Curriculum change for the Texas Joint Admission Medical Program undergraduate summer internship

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Abstract

BACKGROUND AND OBJECTIVES

The Joint Admission Medical Program (JAMP) is a pre-matriculation program created by the Texas Legislature for students who have diverse socioeconomic. JAMP is currently active in nine Texas medical schools, including the Long School of Medicine (SOM) in San Antonio. Audits of previous curricula administered by the program have shown didactic experiences that lacked training that translates to utility in the clinical setting. A test-run of a new curriculum in 2018 proved positive. The rollout of the program in the summer of 2019 focuses on intertwining principles of basic science with correlations encountered in the clinical environment. These principles are in line with the objectives and goals of the educational experience envisioned by the Long SOM upon revision.

DESIGN

A mixed method evaluation administered to students (n=25) was used to determine whether the goals of the new curriculum were achieved. Understanding of the material by participants was measured through weekly concept surveys that allowed instructors to see how well each student retained information and concepts introduced to them throughout the course of the program. Their overall satisfaction with the course and their ability to intertwine both basic science and clinical skills were evaluated through bi-weekly surveys that allowed students to rate certain aspects of the program.

RESULTS

Curriculum modulation that is tailored to incorporate basic sciences embedded within clinical scenarios as opposed to disjoint introduction of content resulted in an augmented learning experience. Given the population studied, these findings apply in the setting of a pre-matriculation programs aimed to recruit students of certain demographics to
careers in healthcare. Students participating in the new curriculum reported higher levels of satisfaction and a better learning experience overall. This is evidenced by the large proportion of positive feedback through the surveys amongst students in the improved curriculum.

CONCLUSIONS

Students found their experience more valuable by enhancing their knowledge of medicine. Valuing educational experiences in clinical care is paramount in reinforcing morale and mitigation of attrition in healthcare. Subsequently, the program is improving the quality of the relationship between medicine and students of lower socioeconomic status.

Keywords: Undergraduate; socioeconomic; medical; pre-matriculation

Introduction

The Joint Admission Medical Program (JAMP) is a program created by the Texas Legislature to support academically qualified, economically disadvantaged Texas resident students pursuing a medical education (Dalley et al., 2009). Funded through the Texas Higher Education Coordinating Board, JAMP partners with nine Texas medical schools and sixty-seven four-year undergraduate institutions to provide guaranteed admission to one of the state’s medical schools. The benefit of having a program such as JAMP is the equal opportunity created for students of these demographics and the potential for a diversity within the range of care that doctors who were in the program end up providing to their respective communities (Sokal-Gutierrez et al., 2015).

Students apply for the program during their sophomore year of college. Once accepted, students have access to several resources and experiences including two summer internships at two medical schools following their second and third years of college, respectively. The first summer experience (Summer I) helps prepare JAMP students for the MCAT and includes a course in anatomy and physiology. The second summer experience (Summer II) provides students with interview skills workshops and offers courses geared to preparing prospective students for a skillset to acclimate to medical school culture. During both summers, students participate in preceptorships, which entails supervised clinical exposure in various medical specialties. The need for programs like these derives from the lack of available research in the effectiveness of a course like this (Asch and Weinstein, 2014; Williams, 1999).

At the Long SOM in San Antonio, Texas, JAMP students completing their Summer II experience have traditionally taken three courses: biochemistry, embryology, and clinical skills. The biochemistry course is usually taught by a second-year medical student who receives free reign regarding the topics covered, in addition to the course structure at large. While still educational in some respects, the way in which the course is organized and taught is not conducive to a cohesive learning experience for utility in healthcare. Namely, this aforementioned structure lacks opportunities in which prospective medical students can experience scenarios in the biomedical sciences that interface basic science and clinical science. This is evidenced both by performance on the final exam given at the end of the course and poor overall ratings in student surveys of their learning experience. Many students have reported the content in the course, as well as the dissemination of information in the course to be unstimulating, lacking in rigor, and deficient in invoking an appreciation for the utility cellular and molecular biology in clinical medicine.
Thus, the idea to create a more integrated and clinically relevant medical curriculum for the Summer JAMP programs was motivated by factors listed in addition to acknowledgement of topics of interest within medicine that have been historically self-reported amongst socioeconomically challenged groups (Banuelos and Afghani, 2016). First, there was an evident lack of structure in the curriculum design and implementation of the biochemistry course. With no learning objectives and lesson plans for each session, the course lacked a clear educational purpose for the students and presented itself as disorganized. Second, there was strong positive feedback from a pilot session done during the summer 2018 program that aimed to integrate the basic science with the clinical science learned in medical school. This drastic shift in student response was the main driving force in the decision to expand this single session into a fully integrated curriculum that would ultimately replace the biochemistry course.

