INSPIRE program: Eleven years of promoting STEM and Healthcare careers among low-income, under-served, minoritized high school students.

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Abstract

The dearth of Latinx and African American (AA) professionals in science, technology, engineering, and mathematics (STEM) is most concerning. AA and Latinx workers in the labor market hold an 11% and 17% share of US workers, respectively. However, these groups only contribute 9% and 8%, respectively, of STEM professionals and 4.8 and 6% of physicians (Temming, 2021). Thus, academic programs focused on AA and Latinx STEM representation are vital in meeting the demands of increasing STEM and healthcare positions and diversifying these fields.

To build a pipeline for Latinx and AA high school (HS) students into STEM/healthcare fields, Rosalind Franklin University (RFU), a health professions graduate school, has developed the INfluence Student Potential and Increase Representation in Education (INSPIRE) program. Interested HS students from low-income and federally designated medically underserved areas in northern Lake County, Illinois, are enrolled in the program during high school and return annually until the completion of their undergraduate degree. INSPIRE is an eight-week summer, salaried program offering biomedical courses, career development seminars, parental engagement, and hands-on original biomedical research performance under the direction of a faculty mentor supported by a graduate student advisor on a 1:1:1 ratio. Since 2011, 62 students have participated, summing up 169 summer sessions. 100% of eligible participants have graduated from high school, 95.5% of them have matriculated into two- or four-year Colleges, 83% of the high school graduates have pursued STEM or Healthcare careers, and 6.6% of the 4-year college graduates have pursued postgraduate education; one of them at RFU. These numbers are significantly larger than the students' peers who are not participating in the program.

Keywords. STEM, Minority Representation, High School, Biomedical Research, Higher Education, Healthcare, Hispanic/Latinx, African American.

Introduction

In the US, the demand for STEM occupations significantly outpaces the number of trainees (US Congress Joint Economic Committee, 2012; Carter et al., 2019). The National Science Foundation states that expanding the STEM workforce is a national priority. STEM jobs will grow faster (8.8%) than non-STEM jobs (5%). The median salary for STEM jobs is $87K, while non-STEM is $38K.

Among US workers, 12% are African American (AA), and 17% are Latinx. However, these groups only contribute 9% and 8%, respectively, of STEM professionals and 4.8 and 6%, respectively, of physicians (US. Health Occupation by Race/Ethnicity 2011-2015; Temming, 2021; US Bureau of Labor Statistics, 2020; US Department of Education, National Center for Education Statistics, 2016). A comprehensive, intentional plan is needed to develop STEM/healthcare pipeline programs focused on Latinx and AA students to meet the demands of increasing STEM/healthcare positions and diversifying employees in these fields.

Rosalind Franklin University of Medicine and Science (RFU) is a private professional and graduate school founded in 1912. It has been in North Chicago, Illinois, since 1980. It offers health science programs and is the only institution offering postgraduate training for healthcare professionals in Lake County, Illinois. The demographics of RFU's neighboring communities predominantly consist of Latinx and AA populations (Tables I & II). The adjacent high schools (HS) to RFU are North Chicago Community HS, Round Lake HS, Waukegan HS, and Cristo Rey Saint Martin College Prep (in Waukegan). These high schools have a large Latinx and AA student enrollment (see Table II).

Table I provides an overview of the demographics of the city where RFU is located (North Chicago) and two neighboring towns (Waukegan and Round Lake). Table I shows these three cities share numerous characteristics, including large, underserved, and minoritized populations. Given that in 2022, the US median income was $74,580 (census.gov), Waukegan and North Chicago incomes are 72% and 63% of the national average; Round Lake is at the national average.

In 2010, no students were enrolled from Waukegan, Round Lake, or North Chicago at RFU. To serve their local community more directly and to address the underrepresentation of demographic groups in STEM and healthcare fields, RFU implemented a two-phase project.

