Health Careers Exploration Club: An Upstream Approach to Improving Health Equity

Anna M. Cook

College of Nursing, East Carolina University

Doctor of Nursing Practice

Dr. Jan Tillman

April 27, 2022

Notes from the Author

I would like to offer my sincere thanks to the project site champion, ██████████, for her continued support throughout this process. Thank you for the many hours spent sharing your knowledge and expertise that helped make this project a success. Additionally, I would like to thank the staff at the project site for their willingness to support and promote the health careers exploration program. Thank you to all the participants for being engaged throughout the program and providing thoughtful feedback to help improve this project in the future.

Thank you to Dr. Jan Tillman, my faculty mentor, for facilitating this project partnership and making our trip to the health sciences campus a possibility. I am grateful for your support throughout this process. Your encouragement helped me think outside the box to develop an exciting and impactful program.

I could not have completed this project without the support of my family. Thank you to my husband, parents, and parents-in-law for being a constant source of motivation and reassurance during my moments of doubt. Finally, I would like to dedicate this project to my children, Clay, and his twin siblings arriving in September. You three are my greatest source of inspiration and the light of my life.

Abstract

Social determinants of health (SDOH), including education, employment, and income, profoundly impact health outcomes. Career exploration and development programs for youth provide an upstream approach for lessening the burden of SDOH and improving health equity. This project utilized an evidence-based curriculum to design and implement a health careers exploration club for minority middle and high school students. The eight-session program consisted of lessons pertaining to the variety of available health occupations, interest inventories, financial literacy, academic preparation, and community resources. Outcomes data supported the project's objective to prepare participants for future academic and career success, thereby potentially improving overall health outcomes for individuals, the community, and healthcare systems. Upon program completion, 100% of participants reported increased knowledge of and interest in health careers. Future applications of this project will need to focus on recruiting diverse participants. Continued collaboration among DNP students, the project site, and the local community college will foster the development of a mentorship component for the program. As the program continues to grow and expand within the partnering organization and more youth are impacted by its positive outcomes, the potential to improve health outcomes and advance health equity within the community will increase.

Keywords: social determinants of health, health equity, career exploration, career development, middle school, high school, healthcare workforce diversity, mentorship

Table of Contents

Section I. Introduction

Background

In 2020, more than 4 million American teens and young adults were "neither in school nor working" (Lewis, 2020, p. 4). For the first time in nearly a decade, the percentage of disconnected youth is rising due to the devastating effects of the COVID-19 pandemic on unemployment and school closures (Lewis, 2020). Disconnected youth are more likely to live in poverty, which is "one of the greatest predictors of disease and mortality rates" (NC Institute of Medicine [NCIOM], 2020, p. 37). Education, employment, and income are highly interrelated social determinants of health (SDOH) that profoundly impact health outcomes (Population Health Institute, 2014). Education leads to better employment opportunities. Employment provides an income that influences an individual's ability to afford quality housing, medical care, food, education, and more. Now, more than ever, efforts are needed to assist youth with education and career planning as they prepare to enter a challenging job market. This upstream approach to healthcare improvement addressing SDOH will create sustainable and impactful advancements in population health outcomes.

Organizational Needs Statement

The partner for this Doctor of Nursing Practice (DNP) project is a non-profit community organization that provides evidence-based programs for youth during critical out-of-school time. The organization offers a broad range of programs that incorporate leadership skills building, education and career development, healthy living courses, and sports and fitness opportunities (Boys and Girls Clubs of the Coastal Plain [BGCCP], n.d.c). The youth who attend these afterschool programs (club members) represent those most affected by SDOH. In the Pitt County, NC region, 77% of club members are African American, 87% receive free or reduced-

cost lunch, 57% live in a single-parent home, and 47% live in households with annual incomes less than $25,000 (BGCCP, 2020).

There is a need for a community-driven workforce development initiative for middle-school-aged youth (████, personal communication, March 23, 2021). Over 30 years of experience with Pitt County Schools alerted the organization's Director of Strategic Partnerships to the need for career exposure and exploration at the middle and early high school levels. Existing career development programs at the organization target older adolescents (BGCCP, n.d.c). As a result, younger club members are missing out on an excellent opportunity to develop essential skills and explore career options. These opportunities can motivate them to stay on track to graduate high school and then enroll in postsecondary education or enter the workforce. Additionally, there is a need to focus on healthcare careers to support Pitt County's labor market demands, in which the healthcare system is one of the largest employers (Pitt County Public Health, 2019).

There are no existing local, state, or national targets addressing the need for this project. However, several benchmarks support the need for youth workforce development. This project addresses initiatives outlined in Healthy People 2030 (HP 2030), Healthy NC 2030, and the Institute for Healthcare Improvement's Triple Aim.