The primary goal of this project is to enhance the educational experience of JAMP students during their summer II internship at the Long School of Medicine (Long SOM). The motivation for this is essentially two-fold: a) expose future medical students to the clinical sciences; and b) better familiarize students with the Long SOM curriculum. Educational enhancement will be achieved through an integrated 5-week curriculum that reflects a cohesive set of learning objectives and an overarching weekly theme. This curriculum will be designed to introduce students to a superficial level of rigor encountered in medical school while allowing them to enjoy the process of learning clinical medicine that builds on their current understanding of foundational sciences. Secondary desired outcomes would be to better prepare students for the rigor of medical school while also attracting future JAMP matriculants to the Long SOM.

Methods

INSTITUTIONAL CONTEXT

The Long School of Medicine in San Antonio (Long SOM) is one of the largest physician training facilities in the state of Texas. Upon graduating, a large quantity of students continue their practices within the city and in the surrounding regions. The institution is fully accredited by the Liaison Committee on Medical Education (LCME) while currently harboring approximately 900 medical students and serving as a training facility for approximately 800 residents. Long SOM is part of the UT Health Physicians medical group which is the largest group in San Antonio. This has been proven to provide immense benefits to patients considering the large number of specialties that are offered at the institution. Long SOM also has an extensive research network that has amounted to achieving scientific discoveries and is known for providing a high level of primary care to the people of San Antonio and beyond. Long SOM is also one of the very few schools in the country that is funded by the National Institutes of Health (NIH) in the three categories including the cancer center, aging center, and the clinical trials center.

By having all three areas of medical study funded by the NIH, Long SOM falls into a rare category of medical schools within the United States. The most impactful aspect of the school that relates to medical research is the increasingly diversified demographic that the institution thrives off of. With such a mix of people it would be safe to assume that the current population of students within Long SOM will emulate what the demographic of our country will look like as a whole within the next couple of decades (UT Health San Antonio, 2019). This not only helps with clinical trials and how they affect a wide range of people, but it also aids our society by serving as a place to research how our future populations may be affected by health-related issues and treatments. Along with the continuing efforts to improve the primary care and research facilities within the school, Long SOM is also focusing on improving the quality of medical students that are coming in and out of the institution in general.
PROGRAMME CURRICULUM

The proposed curriculum revolves around weekly themes. Developed concepts for these themes are either organ systems-based or clinical topics-based (e.g. cardiovascular week vs infectious disease week). The weekly themes for the summer 2019 internship were hematology, pulmonology, cardiology, and renal physiology all of which were intertwined with corresponding embryology lectures. Physiology and embryology were given clinical context by not only teaching the processes observed empirically from an academic perspective, but by introducing scenarios in which deviance from observed normal phenomena manifest clinically. For example, the implications of impaired cardiovascular renal development were embedded in vignettes that followed patients who suffered from such developmental failures and the clinical challenges they face in accommodating their new physiological status. Students then apply their baseline knowledge of physiology to predict clinical outcomes of such patients or to understand the rationale behind treatments or interventional procedures targeted to such patient populations. The exact calendar of events can be found in Appendix 1.

