

HCOP National Academy @ Emory: Building a Multi-Entry Pipeline to a Career in Healthcare

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Introduction

Emory University School of Medicine (EUSOM), in collaboration with Atlanta Metropolitan State College (AMSC), Atlanta Public Schools (APS), the Rollins School of Public Health, Emory College of Arts & Sciences (ECAS), Southeastern Primary Care Consortium, Inc., Atlanta Area Health Education Center (AHEC), and the Urban Health Initiative (UHI), have developed an educational pipeline program focusing on providing programming, curriculum and activities to individuals from disadvantaged backgrounds in entering health professions. Collectively, this program, the National HCOP Academy at Emory, targets disadvantaged groups that have been historically under-represented in the health sciences field, partly due to a lack of exposure and access of minority communities to health sciences. The Target Population of the Emory Academy are students from the Atlanta Public Schools (APS), Atlanta Metropolitan State College (AMSC), Emory University School of Medicine and Rollins School of Public Health. These populations, Ambassadors, are carefully guided through curriculum and activities designed to increase self-efficacy, professional and academic development and mentorship helping the target population enter the healthcare educational pipeline. The target populations, and respective programs contained with the Emory Academy are:

Emory Collaborative Pipeline (EPIC) Ambassadors

The EPIC Ambassadors program services high school students, 10th to 12th grade, from disadvantaged backgrounds enrolled in Atlanta Public Schools (APS). Participants must be economically disadvantaged and/or educationally disadvantaged, must attend one of the five target high schools or be enrolled in an allied health or health profession program at the targeted institutions of higher education, and express interest in the allied health or health professions.

EPIC prepares high school students for college success and entry into health careers by providing programming and activities aimed at increasing students' academic achievement, college readiness, social support, and health career awareness and self-efficacy. Dedicated staff provide program activities on topics related to college admission processes, scholarships, fellowships, and undergraduate research.

Allied Health/Non-Traditional Ambassadors

The Emory Academy program offers two programs to allied health and non-traditional students seeking entry into the health professions by serving disadvantaged undergraduate students from colleges in the state of Georgia, including Historically Black Colleges and Universities (HBCU) and Hispanic Serving Institutions (HSIs). This population includes Atlanta Metropolitan State College (AMSC), a local community college, that specializes in providing educational and social experiences that help students reach their highest potential. The Emory Academy recruits AMSC students interested in health careers and offers them academic support, mentoring, clinical exposure, admission test preparation, health education research, and primary care exposure to facilitate target population entry into the allied health or health professions. To aid in academic achievement, Learning Communities have been established to help AMSC students fulfill specific requirements including attendance at academic tutorials, the completion and mailing of an application to enrichment science program(s) and completion of graduate/professional application(s) to include high quality resumes, essays and other materials.

The Emory Academy also offers the Health Professions Readiness Education Program (HealthPREP), a structured summer program to facilitate the entry of qualified students from disadvantaged backgrounds, into health professions schools. Participants are provided with an opportunity to develop skills that will increase their competitiveness for admissions to health profession graduate and professional programs. Activities include improving performance on admissions tests (MCAT and GRE), professional development activities, research experiences, and exposure to primary care. HealthPREP helps participants develop the skills necessary to succeed in health professions and beyond including biomedical and community health research. HealthPREP works with Emory units such as Laney Graduate School and the Rollins School of Public Health to provide additional opportunities to conduct research and learn more about research opportunities and build student interest in research. Program participants engage in coursework, labs, learning skills, and career and personal development during the eight weeks of the program while participating in practical experiences and seminars. The intent of this initiative is not just to give students the academic skills needed, but also to increase their resilience and fortitude by giving them personal and professional skills needed to succeed in graduate and professional schools. HealthPREP also provides participants the opportunity to interact with health care providers on topics such as health disparities, wellness/mental health, and financial planning. Program workshops include activities to improve personal statements, time management, and interview skills.

Emory Medical Imaging (MI) and Health Professions (HP) Ambassadors

Lastly, the Emory Academy program provides programming for Emory School of Medicine Medical Imaging students to create a mentoring network of current Medical Imaging Health Profession faculty and students. Participants are provided scholarships/stipends to help alleviate some of the financial burden that serves as a barrier to economically disadvantaged students participating in enrichment programs and persisting in school. Emory Academy Health Profession Students (HP) are also provided financial support through scholarships/stipends to increase retention by reducing financial burdens while being provided tutors to help students struggling in specific subject areas and providing mentoring support by Emory School of Medicine faculty.