The first phase involved identifying the barriers that prevented local under-represented in medicine (UiM), Latinx, and AA students from studying at RFU. Analysis of the barriers precluding local UiM students from achieving higher education reflected the same roadblocks encountered by similar students across the country. The main barriers were a lack of role models. (Bravata et al., 2020; Steele, 2010); lack of family academic support (Thursby et al., 2023); low academic expectations (Carnevale et al.,

Table I. Demographics of the city where RFU is located (North Chicago) and two nearby towns (Waukegan and Round Lake). Data was gathered from the Illinois 2020 Census, www.census.gov.

	Total Population	Latinx Population (%)	White Population (%)	African American population (%)	Median Income ($)	Median Age
Waukegan	88,614	51.9	19.2	19.6	53,778	33.1
North Chicago	30,025	34.7	29.5	25.5	47,213	24.1
Round Lake Area	27,081	50.6	41.3	3.9	77,207	33.5

Table II. Demographics of INSPIRE High Schools Program Feeders. Data gathered from Cristo Rey St. Martin College Prep 2020-2021 School Profile and the Illinois Report Card 2020-2021. The 100% gradua tion information for Cristo Rey is that about 100% of the 2021 class was accepted to 4-year and 2-year institutions. The post-secondary information for Waukegan, North Chicago, and Round Lake was from the 2020 Illinois School report card. The state average for 2020 was 64% of students who attended post-secondary school right after graduation

	Latinx Population (%)	White Population (%)	African American population (%)	High School Graduation Rate (%)	High Schools Graduates Attending College (%)
Waukegan	79.6	3.2	13	74	44
North Chicago	56.9	4.8	30.7	73	36
Round Lake Area	78.1	10.7	7.5	90	48
Cristo Rey St Martin	95	1	4	100	100

2019; Benner et al., 2021); and economic limitations and pressures (de Brey et al., 2019).

The second phase consisted of creating a pipeline program to increase the representation of local UiM students in STEM and healthcare by overcoming the identified barriers. Thus, the program had to provide role models, engage the students' families, set reasonable and clear expectations, be free of charge, and critically give a salary to the students.

Mission, vision, and specific goals of the INSPIRE Program

Mission: To identify and holistically support the full development of local UiM high school students interested in STEM and healthcare careers.

Vision: To prepare local UiM STEM and healthcare professionals at RFU who will effectively serve their communities and become role models for future generations.

Specific goals: 1) prepare local first-generation UiM students at RFU for college and careers in STEM/Healthcare; and 2) keep INSPIRE students on track for success by providing mentorship, workforce experience, life skills, academic guidance, career exploration, and family engagement.

INSPIRE Students demographics. Driven high school students from low-income and federally designated medically underserved areas are enrolled during high school. Once recruited, INSPIRE students can continue with the program each summer until completing their undergraduate degree. From 2011 to 2022, 62 students have participated; 38% self-identify as male and 62% as female. The education levels of students at their entrance to the program are high school 9th (8%), 10th (46.8%), 11th (25.8%), and 12th (17.7%) grades, and college students (1.6%). Students' ages are 16-20 years.

Selection of High School Students. The goal is to identify students interested in STEM/healthcare who are committed to education and provide them opportunities to enhance their academic achievements and vision to accomplish higher education. Students are selected based on three criteria: i) interest in STEM/Healthcare, ii) consistent passing of high school grades, and iii) family support of the program demands. These criteria are evaluated based on a required application essay, demonstrated academic commitment, and an interview (English or Spanish) with the student's family.

INSPIRE Program Curriculum. INSPIRE runs for eight weeks, Monday through Thursday, from 9 am to 4 pm during the students' summer break (June through August). Students conduct original, hands-on biomedical research under the direction of a faculty mentor, supported by a graduate student mentor in the RFU research laboratories. Most INSPIRE students communicate with their graduate student mentors and faculty advisors during the school year.

Table III. "Art of Scientific Presentation" Class Theme and Objectives.

Class Theme	Objective(s)
Scientific presentation: The basics	Students will be able to: Identify scientific presentation components. Format a scientific presentation using PowerPoint. Discuss critical messages in their scientific presentation.
Scientific presentation: The presenter	Students will discuss the importance of oral presentations. They will answer: How can they gain the audience's attention and avoid misdirection through their body language and voice? How can they become better presenters through practice?
Scientific presentation: Questions	Students will discuss i) how to answer questions, ii) how to respond to questions they do not know the answer, iii) how to become better presenters through practice, and iv) how to handle hostile questions.
Writing an abstract: Practice	Students will: i) write scientific abstracts, ii) identify components of an abstract, and iii) recognize common problems in writing and how to avoid them.