The weeks also consisted of recurring activities such as individual and group readiness assessment tests (iRAT/tRAT) over the material discussed throughout that week, which emulates the Long SOM curriculum. Preparation for this test includes assigned readings over the weekend prior to the assessment. The RAT is aimed to test basic science concepts related to the weekly theme. Topics introduced throughout the week expanded on the basic science learned by challenging students to extrapolate, apply their knowledge, and work as a team to solve problems. Weekly theme topics would be introduced in simple and clear fashion and ultimately relate to an integrated set of learning objectives which will be revisited at the end of the week as a systematic way to “close out” the theme. Additionally, synthesis cases will be implemented that ideally highlight important basic science and/or clinical patterns that naturally stem out of the topics discussed throughout the program.

While it was important to familiarize the students with the Long SOM curriculum, it was also imperative to include other activities and assess student motivation in regard to topics like embryology, clinical skills, professional workshops, and suturing skills, among others. MCAT tutoring sessions were also implemented for students who were planning on retaking or had not taken the MCAT. The weekly schedules will be attached as part of the Appendix 1 for this project.

HUMAN SUBJECTS REVIEW AND CONCEPT INVENTORY

This study was fully approved by the University of Texas at San Antonio Long School of Medicine. The test included 25 undergraduate students that applied for Long SOM's JAMP program that would entail an automatic acceptance into the institution upon completing 2 prerequisite summer programs and the required undergraduate qualifications. Participants were asked to complete a survey at the end of the second summer program in 2019 that analyzed how enhanced they felt their knowledge of the topics discussed during the program ultimately became. The responses and concurrent examination results were then compared to previous test results from earlier summer sessions (prior to 2018) that were evidently lacking in structure of curriculum due to the high level of negative test results and student reports showing that the curriculum was lacking in certain aspects.

DATA COLLECTION AND PROCESSING

A pilot of this project was already conceived and implemented during the summer of 2018, albeit with a much narrower scope (a single Theme-Based-Lecture session and one synthesis case). Feedback from these sessions were overwhelmingly positive though "pre-intervention" feedback was not obtained. The most recent summer program in 2019 included responses from each of the students. Upon the conclusion of each week during the internship, participating students were asked to complete surveys that would analyze their level of comprehension and
satisfaction with the curriculum provided.

Future assessments for the current scope of this project entail a few steps. First, gathering feedback from visiting JAMP students in previous summer programs including the cohort from the summer of 2018 regarding their educational experience and level of academic satisfaction. Second, gathering feedback from previous JAMPers who are current Long SOM students regarding the proposed integrated curriculum and their views/perceptions of how useful or valuable the experience might be to their current progress as medical students. The latter feedback would preferably be from MS2s or above given that they would have been exposed to at least one year of medical school curriculum and could thus ideally share their rich experiences, both positive and negative.

Results/Analysis

JAMP PROGRAM DEVELOPMENT

The JAMP program at Long SOM is committed to developing young pre-health students into medical students. Along with the aspect of learning actual medicine, the JAMP program is aiming to raise the interest in medicine amongst underrepresented groups such as minorities and socio-economically challenged families. In doing so, the program is giving the medical field an opportunity to spread wider in order to develop the most efficient medical professionals possible. Long SOM as an institution holds their students to a high standard, and in order to give these underrepresented students a chance to succeed the JAMP program was created. The goal has been to subsequently lessen the disparities in quality of education based on family income and social status. The program also played a role in enhancing undergraduate pre-health students’ medical knowledge as a whole.

With respect to providing avenues in a career in medicine for a wide variety of students that come from diverse backgrounds and unique life experiences, the JAMP Program has been relatively successful. Since 2003, JAMP has been providing pre-health students in Texas and across the nation with opportunities to learn about medical school beyond the perception of an extended form of education while generating fully-licensed, practicing physicians serving the state of Texas and the greater United States ever since. Although the program in the past has been making progress in preparing students for the rigor of medical school, a curriculum change has been needed and has actually been fully implemented into Long SOM's current JAMP program. This new curriculum is a product of the previous course being reported as one that is not conducive to a wholesome learning experience and has yielded numerous positive results since its implementation in the summer of 2019. This study is essentially an analysis of how the course is doing and whether or not it is a viable program that students will find more relevant and engaging. The goal is to get students with economic disadvantage to enjoy what they are learning when they are given a program that simulates the rigor of medical school.