Taken together, the Emory Academy is an expansive and unique educational pipeline program working with K-12, undergraduate and graduate student populations in order to increase retention and success in students entering healthcare professions. The assistance provided ranges from academic, professional and career support to financial and mentorship support, all designed to address evidence-based bottlenecks in student success in entering healthcare professions at a variety of entry points.

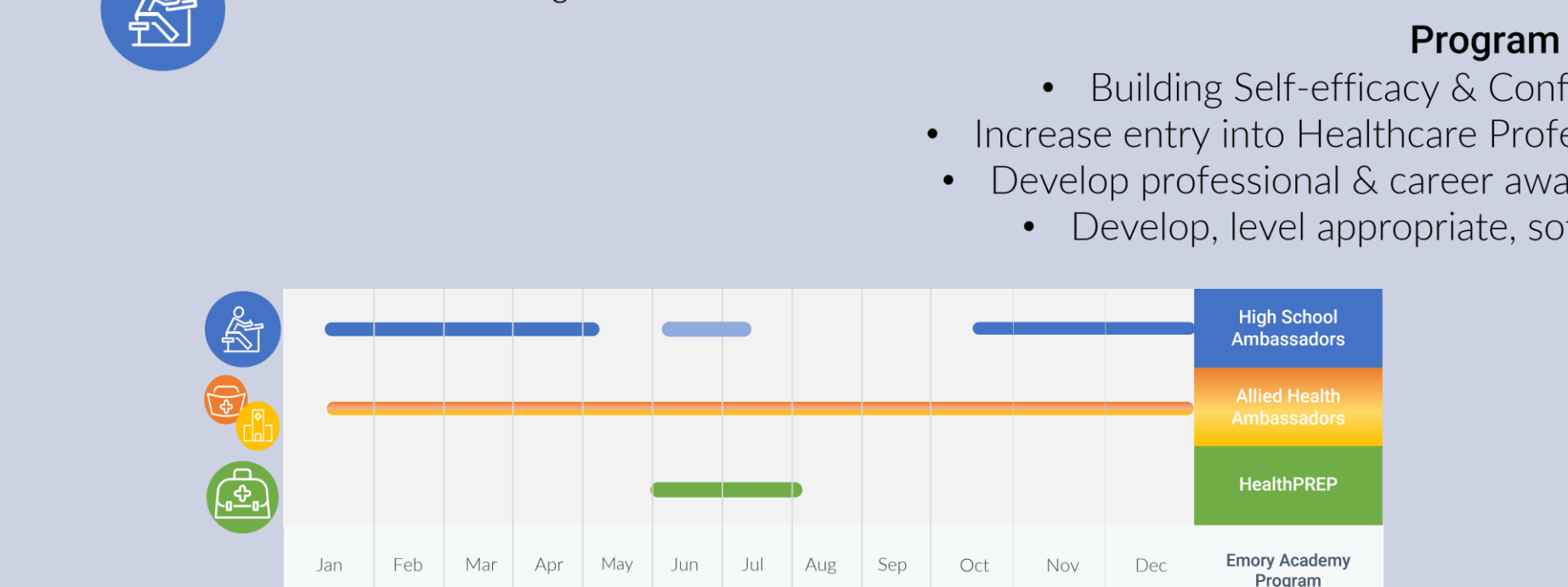
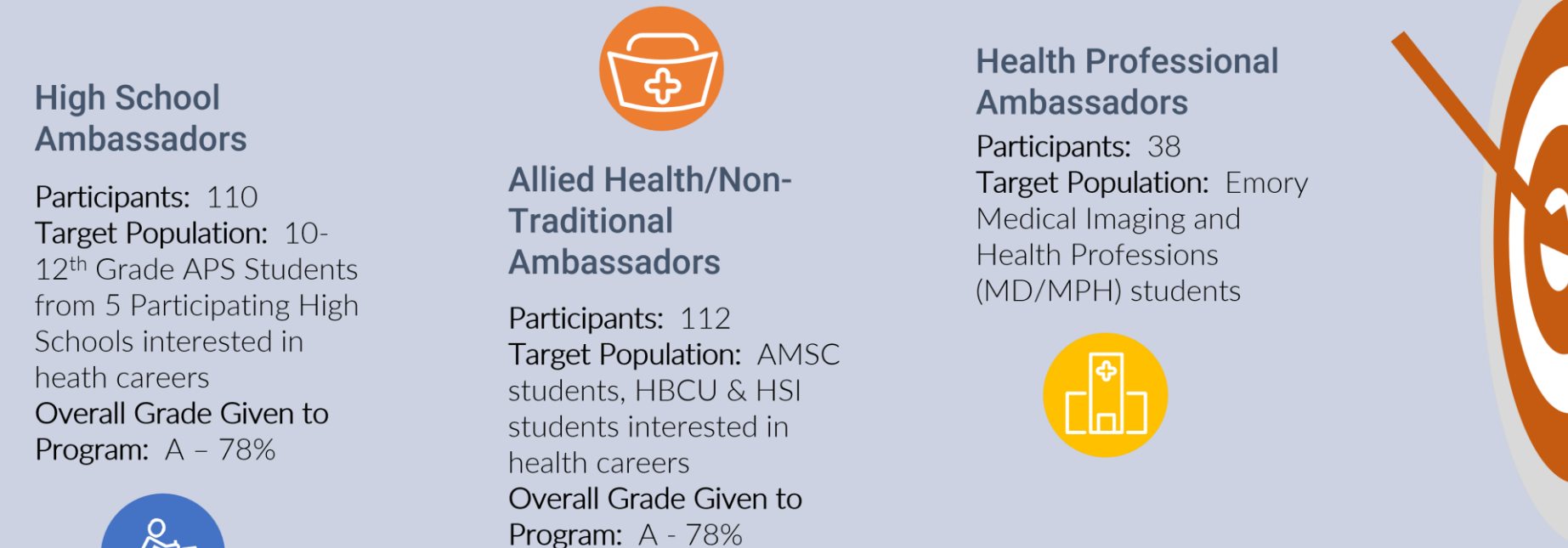
Methods

