

Enhancing Student Competencies: Integration of a Signature Pre-health Course Series

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Abstract:

To address the various competencies professional programs look for in qualified applicants, we worked with a physician advisory panel to develop a signature course series to help students develop the skills, attributes, and attitudes necessary to succeed as a healthcare professional. By integrating this signature course series with an academically rigorous curriculum, our graduate programs empower students with social and cultural awareness and service orientation, preparing them to contribute to their professions and communities. This highlights the role that graduate and undergraduate programs can hold in increasing acceptance rates to health professions programs and preparing students for success in those programs through professional development and what distinguishes a program's focus in strengthening the holistic applicant.

Keywords:

competency, pre-health, service, professional development

Healthcare employers and, in extension, admissions committees want to ensure applicants have both the academic skills as well as the professional competencies necessary for them to be a successful student and future practitioner. In the Master of Medical Sciences program at Agnes Scott College, we focused on the design of a course

series that helps students develop and enhance their core competencies. The following paper summarizes how we implemented this signature course series into our curriculum and provides a model of best practices for how various pre-health programs can use this type of course series to support students in a holistic manner.

Competency Enhancement

Students applying to various health professions programs often seek out post-baccalaureate certificate, master's, and special master's programs to enhance their applications and improve admissions outcomes. These programs are generally designed to meet the prerequisite needs of students who are traditionally labeled as career changers or to provide additional scientific coursework to students who may want to continue academic success or who may be considered academic enhancers. Additionally, some programs may provide research opportunities while many of these programs will provide test preparation resources and advising services to support their applications to professional programs (Baffi-Dugan, 2014; Gillum et al., 2023; Soslau et al., 2005). Successful completion of these various types of post-baccalaureate programs has been shown to positively influence student matriculation into healthcare programs including medical school (Blakely & Broussard, 2003; Kulesza et al., 2015; Slife & Anderson, 2022).

Admission criteria for professional programs in healthcare increasingly focus on holistic measures that evaluate both the academic and interpersonal proficiencies of the applicants. In 2011, the American Association of Medical Colleges generated a set of core premedical competencies for entering premedical students that help guide students on what they will be evaluated on when applying to gain admission into medical schools (AAMC, 2023). The American Association of Medical Colleges updated their core premedical competencies in 2023 to reflect the changing landscape of medical education. The updates to the competencies emphasize professionalism as demonstrated in both mindset and behavior. The updated competencies also reflect an understanding that success in health professions requires specific attitudes and approaches to interpersonal interactions. Finally, the AAMC's updated competencies emphasize social determinants of health and cultural humility, expecting from the student a nuanced view of the world and their position in professional, social, and cultural systems (AAMC, 2023). Demonstration of these competencies is applicable to students applying to various health professions programs.

While the integration of holistic review into admissions policies and processes can promote greater diversity and the potential to impact health equity by placing value on applicants' academic profile, background, attributes, and experiences, students coming from populations underrepresented in medicine (URiM) continue to confront barriers, including limited access to advising, mentoring, shadowing, and clinical experiences (Henderson et al., 2021; Talamantes et al., 2019). One qualitative study of medical school admissions found that an admissions review that rewards clinical experience benefits applicants with socioeconomic advantages; those students are more likely to have both the time and resources to gain meaningful exposure to healthcare (Ko et al., 2023). Recognizing that current initiatives cannot remove or reduce structural barriers, we propose that what is needed is

a curriculum that directly influences success in admissions by supporting the growth and development of inherent qualities, attributes, and values of UriM applicants (Tello & Goode, 2023).

Signature Course Series for Health Professions Students

To address the various competencies that professional schools are looking for in qualified applicants, we designed our Master of Science in Medical Sciences programs at Agnes Scott College to 1) allow students to demonstrate academic preparedness and, 2) help students develop the skills, attributes, and attitudes necessary to succeed as a healthcare professional using various methods including the integration of a course series designed to promote these competencies. We propose that the integration of a signature course series into pre-health advising offices or within the academic curriculum can enhance student success in application and acceptance to professional programs such as medical school or physician assistant programs.

Course Design and Implementation:

To incorporate a curriculum that directly addressed the need for students to enhance the AAMC's core competencies, we designed our signature course series in collaboration with a physician advisory panel. The course is a two-semester sequence in which students take "Professional Success in Medicine and Health" their first semester and "Clinical Practicum" their second semester.