Based on a previous pilot study at the institution, the students did not necessarily enjoy the curriculum, the JAMP program at Long SOM decided to make a change. To address the issue, it is important to understand that this research is necessary as this demographic of students are usually those that have a lack of exposure to the field of medicine (Cleland et al., 2010). The most recent cohort has been included in this study which subsequently are all the students that participated in the program in the summer of 2019. This cohort consisted of the 25 students that went through the four-week program. These participants were passed through a background screening and application process that decided whether or not these individuals could be considered economically disadvantaged.

THE NEED FOR INTERVENTION

Long SOM has had the JAMP program running at the school for many years now and the previous years before the...
implications of the new curriculum focused on a course based around the topics of biochemistry, embryology, and clinical skills. While still educational in some respects, the way in which the course was organized and taught is not one that prospective medical students can learn more about the interface between basic and clinical science. This claim is backed by the relatively low scores that students received on the post program assessment and the poor ratings that were inferred from previous survey responses. Many students have found the information presented to be dry, redundant, and lacking in the clinical applications of cellular and molecular biology. The new curriculum is one that recognizes the discrepancy in terms of having an interest in the medical field amongst students whose families come from a lower socioeconomic status. The first reason for improvement derives from the fact that the previous program was lacking in structure of curriculum design when it came to the biochemistry course. The course had no stated objectives or tangible lesson plans which consequently caused the course to have no clear educational purpose. Another reason for shifting the curriculum to what it is now is the immense wave of positive feedback that was received during the summer 2018 trial run with a narrowed version of the program that aimed to combine basic sciences such as the biochemistry course with clinical science that is actually taught at Long SOM. The student responses from the 2018 trial run can be considered the true driving force for implementing this new program in the first place.

Table 1: Post-Program Survey Responses (N=25) Qualitative measure of new curriculum’s effectiveness as perceived by students at various points of the internship

| Ultrasound Lab was an exciting and motivating addition to my summer program | I enjoyed hearing about other specialties (i.e. psychiatry and orthopedic talks). | I was very excited to learn some clinical skills techniques as an undergraduate student | The pre-reading material was clear and sufficient to prepare for TBL quiz. | 4.92 | 4.84 | 4.83 | 4.83 |
| The group discussion allowed me to understand the importance of teamwork in medicine. | My preceptorship visit left me in excitement and furthered my interest in becoming a doctor. | The group discussion (team quiz) helped me better understand the concepts tested on the TBL quiz. | The lectures were effective in building a foundation and making connections later in the week. | 4.79 | 4.78 | 4.75 | 4.71 |
| Mock interviews were a helpful tool that made me a more prepared applicant | The Center for Medical Humanities & Ethics talk was an insightful addition to my summer program. | The Progressive Apprenticeship talk helped me to better appreciate my preceptor and reflect on my experience. | The goals and expectations of each session were made clear beforehand. | 4.7 | 4.68 | 4.67 | 4.66 |
| I enjoyed suturing clinic and thought it was an important part of my internship experience | Faculty Mock interviews were a helpful tool that made me a more prepared applicant | The Etiquette Dinner made me feel comfortable with dining in a professional setting. | My knowledge of the interface between basic and clinical science was enhanced following this week. | 4.54 | 4.63 | 4.6 | 4.52 |
| Experience                                                                 | Rating | Description                                                                 |
|---------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------|
| The discussion with Dr. Eddins (Dr. Flossy) was motivating and relatable for my journey to medical school. | 4.52   | I enjoyed hearing about other specialties (i.e. psychiatry and orthopedic talks). | 4.92   |
| I was very excited to learn some clinical skills techniques as an undergraduate student | 4.83   | My preceptorship visit left me in excitement and furthered my interest in becoming a doctor. | 4.79   |
| The group discussion (team quiz) helped me better understand the concepts tested on the TBL quiz. | 4.75   | The Center for Medical Humanities & Ethics talk was an insightful addition to my summer program. | 4.68   |
| The Progressive Apprenticeship talk helped me to better appreciate my preceptor and reflect on my experience. | 4.67   | Faculty Mock interviews were a helpful tool that made me a more prepared applicant | 4.63   |
| The Etiquette Dinner made me feel comfortable with dining in a professional setting. | 4.6    | The medical school tour was an insightful, motivating and exciting start for the program | 4.5    |
| The Culinary Nutrition lecture was an insightful addition to my internship experience. | 4.48   | The MD/MPH talk with Dr. Taylor was an important addition to my summer curriculum | 4.42   |
| The Anatomy Lab session helped better familiarize me with the Long SOM Anatomy curriculum. | 4.4    | On a scale of 1 to 5, how involved would you like your MCAT tutors to be: | 4.15   |