Academy programs are evaluated using a mixed-methods approach. The combination of quantitative and qualitative methods allows for a comprehensive analysis of the program goals as well as thorough understanding of the participant experience. Each Academy participant completes pre- and post-program surveys containing both quantitative metrics and open-ended responses. Additionally, Academy participants engage in focus groups, interviews, and/or written check-ins. Each year, following completion of the program, participants are asked to submit an alumni survey containing both closed- and open-ended responses. The alumni instruments, combined with data from the National Student Clearinghouse, allow for the longitudinal tracking of Academy participants' academic and career progress. All analyses are summarized in written reports and data visualizations allowing program administration to review the program impact and assess grant goals.

Quantitative data is extracted from survey and other instruments and entered in SPSS for further analysis. Using SPSS, descriptive and statistical analysis are performed, as appropriate. As needed, longitudinal data analysis is completed on similar measure across cohort and/or year using standard educational data analysis methods once the data has been properly formatted into complex analysis structures.

All qualitative data is analyzed using an iterative, grounded approach with the aid of MaxQDA, a qualitative analysis software. While the goal for these analyses is not to produce theory, the methodology utilized by grounded theory serves as a guide for analysis. All transcripts and open-ended responses are initially read for understanding and marked to outline the structure of the text and broad topics. Next, data is coded drawing on both ideas outlined in the question or protocol and those that emerged directly from the data. Often key concepts surface directly from participant's responses; thus, in vivo codes frequently appear in the coded text. All coded data is examined for redundancies and clarifying codes prior to beginning a thematic analysis. Coded text is reviewed for similarities and differences in respondent experiences, common ideas, and diverse perspectives with the intent of grouping and then comparing codes across the responses. Themes and code groupings are conceptually mapped to examine how codes relate to one another and explore the flow among ideas. This process produces a thorough and careful assessment of the data and the relationships among the core concepts.