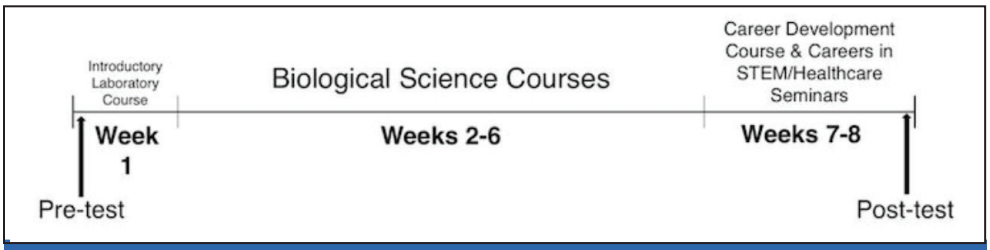

Figure 1. INSPIRE Course and Seminar Schedule

Figure 1 illustrates the INSPIRE summer internship with biological science courses and career development seminars schedule (2011-2021).

Week 1. Students receive an introductory laboratory course that prepares them to enter the laboratory with knowledge of basic chemical handling and safety protocols. Students also attend daily classes taught by graduate student mentors to gain a more extensive background in biology. A pre-test measures basic understanding of the biological sciences relative to the biomedical field.

Weeks 2 through 5. Students receive a Biological Science Class introducing and reviewing basic science concepts. The course is designed to mimic the classes taken by undergraduate students pursuing biological sciences degrees during the first and second years of college. Graduate students serve as class facilitators and impart

the curriculum throughout the summer, strengthening the bond between participants and their graduate student's mentors.

Week 6. Students are trained to enhance their science communication skills and college/career application competitiveness. The "Art of Scientific Presentation" class introduces science communication applicability and provides a template to create and prepare an oral presentation on their summer research. Table III illustrates the content covered.

Weeks 7 through 8. Students enhance their science communication skills and college/career application competitiveness. The career development series focuses on becoming a competitive applicant for higher education and future careers. Students learn the basic templates to design a resume and curriculum vitae. In addition, they are introduced to basic interviewing and networking skills and are provided opportunities to roleplay specific scenarios they may encounter in the future. Lastly, students are given advice and examples for writing personal statements for college and graduate school applications. Also, during Week 8, a post-test is administered to measure retention of the basic knowledge of the biological sciences relative to the biomedical field provided during the 8-week program (See DISCUSSION).

Career Exploration Seminars. Seminars provide insight into potential STEM and healthcare careers. The panelists are healthcare professionals who share their journeys, answer student questions, and interact with them through small group discussions.

Research Component. Eighty percent of the time INSPIRE students spend during the program is conducting basic science research. All RFU schools participate. Students are assigned to laboratories held by RFU faculty members of various health education and biomedical research disciplines. Efforts are made to accommodate students' interests with the research laboratory theme. On average, INSPIRE students spend 20-22 hours per week engaging with their research project during the program.

LABSTER and MCAT preparation. Two new opportunities were implemented in 2022 to better serve incoming and college senior INSPIRE students. Incoming students take the virtual laboratory simulator LABSTER®, and senior college students can spend the summer training to take the MCAT® exam. Medical schools use this standardized exam to evaluate a candidate's readiness for medical school.

INSPIRE Program Support. Teaching and learning components of the INSPIRE program have been designed to increase the student's chances of success in higher education by giving them an advantage in science and math, two subjects that many students from under-resourced high schools struggle with in college (Syed, 2011). Each day, the students attend a lecture focused on science or math. In addition, graduate students facilitate review sessions and one-on-one tutoring as needed and conduct weekly quizzes to support students in their learning. Before the summer sessions, participant faculty advisors and graduate students receive one hour of training on cultural sensitization and humility to interact with minoritized students. This training includes discussions on the roadblocks INSPIRE students face, including stereotype threats and microaggressions.