Semester 1: Competency Enhancement, an Overview

During the professional success in medicine course, in their first semester students are challenged to develop the skills, attributes, and attitudes necessary to succeed as a healthcare professional using the framework of the AAMC 2023 premed competencies (**Table 1**). Under the supervision of the clinical professor, students reflect on their current strengths and consider how to use those strengths to excel in the application process, as a learner in a rigorous professional program, and as a healthcare practitioner. Students become familiar with healthcare delivery in the United States, including the members of the medical team and their roles.

As students in the "Professional Success in Medicine and Health" course reflect on their strengths, opportunities for growth, and personal goals, they develop the skills necessary to fulfill many of the AAMC core competencies. Most explicitly, modules focusing on self-reflection, feedback, and goal setting allow for deliberate practice of the following AAMC competencies: "commitment to learning and growth," "reliability and dependability," and "resilience and adaptability." In addition to the AAMC competencies, the modules in the "Professional Success in Medicine and Health" course are directly designed to enhance the skills emphasized as important by medical school representatives in the AAMC working groups (**Table 1**) (AAMC, 2023). For example, one such characteristic emphasized by the 2023 AAMC working groups is "growth mindset." In the "Professional Success

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in Medicine and Health” course, a module entitled “Growth Mindset” takes students through the work of Carol Dweck, author of foundational works on metacognition. Students are then prompted to observe and reflect on their thought patterns through the lens of “growth mindset” versus “fixed mindset.” Finally, they are expected to use the concepts they have learned about growth mindsets to improve their approach to learning and skill development.

In another example, students in the “Professional Success in Medicine and Health” course work to develop the skills necessary to fulfill the AAMC competency “teamwork and collaboration” by completing a module titled “The Medical Team.” As with the previously described module on growth mindset, the focus of the medical team module is shaped by the AAMC premed core competencies and by the attributes emphasized as necessary for success by the AAMC working group. In “The Medical Team” module, students learn to identify the members of the medical team and their roles. However, their study of teamwork goes further than simple identification and understanding of professional roles in the healthcare setting. The AAMC working group identified “leadership and followership” as important characteristics for success in healthcare professions. Likewise, the AAMC competency “teamwork and collaboration” identifies the need to “adjust role between team member and leader.” Accordingly, in “The Medical Team” module, students in the “Professional Success in Medicine and Health” course explore concepts of hierarchy and reflect on the risks and benefits to foster the interprofessionalism required by the collaborative healthcare team.

The AAMC core competency “service orientation” emphasizes the importance of “commitment to something larger than oneself” and “dedication to...making meaningful contributions that meet the needs of communities.” (AAMC, 2023). Such a commitment to service is clearly beneficial to those who seek to enter a service-oriented profession such as healthcare. As such, a large part of the course is also to focus on service orientation, a key core competency (AAMC). During their first semester, as part of the course, health professions advisors work with individual students in researching and applying to community service opportunities and support each student in determining the volunteer experience that best fits their goals.

Semester 2: Service Orientation and Interpersonal Skills

In the second semester, students then complete their volunteer experience or community service projects with local hospitals, clinics, and nonprofits while enrolled in their clinical practicum course. In alignment with the college’s mission to prepare graduates “to engage the intellectual and social issues of their time” and the critical role that community service holds in developing a successful medical school application, the clinical practicum course requires a 3-6 hour commitment per week over a semester.

In addition, students work with their clinical professor at Agnes Scott College in the classroom. In this part of the course, students supplement the volunteer or community service experience by reflecting on and delving more deeply into topics such as patient-provider communication, implicit bias in medicine, healthcare disparities, quality improvement within the medical system, and ethical medical care. Under the instruction of the clinical professor, students also gain clinical skills in a classroom setting, including interviewing the patient, shared decision-making, and an overview of the physical exam.

The clinical practicum course provides students with the opportunity to observe the healthcare team and the practice of medicine in a clinical setting. Past student experiences include volunteering at local hospitals, clinics, community outreach, and nonprofit organizations.

The second semester “Clinical Practicum” course follows the same framework as the first-semester “Professional Success in Medicine and Health” course. It is based on explicit and deliberate practice of skills geared toward mastery of the 2023 AAMC premed competencies (**Table 2**). As with the first-semester course, the second semester is also informed by specific attributes and attitudes identified as critical for student success by the 2023 AAMC working group.