Emory Academy Programs and Timeline



Emory Academy Demographics

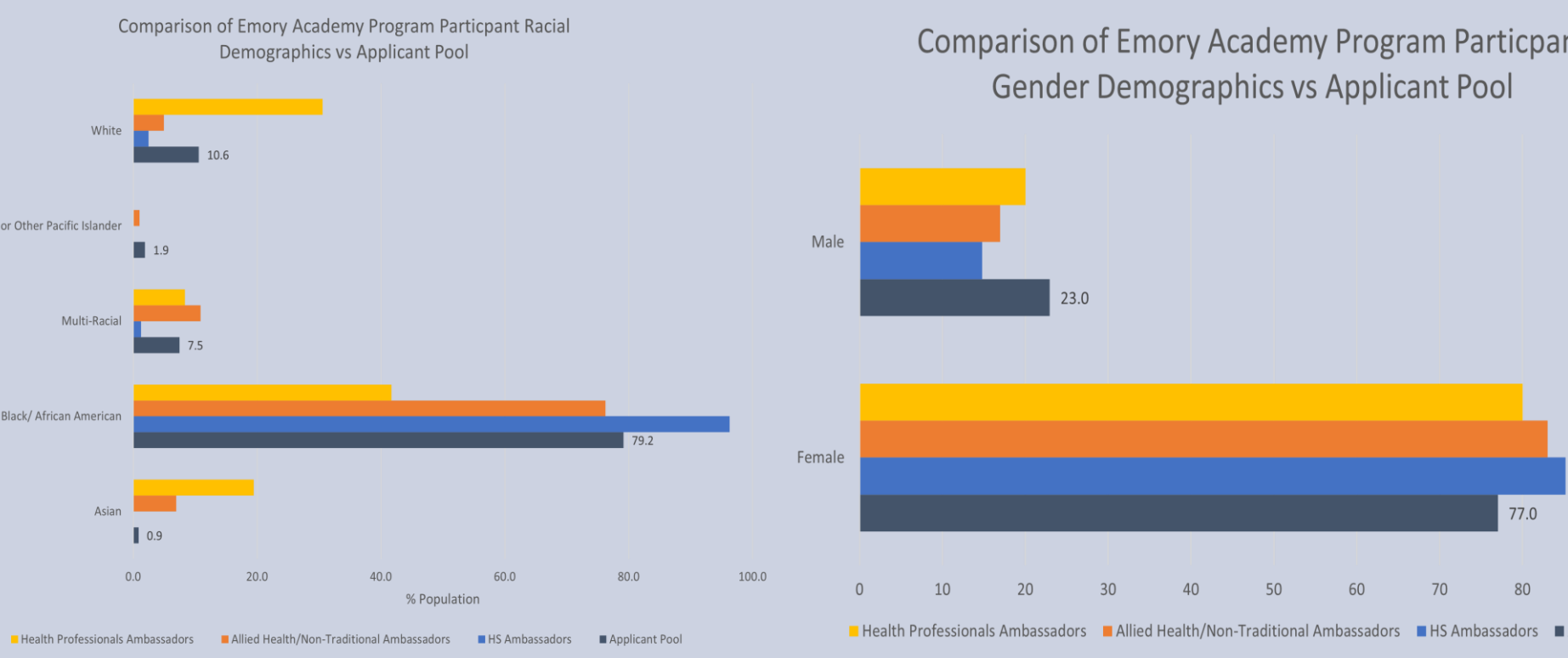
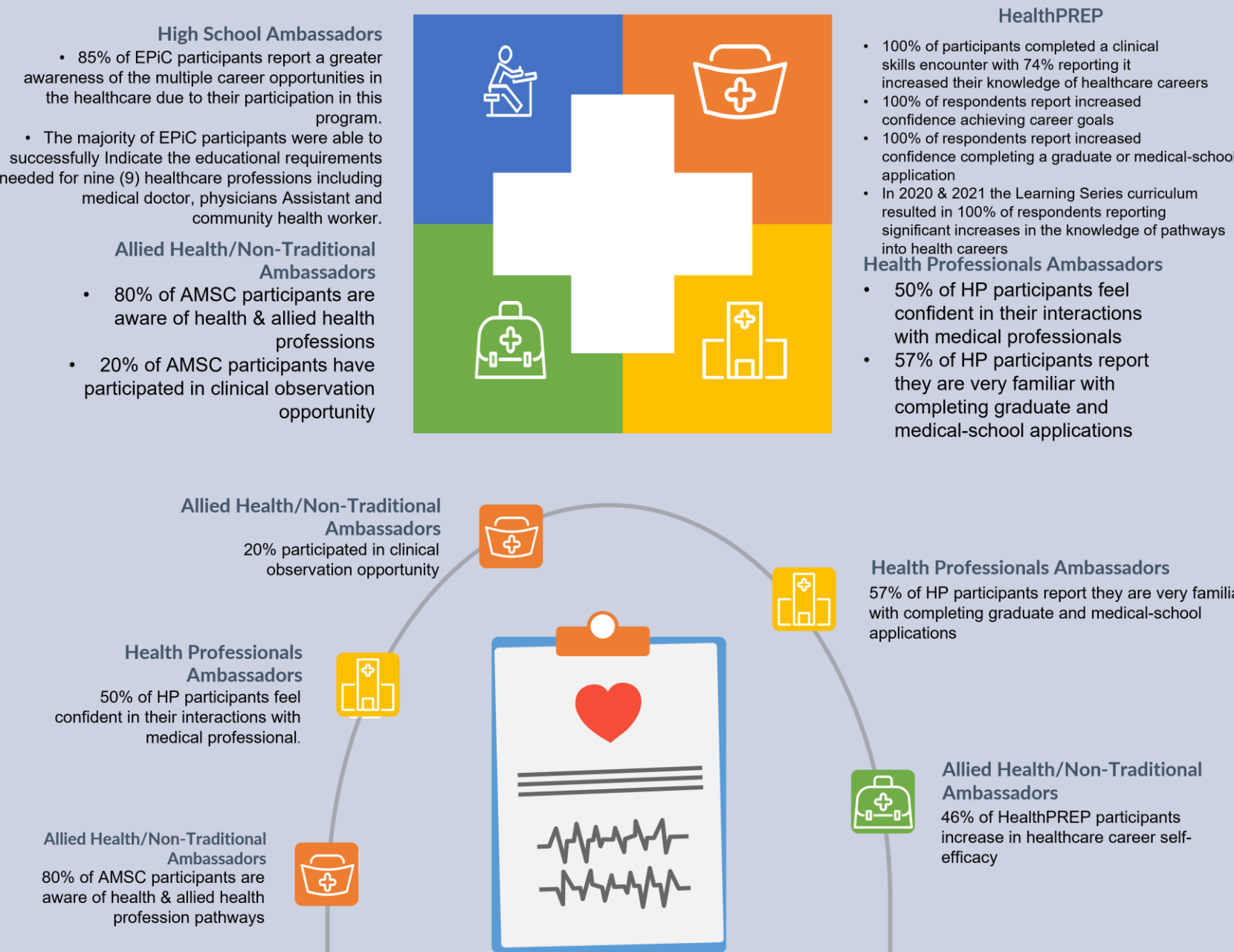