Mentoring. Students are mentored by their graduate student mentors, faculty advisors, and each other, as the returning students coach and mentor the younger students. STEM mentorship is a potent, influential instrument for minorities in STEM success (Zaniewski, 2016), performance in academia (Campbell & Campbell, 1997), social integration (Allen et al., 1999), and retention (Mangold et al., 2002). INSPIRE program biomedical science PhD and healthcare students serve as role models and develop positive relationships with the INSPIRE students.

The INSPIRE graduate student mentors are either PhD or MD RFU students. These students are selected because of their knowledge and hands-on experience with the faculty mentor laboratory. Characteristically, these student-mentors learn to be problem-solvers and troubleshooters in and outside the laboratory. In addition, these mentors' work is uniquely healthcare-driven, allowing INSPIRE students to recognize how real-life contributions within a STEM career can be used to serve the community affected by numerous healthcare conditions. The mentoring functions are illustrated through four domains: (1) skills and technique building, (2) STEM role model, (3) assistance in life goal setting and career paths, and (4) psychological and emotional support (Jacobi, 1991).

Familial support. A critical component of the INSPIRE program is the inclusion of family support. A large body of literature demonstrates that parental involvement positively affects children's academics (e.g., Khajehpour & Ghazvini, 2011). Notably, the Latinx parent's participation in their children's education is different than the one offered by White-middle class families. In this latter case, parental support focuses on participation that brings parents into the school setting, involving parent attendance at school events, open houses, and conferences (Shah,2009).

On the other hand, Latinx parents play a role far beyond academics (Zarate, 2007). For them, education entails moral, social, and relational aspects (Petrone, 2016). Consequently, the family decides to pursue higher education as a unit, seeking to balance the student's growth, family unity, and loyalty. Therefore, independence and detachment from the family occur later in life for Latinx children, especially Latinx females. Family unity is so relevant that it may supersede the importance of attending college. The INSPIRE program engages families from the start. Admissions interviews (in English or Spanish) are conducted with the student, parents, and siblings as a family.

Financial support. Financial support is the primary factor that allows any student to enroll in college and continue their education, allowing them to pursue STEM careers. Thus, summers are crucial for individuals, particularly college-bound and college-enrolled students, to build financial stability. While INSPIRE encourages our scholars to pursue two- and four-year degree institutions, the economic burden of undergraduate enrollment is daunting. In 2020, the average federal student loan debt was $36,510.00; private student loan debt averaged $54,921.00 (Hanson, 2021). In addition, pursuing non-PhD graduate programs after completing a Bachelor's degree, such as certifications or doctorates in health care, will further deepen this loan debt. Deferred Action for Childhood Arrivals (DACA) recipients are also not eligible for federal funding and loans that would help ease the fiscal burden for a typical low-income student.

Students participating in the INSPIRE program receive financial support for their time spent on campus and engagement with research. Not only does the program's compensation provide an environment of responsibility for their employees to meet a high level of maturity, but it also provides a foundation to support the pursuit of higher education degrees and the success of Latinx and AA individuals in white-male-centered industries. The ability to compensate INSPIRE students for their research efforts creates a more even playing field for minorities to foster STEM meritocracy. Stipends are made possible by the following generous foundations: Creating Pathways and Access for Student Success (CPASS), Steans Family, and Gorter Family.

Evaluation of Students' Participation. There are six central student evaluation criteria: i) pre-and post-tests to assess their understanding of essential math and science concepts; ii) improved grades and standardized test scores; iii) demonstrated understanding of the scientific method and basic laboratory techniques; iv) participants' matriculation into higher education programs; v) number of students completing college degrees; and vi) student's evaluation of the importance of the program to achieve their academic goals

INSPIRE Program Management. The program's management comprises a program Chair, Program Director, Graduate Student Coordinator, graduate students, and research faculty. The Chair supervises the academic aspects of the program, enrolls the faculty, and supervises the curriculum. The Director oversees the finances, time allocation, and schedules; the graduate students link the INSPIRE student and the research faculty. The graduate student answers questions and ascertains that the INSPIRE student understands the research goals and protocols. The research faculty provides the research project, tools, methodology, and supervision.