| Experience                                                                 | Rating | Description                                                                 |
|---------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------|
| The medical school tour was an insightful, motivating and exciting start for the program | 4.5    | The MD/MPH talk with Dr. Taylor was an important addition to my summer curriculum | 4.45   |
| The group discussion allowed me to understand the importance of teamwork in medicine. | 4.83   | Faculty Mock interviews were a helpful tool that made me a more prepared applicant | 4.63   |
| The lectures were effective in building a foundation and making connections later in the week. | 4.71   | The Center for Medical Humanities & Ethics talk was an insightful addition to my summer program. | 4.68   |
| The goals and expectations of each session were made clear beforehand. | 4.66   | Faculty Mock interviews were a helpful tool that made me a more prepared applicant | 4.63   |
| My knowledge of the interface between basic and clinical science was enhanced following this week. | 4.52   | The medical school tour was an insightful, motivating and exciting start for the program | 4.5    |
| The Professionalism Workshop allowed me to grow in and better understand professionalism. | 4.48   | The MD/MPH talk with Dr. Taylor was an important addition to my summer curriculum | 4.42   |
| The MMI session gave me a better understanding on interviewing as a medical school applicant. | 4.38   | On a scale of 1 to 5, how involved would you like your MCAT tutors to be: | 4.15   |
| On a scale of 1 to 5, how involved would you like your MCAT tutors to be: | 4.15   | On a scale of 1 to 5, how involved would you like your MCAT tutors to be: | 4.15   |
| I liked learning about financial aid in medical school | 3.92 | The morning MCAT session have a good structure that aids in my learning. | 3.79 | I learned new tools in the study skills session that will empower me to become a better learner. | 3.63 | I find value in group study during this time over individual study. | 3.47 |

Upon the completion of each respective week of the JAMP program, students were asked to respond to survey questions that would serve as an indicator of what they enjoyed about the class, and more importantly how much they ended up learning from the class. According to the results posted in Table 1, most of the students in the program seemed to enjoy the implication of new topics that were different from the material they were currently receiving with their undergraduate education. For example, exposing the JAMP students to the concept of an ultrasound proved to be the highest rated addition to the summer program with an average score of 4.92 out of 5. This addition, along with hearing about specialties they have not before heard of, were amongst just a few of the new additions to the curriculum that the students reportedly enjoyed. Furthermore, students generally liked the team portion of the TBL, where they had the chance to discuss as a team and generate answers. They also liked how the clinical lecture component served as a smooth transition from the basic sciences discussed in their pre-reading and tested on their Theme-Based-Lecture (TBL) quiz. The remaining topics and their respective ratings are posted in Table 1. Based on the vast amount of positive responses that were received from these students, it can be concluded that these students did in fact find the program to be a true learning experience that enhanced their knowledge of the topics taught in medical school. This newfound knowledge likely contributes to their overall success as medical students, and successfully instills a genuine interest for medicine amongst students of lower socioeconomic status.