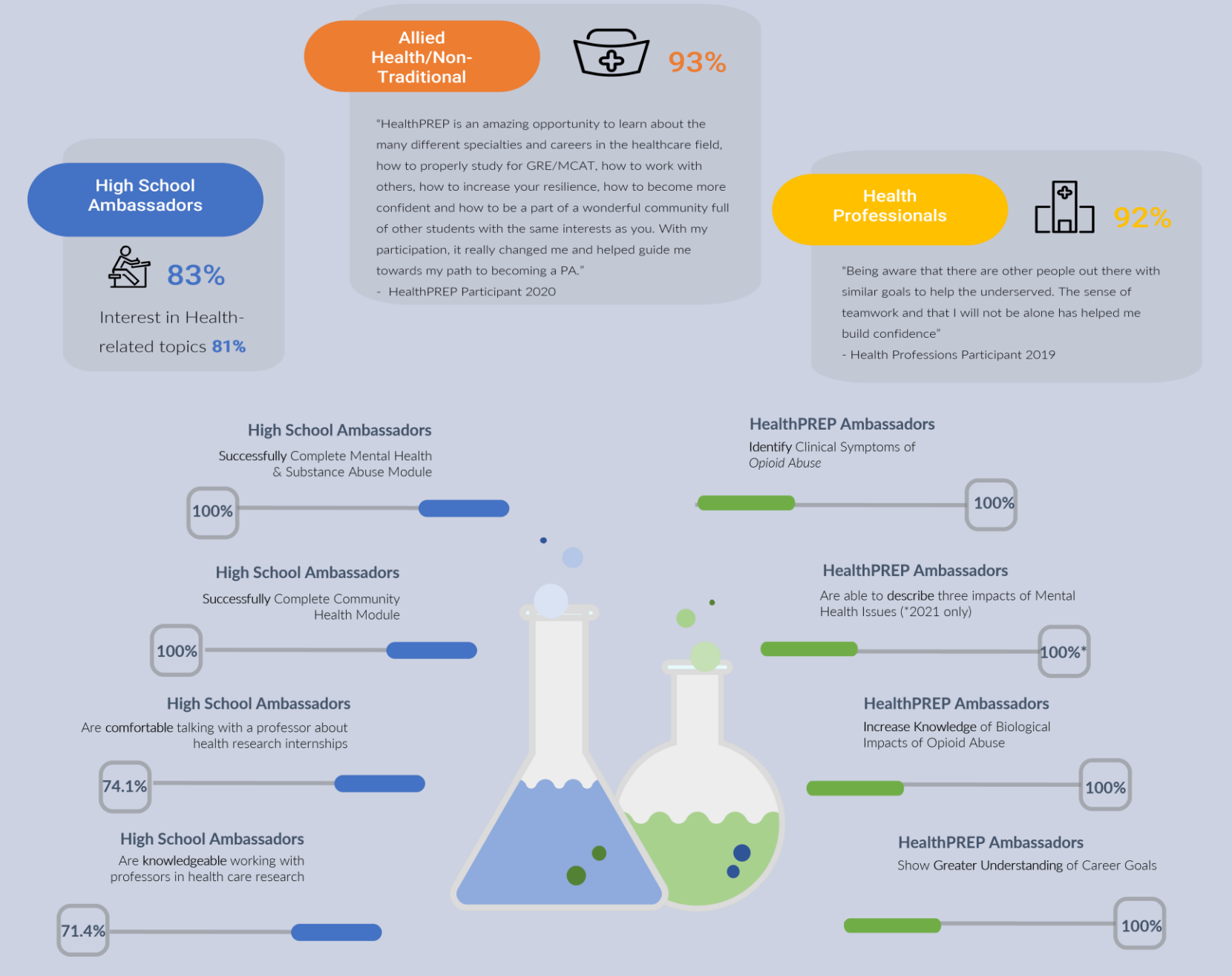
Table with 4 columns: Participant Demographics (%), High School Ambassadors, Allied Health/Non-Traditional, Health Professionals. Rows include Urban/Rural Participants, First Generation, Hispanic, and Non-Hispanic.