Weekly meetings between the INSPIRE student, graduate student, and research faculty ensure engagement and understanding of the research project and evaluation of the progress accomplished. The ratio of paired high

school students to graduate students and research faculty is 1:1:1.

Institutional Review Board. Several questions were asked to INSPIRE students to evaluate the program's efficacy. This research was approved by [BLIND] 's Institutional Review Board (#BS121814PSY) and then exempted from [BLIND; #2021-0950] for the use of archival data.

Results

Figure 2 illustrates the yearly number of students enrolled in the program from 2011 to 2022 (blue line). The graph also shows the academic level of the participating students in any given year (orange, yellow, and gray lines respectively represent the number of students attending high school, 4-year, and 2-year college while participating in the program). As shown, the number of INSPIRE students increased five-fold from inception, growing from 4 students in 2011 to 22 in 2022. The figure also shows that most participants were high school students, followed by 4-year and 2-year college students. Interestingly, the graph indicates a trend where college participants will outnumber high school students (see DISCUSSION).

A summary from 2011 to 2022 of the number of students participating in the program and their academic progression from high school through graduate school, as well as their participation in the preparatory courses MCAT® and LABSTER® indicates the following:

- Sixty-two students have participated, accruing 169 summer sessions.
- Students' participation ranged between 1 and 9 summers, with an average of 2.75.
- 100% of eligible INSPIRE students (n= 45) have graduated from high school.
- 95.5% of INSPIRE high school graduates have pursued higher education.
- 64.4% (n=29), 22% (n=10), and 6.6% (n=3) of the higher education-bound students have respectively enrolled in 4-year, 2-year college and graduate school.
- Three students participated in MCAT® exam training in 2022.
- Since 2022, most new students (6 out of 7) have started the program by being trained using the LABSTER® (virtual laboratory simulator offering students the performance of virtual laboratory training).

Table IV describes the gender and career choices of INSPIRE students attending college.

The following observations can be drawn from this table:

- Most students have pursued careers in health-related fields (67%).
- 16% of students have pursued non-health-related STEM careers.
- The combination of STEM and health-related career choices is a very high 83%
- The ratio of female over male students preferring to study health-related careers is 2.8.
- The ratio of male over female students pursuing non-STEM careers is 5.

See DISCUSSION for an analysis of these results.