Healthy People 2030

An overarching goal of HP 2030 is to help people achieve economic stability to meet their health needs (HP 2030, n.d.a). Three main objectives target this aim:

1. "Reduce the proportion of adolescents and young adults [aged 16 to 24 years] who are neither enrolled in school nor working" from 11.2% to 10.1% (HP 2030, n.d.c, "Status" section).

2. "Increase employment among the working-age population [aged 16 to 64 years]"

   from 70.6% to 75% (HP 2030, n.d.b, "Status" section).

3. "Reduce the proportion of persons living in poverty" from 11.8% to 8.0% (HP 2030,

   n.d.d, "Status" section).

This project supports these objectives by providing young people with additional tools

and resources that will encourage them to graduate high school, chart a career path, and earn a

living wage.

Healthy NC 2030

Healthy NC 2030 has prioritized interventions addressing SDOH to decrease health

disparities in traditionally underrepresented and underserved populations. One Healthy NC 2030

objective is to reduce the "percent of individuals with incomes at or below 200% of the FPL

[Federal Poverty Level]" from 36.8% to 27% (NCIOM, 2020, p. 37). A second objective is to

"reduce [the] unemployment disparity ratio between White and other populations to 1.7 or

lower" (NCIOM, 2020, p. 39). Focusing on workforce development in a community setting that

primarily serves youth from low-income and minority populations may reduce this

unemployment disparity. Additionally, this project has the potential to increase diversity within

the healthcare workforce, thus improving health equity.

The Triple Aim

This project aligns with the Institute for Healthcare Improvement's Triple Aim by

addressing population health in a community setting and striving to reduce health disparities and

improve health equity. There is a need to focus on upstream SDOH proven to be the primary

drivers of health outcomes. A practical and sustainable afterschool youth workforce development

program can positively affect high school graduation rates, secondary education enrollment, and

employment opportunities for the participants.

Problem Statement

Vocational development programs exposing minority youth to potential healthcare career

paths and preparing them to enter this growing workforce are lacking. This absence of

programming leads to an opportunity and job readiness gap, or a disconnect between young

adults' skills and employers' needs. When youth are unprepared to enter to future workforce, this

further contributes to unemployment and poverty, which lead to undesirable health outcomes.

Purpose Statement

The purpose of this DNP project is to help close this gap by developing and

implementing a health careers exploration program for middle and early high school students.

Section II. Evidence

Literature Review

A comprehensive literature review was conducted to determine best practices for career education at the middle and high school level. Five databases, including The Cumulative Index of Nursing and Allied Health Literature (CINAHL), Education Research Complete, The Education Resources Information Center (ERIC), PsychINFO, and PubMed, were searched using similar strategies. A literature matrix was then used to collect succinct information from all relevant sources.

The search included the following medical subject headings (MeSH) terms: *students, middle school*; *students, high school*; and *career planning and development*. The first two terms were combined with the operator *or,* and the third term was added to the phrase using the operator *and.* Additional search terms included career exploration, career development, career planning, middle school, adolescence, and health science(s). The search results were limited to scholarly and peer-reviewed articles published within the last 5 years and written in English. The search strategy was applied across the five databases, resulting in 707 articles for review. The following inclusion criteria were applied to the search: studies discussing career exploration and development strategies, middle or high school students, and Level VI evidence or better. Melnyk and Fineout-Overholt's (2019) Levels of Evidence model was used to evaluate the studies. Articles were excluded if the study population was outside the targeted age range, the study did not assess college or career readiness outcome measures, or the study setting was outside the United States or Canada. Sixty-one articles met the inclusion criteria and were selected for further review. Additionally, references within relevant articles were hand-searched and evaluated for inclusion in this review. Three gray literature sources of Level VIII evidence were

also evaluated and found to contribute quality information. In total, 17 articles ranging from

Level I to Level VIII evidence were deemed appropriate for inclusion in this review.

Current State of Knowledge

According to the Association for Career and Technical Education (ACTE), NC's

economy is experiencing a significant skills gap: "54% of jobs in NC require skills training", yet

only "44% of NC workers are trained" beyond the high school level (ACTE, 2021, p. 1). Career

exploration, planning, and development interventions beginning as early as elementary school

and continuing beyond high school are fundamental to closing this gap (ACTE, 2017; Boys and

Girls Clubs of America (BGCA), 2019; Middle Grades CTE Shared Solutions Workgroup, 2020;

Whiston et al., 2017). Numerous studies have demonstrated the value of career education as a

strategy to increase adolescents' overall career readiness and build a more sustainable workforce

(Bidwell et al., 2019; Glessner et al., 2017; Martinez et al., 2017; Mayberry et al., 2018; Whiston

et al., 2017).