*HealthPREP data only; †Health Professions data only

Goal 5: Broadening Awareness of Pathways into Healthcare



Goal 7: Health Research Exposure



Goal 2: Academic Achievement



Average Grant Goal Performance Trends

Table with 3 columns: High School Ambassadors, Allied Health/Non-Traditional, Health Professionals. Rows list 7 goals with performance indicators (checkmarks, Xs, and arrows).

Results

Emory Academy Timeline

While the Emory Academy targets three unique populations, the programs within the Academy can be broken down into three distinct activity timelines. The figure shows these three programs and their annual schedule based on Program activities.

Emory Academy Demographics

Emory Academy is designed to increase engagement and participation among underrepresented populations within healthcare. Both the applicant pool and individual program demographics show that the Emory Academy has been successful in recruiting and accepting participants from a diverse background, including Black/African American populations and female participants. Additionally, when finer demographic details are reviewed, the Emory Academy has been successful in recruiting both urban and rural participants, first generation students, and Hispanic participants.

Goal 2: Academic Achievement

Academic achievement is of particular interest within the High School Ambassador program, as other program participants are mentored by faculty mentors able to better aid in academic needs. HS Ambassadors have shown an overall higher science and cumulative GPA upon exiting the EPIC program while successfully completing practice and national standardized testing, including specialized courses and activities in test taking and success.

Goal 3: Career/Professional Support

High School Ambassadors Cohort Analysis of the AY19-21 cohort shows a 2.1-fold increase in career interest in Environmental Lab Official, Lab Tech and Scientist, while the AY20-22 cohort shows a >1.5-fold increase in career interest in Environmental Lab Official and Medical Doctor career opportunities; this cohort shows a >1x decrease in interest in Public Health Official and Veterinarian.

Career/Professional support is particularly important for the Allied Health/Non-Traditional and Health Professionals Ambassadors. Over the course of the program, Emory Academy has been able to increase participant interest in allied health careers and the education required to be successful. The information provided included activities of financial, application requirements and sponsorship needed to be successful in future healthcare careers.

Goal 4: Mentorship

Across the Emory Academy, mentorship is a critical component of each program as it makes a significant contribution to facilitate participants pathway into healthcare careers. Apart from HealthPREP, all participants are provided a near-peer, undergraduate or faculty mentor. To date, mentorship has been a successful program focus with participants reporting strong support of mentorship and understanding the value of mentorship in achieving their professional and career goals.