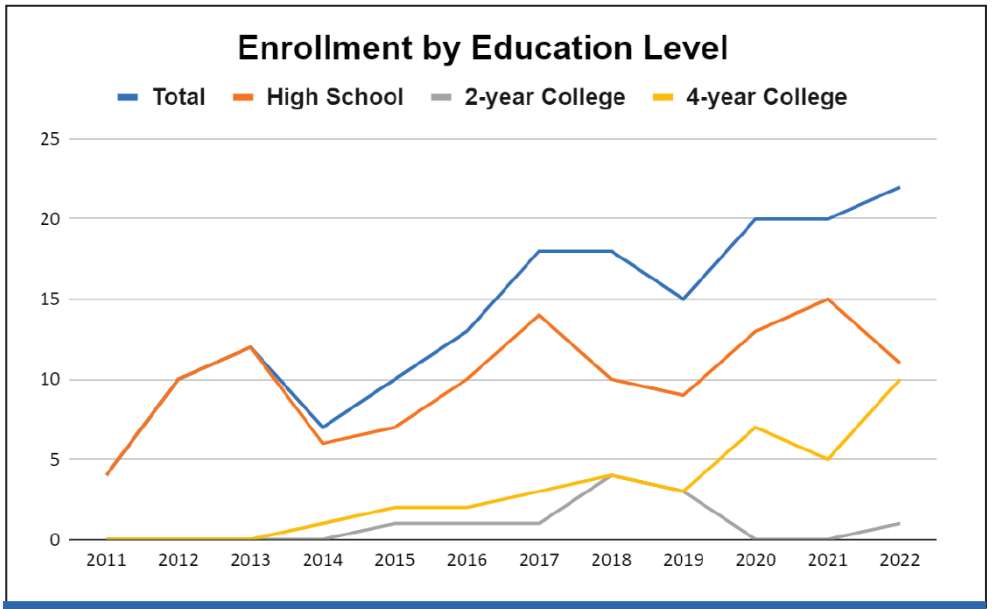

Figure 2. Number of Students in the INSPIRE Program from 2011 to 2022 and enrollment by education level. The blue line represents the total number of participants each year, and the orange, yellow, and gray lines represent the number of INSPIRE students attending high school, 4-year, and 2-year college each year.

Discussion

Effectiveness of the program

100% of eligible INSPIRE students (n= 45) have graduated from high school. This number is significantly higher than their peers from North Chicago (73%), Waukegan (74%), and Round Lake (90%). This data demonstrates the program's effectiveness at the secondary education level. Table IV also shows that 94.4% of INSPIRE high school graduates have pursued higher education. This percentage is significantly higher than their peers from Waukegan HS (52%), North Chicago (43%), and Round Lake (46%). Only two INSPIRE high school graduates (4.5%) have not pursued higher education. In both cases, this is because they had to tend to extenuating family circumstances.

Since 2018, one of the INSPIRE feeders high schools, Cristo Rey Saint Martin (CRSM), has remarkably attained 100% enrollment of its students to two or 4-year colleges. This data, however, does not skew the beneficial effect of the INSPIRE program on college enrollment because i) only 5% of INSPIRE students have studied at CRSM, and ii) 60% of CRSM students participated in the INSPIRE program before 2018-the year that CRSM reached 100% student enrollment to college.

INSPIRE has also been very efficacious regarding STEM involvement: 16% of INSPIRE college students have pursued non-health-related STEM careers. This number is twice as large as the national level of Latinx students' STEM participation (8%) (US Department of Education. National Center for Education Statistics. IPEDS 2009-2010. Completions Survey). The combination of the percentage participation of INSPIRE students in non-health-related STEM plus health-related careers is a remarkable 83%. 13% of students have pursued economics, English, and business careers. The remaining 4% did not pursue higher education (see above).

The program has also been efficient at the postgraduate academic level but constitutes an area for improvement. To date, three students (6.6%) of the 4-year college graduates' cohort have pursued postgraduate education, one of them at RFU. The percentage of these students is 1.4 times larger than the national level since only 4.6% of Latinx students pursue postgraduate education (US Census Bureau and the National Center for Education Statistics). It should be mentioned that this comparison underestimates the efficacy of the INSPIRE program at the post-grade level since the total national level encompasses Latinx students of all socioeconomic levels and not

Table IV. Students Pursuing STEM/Health-Related Fields vs. Other Fields per Gender

	Health-related fields	STEM not health-related	Non-STEM field	Unidentified	total
Male	8 (18 %)	4 (9 %)	5 (11 %)	1 (2 %)	18 (40 %)
Female	22 (49 %)	3 (7 %)	1 (2 %)	1 (2 %)	27 (60 %)
Total	30 (67 %)	7 (16 %)	6 (13 %)	2 (4 %)	45 (100 %)

just underserved populations.

Interestingly, 2.8 times more female than male students have preferred to study health care professions. In contrast, the ratio of male over female students choosing to study non-health-related STEM careers is 5. These patterns reflect national trends across all racial/ethnic groups (https://nces.ed.gov/programs/raceindicators/indicator_reg.asp).

The INSPIRE program has successfully supported local to RFU UiM students at all academic levels. However, the program aims to achieve parity in the percentage of UiM students completing higher education and their representation within the US population. The under-representation of UiM in post-grade level studies is particularly concerning. According to the INSPIRE students who wished to have continued their education at the postgraduate level but have not been able to pursue this goal (n= 10), the main reasons are several folds: i) familial concerns that the students have accrued a significant college debt and should join the workforce to pay their debt and contribute to their families' economies; ii) exhaustion from dealing with stereotype threats and microaggressions while attending college; iii) lack of racially congruent role models who would inspire them to pursue graduate education; and iv) lack of understanding by the family and students of the economic and personal benefits that undertaking postgraduate studies offers.