### Discussion

Courses such as the one offered by the JAMP program have time and time again proven to be highly beneficial to pre-health students in terms of having a smooth transition to medical school. These programs have also been known to provide an opportunity to underrepresented students when it comes to their general interest in the field of medicine and their likelihood to succeed in the long haul (Wrensford, Stewart and Hurley, 2019). The JAMP program has been around for a long time and has made its mark at Long SOM for a great portion of that time. Although this program has been around to help underrepresented students find a real interest in medicine and to help them transition into medical school, the program was in need of some improvement when it came to the curriculum’s structure and organization. This was evidenced by the lack of structure in areas such as the biochemistry portion of the program and the integration of clinical skills into the science topics that are taught throughout. A program that lacks in curriculum is one that is not reaching their full potential as these kinds of pre-matriculation programs are known to enhance the knowledge of pre-health students in order to make their transition into medical school a smooth one where they are well-prepared to take on the rigors of medical school. In an effort to attain such a curriculum the summer JAMP program at Long SOM has been under construction and has implemented a brand-new curriculum that reflects the characteristics of a program that is successful in preparing underrepresented students for medical school (Alamodi et al., 2018). The new curriculum is one that models the current curriculum at Long SOM and one that aims to create health professionals that are able to apply clinical skills to the scientific topics that are learned within the courses offered. Along with mirroring the school’s curriculum, the new and improved program also aims to familiarize these underrepresented students with the school’s culture and overall setup.
Pre-matriculation programs have been implemented in the past in order to benefit students of lower socioeconomic status in terms of transitioning and succeeding in medical school (Shah et al., 2018). These past programs have proven to be highly successful in that participants within these programs reportedly felt that it eased the transition to medical school, increased levels of confidence, and provided opportunities to socially interact with peers and mentors (Kornitzer, Ronan and Rifkin, 2005). The JAMP program at Long SOM is aiming to do just this with the new and improved curriculum and while the previous program was indeed targeting a specific pool of minority groups, the level of interest and ease of transition into medical school amongst these students were lagging behind other pre-matriculation programs worldwide. Prior to 2018 the JAMP program traditionally taught at Long SOM was a student led biochemistry course that lacked organization and structure. In an effort to make the information that is taught more relatable and more organized the biochemistry portion was completely removed from the curriculum. Instead, the curriculum turned to implement the TBLs that students found to be more applicable to the clinical skills that they were learning along with respective scientific topics.

There are other programs in existence that follow a much different route than the JAMP program at Long SOM (Johnson et al., 2017). While still remaining true to the goal of spreading the interest in medicine to diversified minority groups, these programs are aimed at helping those students who may not necessarily be the best candidates for medical school in terms of their undergraduate GPA and respective MCAT scores (Lindner et al., 2013). Conversely, our approach to the pre-matriculation program that has been revitalized at Long SOM has been one that focuses on students who would make it into medical school regardless of their participation within the program. This provides for better matriculation rates upon being accepted into the school along with a better widespread understanding of what it takes to be a successful medical student. Along with having students in the program that already meet prerequisites required for medical school, the faculty involved in teaching these students can focus more on the clinical skills that accompany each science that is taught throughout the course, rather than improving these students’ general knowledge of these sciences. While a program such as one that focuses on students with lower educational performance can prove to be beneficial to society as more people will have the opportunity to provide care to the general population, the primary outcomes of enhancing the knowledge and appreciation for interface between basic and clinical science would not be met.

Another aspect of the JAMP program, or goal rather, would be the ultimate loyalty that is developed amongst the students in the program at Long SOM. Along with the goals of increasing matriculation rates into Long SOM and ensuring that students are able to enhance their knowledge of the relationship between clinical and basic science, the JAMP program is aiming to increase their overall numbers of medical students that are accepted and graduated from the school. In order to increase rates in this regard, it is important to instill a certain level of loyalty that these students feel towards their institution. This is backed by the fact that being part of a similar socioeconomic group while all becoming familiar with the structure of a school’s curriculum as a group are primary motivators for participating in programs like JAMP in the first place (Kosobuski et al., 2017). With group participation and a shared level of identity, loyalty to the program is an inevitable outcome that will in turn increase the overall level of matriculation into Long SOM.