Goal 5: Broadening Awareness of Pathways into Healthcare

Engaging participants to grow their understanding of the pathways and means to enter healthcare careers is key to participant success. Much of the curriculum, activities and discussions within the Emory Academy center around these healthcare pathways. To date, ALL program participants have shown a greater awareness of healthcare pathways in health and allied health careers. As shown below, Ambassadors in Allied Health/Non-Traditional and Health Professionals show increased in their awareness of the requirements to enter healthcare careers and their confidence interacting with medical professionals.

Goal 6: Primary Care Exposure

Emory Academy engages participant populations in a variety of activities which are centered around primary care exposure. While the data for this goal is not shown, the program has overall been successful in exposing participants in primary care, based on participant reflection of program elements and participant engagement with primary care medical professionals.

Goal 7: Health Research Exposure

The figure shown, provides an in-depth review of the health research exposure that High School and Allied Health/Non-Traditional Ambassadors receive. This data is also representative of the remaining programs outcomes data as well. Overall, each program participates in engagement with a multi-faceted curriculum around health research. For example, High School Ambassador participants receive a semester-long engagement with Mental Health & Substance Abuse modules. This curriculum has helped to increase both knowledge and comfort among program participants along with greater self-efficacy in participants regarding their ability to do health research which, by participant reflection, shows an increase in confidence in achieving professional/career goals.

Average Grant Goal Performance Trends

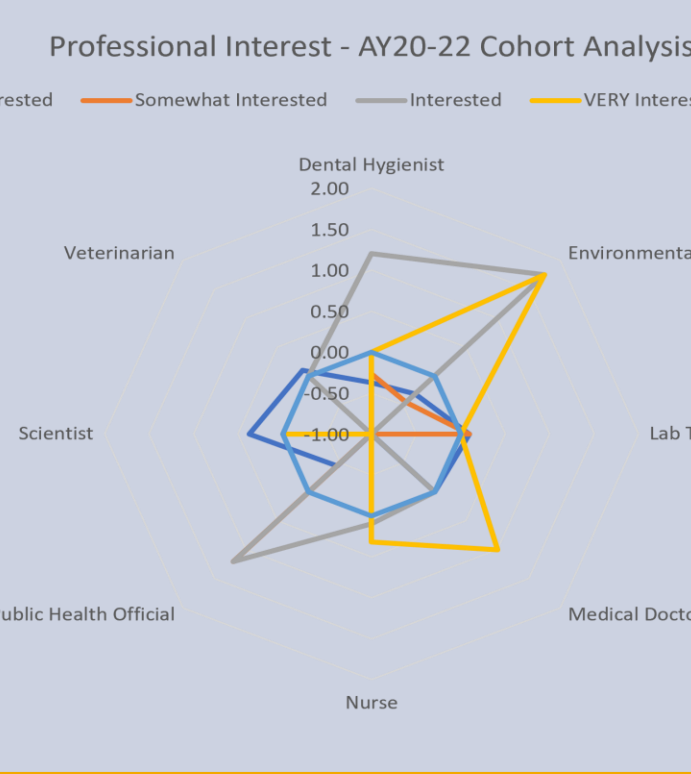
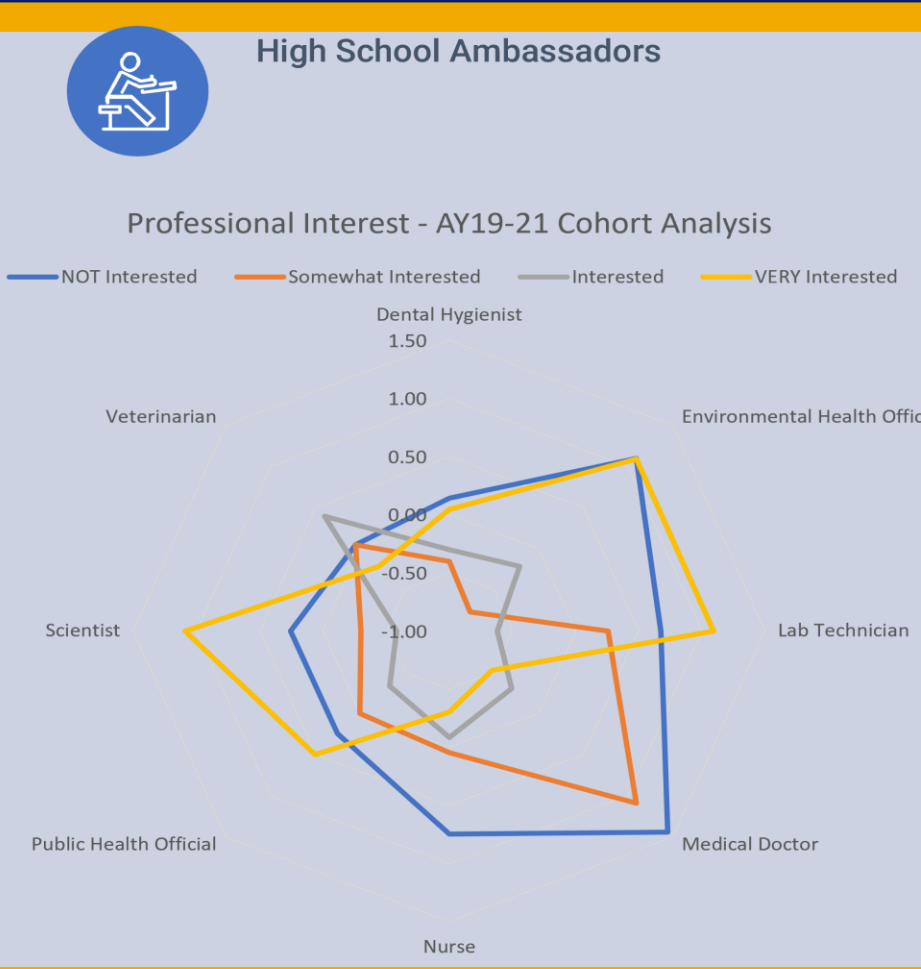
Emory Academy is guided by the seven (7) goals of our current grant. All goals build on the successes of previous iterations of similar programs while pushing forward to use evidence and formative data collected to inform program curriculum, activities, successes and opportunities. In the table shown, check marks show a steady increase in metrics indicating positive outcomes have been noted over the life of program. An "X" indicates that no change or a metric-reviewed decrease in outcomes has been noted over the life of program with general trend(s) of less than 1-year trend shown using an accompanying arrow. Lastly a double-headed arrow indicates there has been no metric change in the outcomes of this goal or the program noted does not focus resources on this goal. In brief, the Emory Academy program continues to be successful in achieving the goals and outcomes of the program.