To overcome these barriers, it is necessary to develop an intentional plan to make the students realize that they belong in postgraduate education and that postgraduate education would offer significant economic and personal benefits. To begin implementing this plan, starting in 2022, the INSPIRE program empowers college seniors to spend their summer preparing for the MCAT exam. The students receive their stipend and are given personalized instruction and materials to prepare for the exam. Additionally, seminars and round tables are delivered to instill a sense of belonging in graduate education. To date, three students have participated in the MCAT preparation program. A continuous influx of students to this exam preparation is expected. The outcomes will be evaluated as these students apply and enroll in various graduate-level healthcare careers.

An argument can be raised that the success of the INSPIRE program is because students ultimately self-select for this program and most likely have supportive parents and stable homes, so they are more likely to attend college than their peers. Although a criterion for the selection of the students is indeed an interview with their parents to assess the level of family support (see INTRODUCTION), strong arguments against the self-selection of the students are the following: i) students' academic achievement is only one of several parameters for considering a candidate's eligibility to participate in the program; ii) the main selection criteria is an interest in STEM or healthcare-related careers; and iii) students who responded (n=19) to a post-INSPIRE participation survey rated the importance of their INSPIRE participation in attaining higher education as extremely important (58%), very important (42%), and no student stated that the program had not played a significant role.

Evaluation of Students' Participation. A detailed assessment of the INSPIRE students' progress during the program is beyond the scope of this manuscript. However, as discussed above, the program significantly promotes the student's academic progress as measured by their scholarly achievements compared to their peers not attending the program.

Program Limitations. The program's main limitation is that the number of students who can participate is determined by the availability of research faculty that can welcome them to their laboratories during the summer. In 2022, 22 students participated in the program; 13 performed research, six did LABSTER, and three studied for the MCAT. These numbers fluctuate yearly as students graduate and new students arrive, and many use the LABSTER or study for the MCAT. Under its current format, the number of students that the program can serve has reached a sustainable plateau. Further growth will require increasing the number of research faculty available or introducing changes to its format, e.g., training students on college preparedness. The current model works efficiently; changes in its design will require careful evaluation.

Future Directions. INSPIRE currently serves a limited number of students in the northern portion of Lake County, Illinois. The long-term goal of RFU is to expand INSPIRE to reach a more significant number of high school students in Northern Lake County and assist in college preparation with an emphasis on a STEM curriculum. To achieve this goal, the following steps will be taken: i) expand the offerings in math, basic sciences, and other STEM fields, writing, application completion, and college admission test preparation; ii) obtain funding from granting and philanthropic organizations to offer local high school STEM teachers professional development opportunities; iii) trips to the region's undergraduate institutions and Minority Serving Institutions; and iv) follow-up on participants' progress in their undergraduate and graduate journey.

Given that most local to RFU UiM HS students are Latinx (Tables I & II), the program initially focused on this population. However, in 2021, considerable effort has been invested in recruiting AA students. To date, five AA students have joined the program.

Figure 2 shows that as more students maintain their enrollment in INSPIRE, it is projected that most participants could be college students. To preserve the nature of the program, which primarily serves high school students, it will be necessary to maintain a more significant number of new high school students entering the program than the number of students completing and leaving it.

Conclusions

The INSPIRE Summer Research Program prepares local first-generation UiM and at-risk high school students for college and careers in the STEM/Healthcare fields. The program's design focuses on keeping students on track for a successful future by providing mentorship, workforce experience, life skills, academic guidance and support, career exploration, and family engagement. Program participants range from rising sophomores in high school through recent college graduates. The salaried program runs eight weeks, Monday through Thursday, throughout the students' summer break. However, most INSPIRE students stay connected with their graduate student mentors and faculty advisors during the school years. The program benefits RFU, the faculty and graduate student mentors, and INSPIRE students.

INSPIRE aspires to be among the best practices that other higher education institutions can replicate to help prepare a diverse workforce to help address healthcare disparities and provide opportunities for upward mobility among participants and their families.

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