Expanding on the concept of loyalty to the institution amongst the students in the JAMP program, a legitimate concern is raised regarding the structure of pre-matriculation programs such as these. While the program is one that aims at developing an interest in medicine and enhancement of clinical and basic science knowledge amongst underrepresented students, it can serve as a limitation to the scope of the study in that only a limited number of students are selected to participate in the program. This is backed by the fact that students who fall under these minority groups are likely to feel singled out or even discriminated against in some cases. This is due to the types of resources that are provided to students in that they are not available to students outside of the program (Wilson et al., 2011). While some may see this as a relatively fair advantage, others may see this as a handicap to reaching
their full potential as a student of science. Although this is a concern that could be raised with certain programs, we cannot generalize this to our own study as these programs were given on an online platform where students could access this information from a folder available only to them. The process of staying on the campus and having faculty simulate the rigors of medical school allows the students to feel more accomplished with their enhanced knowledge of medical topics upon the completion of the summer course.

Conclusion

Getting into medical school is a difficult journey for anyone, let alone a student who comes from a lower income family or a minority background. The opportunities presented to these kinds of students are simply not the same in terms of quality of education and exposure to medicine. Furthermore, getting accepted is half the challenge as graduating medical school and ultimately earning a residency are even more difficult tasks to accomplish. Knowing this, the JAMP program at Long SOM has been dedicated to serving students of this demographic by aiding them in their journey of getting into medical school in the hopes of them succeeding in the years that follow. Programs such as this one have proven to increase acceptance rates and more importantly matriculation rates amongst students of a lower socioeconomic status. With the goal in mind to enhance the knowledge and appreciation for medicine amongst demographic groups like these, the new and improved JAMP program has proven to accomplish both of these outcomes and much more.

Take Home Messages

Giving a student a glance at what their educational lives may look like in a few years is very motivating and beneficial towards matriculating and recruiting students to institutions.

Notes On Contributors

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Table 1: Source: All authors.

Appendix 1: (JAMP Program Weekly Schedule) Source: All authors.

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Appendices

Appendix 1: The weekly schedule of the JAMP Summer program for 2019

| Week | MON | TUE | WED | THU | FRI | SAT/SUN |
|------|-----|-----|-----|-----|-----|---------|
| 1    |     |     | Hotel Check-in B Welcome Dinner | Course Intro Group Assignments IRAT and tRAT briefings | 9am - 11am Heme 1: Physiology |         |
| 2 9am - 12pm Embryology | (All Day) Clinical Perceptship | 9am - 12pm Heme 2: TBL | 9am-11am Heme 3: Anemia | 9am - 11am Pulmonary 1: Lungs |         |
| 3 9am - 12pm Embryology 1pm - 3pm Pulm 2: TBL | (All Day) Clinical Perceptship | 9am - 12pm Pulm 3: Dyspnea | | | |
| 4 10am - 12pm Clinical Skill 1pm - 3pm Embryology Exam 2:30pm-4:30pm Cardio 2: Responses to Stress | (All Day) Clinical Perceptship | 10am - 12pm Clinical Skill 1pm - 3pm Cardio 3: SOB/Chest Pain | | 10am - 12pm Clinical Skill 1pm - 3pm Renal 1: Anatomy & Physiology | |
| 5 9am - 12pm Embryology 1pm - 3pm Renal 2: Stones, UTI | (All Day) Clinical Perceptship | 10am - 12pm Clinical Skill 1pm - 3pm Renal 3: AKI | | 9am - 12pm Embryology | 10am - 12pm Final Clinical Skill 1pm - 3pm Final Exam |
| 6 9am - 12pm Embryology Exam | (All Day) Clinical Perceptship Farewell Dinner | | | | |

Declarations

The author has declared that there are no conflicts of interest.

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Ethics Statement

Human Rights and Informed Consent: This manuscript does not contain any studies with animal subjects. All student surveys were consented to use data for publication. The Institutional Review Board Research Protection Programs (RPP) at UT Health – San Antonio deemed this project exempt of IRB approval. The decision was made on 13 August 2020 (protocol number HSC20200591N). The reasoning was as follows: The project activities are not regulated research and do not involve a systematic approach involving a predetermined method for studying a specific topic, answering a specific question, testing a specific hypothesis, or developing theory. The project was categorized as a Program evaluation. This refers to assessments of the success of established programs in achieving objectives when the assessments are for the use of program managers, for example, a survey to determine if program beneficiaries are aware of the availability of program services or benefits.

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