Conclusion

The Emory Academy provides carefully guided curriculum and activities designed to increase self-efficacy, professional and academic development, and mentorship. A thorough review of the available findings show significant, positive impacts on these goals across the target populations. Participants demonstrate improved readiness and confidence as they enter the healthcare educational pipeline and future healthcare professions.

The average grant goal performance trends show that in general the programs are achieving the goals set forth in the grant. There are some gaps in goal performance for each program. These gaps should be considered as the program directors continue to enhance and deploy the curriculum. It should be noted that the transition to virtual programs resulting from Covid19 presented many challenges. For example, forming mentoring relationships and hands-on primary care and research experiences became difficult. All the programs pivoted well and sought new and inventive ways to share this curriculum with varying results by program.

Goal 3: Career and Professional Support



- Allied Health/Non-Traditional Ambassadors
• 80% AMSC participants extremely/very interested in allied health careers (Medical Imaging, PT, Genetic Counseling, etc.)
• On average, 93% of HealthPREP participants are extremely/very interested in health-related careers at the conclusion of the program (2019-2021)
Health Professionals Ambassadors
• 71.4% of Medical Imaging students interested in completion of 2-year specialist graduate degree
• 93% of Health Professional Ambassadors are extremely confident they can achieve their career goals
• "This program has definitely kept me grounded mentally and financially, reminding me that people are there to help you. I'm so grateful for having been selected." - 2020 HP Participant

Goal 4: Mentorship

High School Ambassadors
• EPIC participants rate their mentor experience 4.5/5 Stars
• 76% of EPIC participants indicate they like their Mentor experience
• 91% of EPIC participants indicate their mentors respect their educational and professional goals
Allied Health/Non-Traditional Ambassadors
• At least 80% of AMSC participants have a mentor, with 50% interacting on a weekly basis
• 100% of AMSC participants report their mentorship experience meets their expectations
• 80% of HealthPREP participants report developing a strong mentoring relationship during the program
Health Professionals Ambassadors
• 31% of HP participants have a mentor, with 80% of them meeting on a monthly basis
• 50% of HP participants report their mentorship experience meets their expectations
Quotes from participants about mentorship experiences.