For example, in the second semester, students complete a module entitled “Healthcare Disparities.” In the “Healthcare Disparities” module, learners work through patient cases to identify healthcare disparities and the effect that those disparities have on patient outcomes. They are prompted to think broadly about the political, economic, and social forces that contribute to healthcare disparities. Students then reflect on the practitioner’s responsibility to address healthcare disparities at the personal and systemic levels. In so doing, students develop attitudes and attributes necessary for progress in many of the AAMC competencies, including, “cultural awareness,” “cultural humility,” “empathy and compassion,” and “ethical responsibility to self and others.” (AAMC, 2023)

Likewise, in the module “Effective Patient-Provider Communication” students hone skills essential to progress toward achieving the AAMC competencies of “interpersonal skills,” “oral communication” and “teamwork and collaboration.” This is accomplished through first identifying the characteristics of effective patient-provider communication, and then considering the risks of suboptimal communication to patient-provider relationships and patient outcomes. Students are prompted to recognize barriers to meaningful and complete patient-provider communication. Finally, students reflect on examples of patient-provider communication that they have witnessed, identify what went well in that interaction as well as opportunities for improvement, and develop strategies for personal skill development in oral communication.

Enhancing Student Competencies: Integration of a Signature Pre-health Course Series *(continued)***Conclusion**

In summary, integration of a course series to specifically address the competencies that admissions committees will evaluate in a holistic review of applicants is integral in helping students achieve their goals of matriculation into healthcare programs. In this structured environment, students at the undergraduate, post-baccalaureate and/or graduate level can be prompted to obtain service opportunities while delving into important topics and reflecting on their future role as a healthcare provider in the community. Students enrolled in these courses have revealed in course evaluations the impact that these experiences have had not only in shaping their application but also their acquisition of attributes like professionalism and personal growth as seen in the following quotations:

"I learned from every module of this course even if it was something small. For example, I have a psychology background so I was already familiar with imposter syndrome. But hearing how that operates in a medical capacity and talking about ways to cope with it in my future career was incredibly helpful."

"I thoroughly enjoyed the in-class discussions that we had in this course. Also, the aspect of the weekly reflection in the course made me think and truly evaluate myself, how I feel, and what I know about certain ideas and topics which is important for personal growth."

"I learned a lot about the many aspects that come with pursuing a career in medicine. The course was insightful."

Figures

Table 1: Professional Success in Medicine and Health (First Semester Topics): Mapped to AAMC Core Competencies

Example Topics	Topic Mapped to AAMC Core Competency
The Medical Team	Interpersonal Skills, Reliability and Dependability, Teamwork and Collaboration, Human Behavior
Growth Mindset	Learning and Growth, Reliability and Dependability, Resilience and Adaptability, Critical Thinking
The Imposter Syndrome	Learning and Growth, Empathy and Compassion, Resilience and Adaptability, Critical Thinking
Evidence-Based Medicine	Learning and Growth, Reliability and Dependability, Resilience and Adaptability, Living Systems, Critical Thinking, Scientific Inquiry
Diagnostic Reasoning	Living Systems, Critical Thinking, Scientific Inquiry
Metacognition and Cognitive Errors	Learning and Growth, Cultural Humility, Ethical Responsibility, Human Behavior, Critical Thinking
Health Equity and Social Determinants of Health	Cultural Awareness, Cultural Humility, Empathy and Compassion
Giving and Receiving Feedback	Learning and Growth, Interpersonal Skills, Oral Communication, Reliability and Dependability, Resilience and Adaptability, Teamwork and Collaboration

Table 2: Clinical Practicum (Second Semester): Topics Mapped to AAMC Core Competencies

Example Topics	Topic Mapped to AAMC Core Competency
Call of the Profession: Why Medicine?	Learning and Growth, Cultural Humility, Interpersonal Skills, Oral Communication, Reliability and Dependability, Service Orientation, Human Behavior
Implicit Bias in Medicine	Learning and Growth, Cultural Awareness, Cultural Humility, Empathy and Compassion, Ethical Responsibility, Interpersonal Skills, Human Behavior
Healthcare Disparities	Cultural Awareness, Cultural Humility, Empathy and Compassion, Ethical Responsibility, Interpersonal Skills, Service Orientation, Human Behavior, Critical Thinking
Medical Ethics	Empathy and Compassion, Ethical Responsibility, Resilience and Adaptability, Service Orientation, Human Behavior, Critical Thinking
Service Commitment - (required for course completion)	Learning and Growth, Interpersonal Skills, Oral Communication, Reliability and Dependability, Resilience and Adaptability, Teamwork and Collaboration Cultural Humility, Ethical Responsibility, Human Behavior, Service Orientation,

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