEDICAL SCHOOL CLASS OF 2022

 <p>UMMS Core Clinical Experiences usually start on a Monday (unless a holiday) and end on a Friday.</p> <p>H = Holiday Students must follow the Holiday Schedule at their <u>clinical sites</u>.</p> <p>ISC – Interstitial Day (required)</p> <p>Careers in Medicine sessions are full day and are Graduation Requirements. Attendance is required. Check Curriculum Calendar for details.</p> <p>Overnight Call is expected of 3rd and 4th Year Students.</p>	Fall 2020	<p>BLOCK/DATES</p> <p><i>Note: This calendar is subject to change.</i></p> <p>First Day Thematic Section 1 – June 1, 2020</p> <p>1A June 1, 2020 – June 26, 2020</p> <p>H 1B June 29, 2020 – July 24, 2020</p> <p>1C July 27, 2020 – August 21, 2020</p> <p><i>End of Thematic Section 1 Exams – August 24, 2020 – August 25, 2020</i></p> <p>ISC/HSS August 26, 2020 – August 28, 2020</p> <p>FCE August 31, 2020 – September 4, 2020</p> <p>First Day Thematic Section 2 – September 7, 2020</p> <p>H 2A September 7, 2020 – October 2, 2020</p> <p>H 2B October 5, 2020 – October 30, 2020</p> <p>H, H 2C November 2, 2020 – December 1, 2020</p> <p><i>End of Thematic Section 2 Exams – December 2, 2020 – December 3, 2020</i></p> <p>Careers in Medicine - December 4, 2020</p> <p>ISC/HSS December 7, 2020 – December 11, 2020</p> <p>FCE December 14, 2020 – December 18, 2020</p> <p>Vacation - December 19, 2020 – January 3, 2021</p>
		Spring 2021