The middle school years are ideal for career exploration (ACTE, 2017; Middle Grades

CTE Shared Solutions Workgroup, 2020; Whiston et al., 2017). During this period of

adolescence, youth are open to exploring a wide array of occupational pathways and are

beginning to understand their interests and capabilities related to future career plans. By the end

of eighth grade, students are expected to make critical decisions regarding high school courses

and post high school plans, making career exploration in middle school even more crucial

(Middle Grades CTE Shared Solutions Workgroup, 2020). For many students who may not

otherwise have access to career planning services, exploration at this stage also helps "level the

playing field and ensure that all students understand the vast career possibilities available to

them" (Middle Grades CTE Shared Solutions Workgroup, 2020, p. 3). Cohen et al. (2019)

reported the significance of career education in the afterschool setting. Career development in afterschool programs is significant for students from underserved backgrounds and low-income families with limited access to work-based learning opportunities (Cohen et al., 2019).

There is limited recent literature available identifying evidence-based college and career preparation interventions for middle school students. Consequently, there is noticeable variation in how career education is implemented at this level (Middle Grades CTE Shared Solutions Workgroup, 2020). In a systematic review of interventions preparing adolescents for adulthood, Burrus et al. (2018) found few studies addressed education and career preparation, even though these topics are imperative to adult success. Continued research is essential because these issues profoundly impact SDOH and have the potential to influence long-term health and well-being (Burrus et al., 2018). Despite the limited research evaluating specific interventions, there is a consensus from professional organizations regarding the key aspects of youth workforce development. Career development is an ongoing process that occurs on a continuum beginning with career awareness and exploration followed by career preparation and training (Cohen et al., 2019). For middle school students, programs should focus on career exploration, emphasize essential skill development (communication, teamwork, problem-solving, self-motivation, adaptability, creativity, and dependability), and enhance students' self-awareness related to occupational interests (ACTE, 2017; BGCA, 2019; Cohen et al., 2019; Middle Grades CTE Shared Solutions Workgroup, 2020).

Of the studies included in this review, only six concentrated on career education among middle-school-aged youth (Ali et al., 2017; Ali et al., 2021; Ali et al., 2019; Blotnicky et al., 2018; Glessner et al., 2017; Mayberry et al., 2018). Blotnicky et al. (2018) found that middle schoolers demonstrated limited science, technology, engineering, and math (STEM) career

knowledge and the ability to link math and science education to STEM career choices. However, the authors also discovered that students' STEM career knowledge and mathematics self-efficacy were significant factors in the likelihood of pursuing a STEM career (Blotnicky et al., 2018). Thus, this study demonstrates the need for wide-ranging career exposure in middle school and highlights the importance of helping middle schoolers understand the links between career choices and educational requirements.

Six studies evaluated interventions specific to healthcare career exploration and development (Ali et al., 2017; Ali et al., 2021; Ali et al., 2019; Bidwell et al., 2019; Boekeloo et al., 2017; Mayberry et al., 2018). The reason this project focuses on healthcare careers is twofold: the healthcare and social services employment sector in NC is projected to grow by 13.7% by 2028 (Bureau of Labor Statistics [BLS] & NC Department of Commerce, 2018), *and* the racial and ethnic diversity of NC's healthcare workforce is not proportional to the diversity of the population (Richman et al., 2016). Increasing workforce diversity is a key strategy in making health care more equitable for people of minority backgrounds and low socioeconomic status (Richman et al., 2016). This problem is not unique to NC. All of the studies specific to healthcare careers targeted youth from underserved and underrepresented backgrounds to expose and recruit more diverse students into healthcare career fields (Ali et al., 2017; Ali et al., 2021; Ali et al., 2019; Bidwell et al., 2019; Boekeloo et al., 2017; Mayberry et al., 2018). Additionally, Ali et al. (2021) found a direct connection between sociopolitical development (SPD) and healthcare career interests among racial and ethnic minority students. Essentially, minority youth are more likely to develop career interests based on their knowledge of health inequities and their desire to rectify these inequities. Helping students understand injustices within their communities can motivate them to pursue careers in healthcare and ultimately improve health equity (Ali et

al., 2021). In a study evaluating the effectiveness of a surgical pipeline program for low-income high school students, Bidwell et al. (2019) identified five common barriers to pursuing healthcare careers reported by students, including financial burden, years of education, lack of home support, lack of mentorship, and anxiety related to or lack of interest in healthcare careers. Acknowledgment of these barriers and proposed solutions for overcoming them are essential concepts for this project.

Current Approaches to Solving Population Problem(s)

In 2017, Whiston et al. conducted a meta-analysis evaluating career development interventions. The authors examined effect sizes across 19 career interventions and seven outcome measures. They concluded that participants "who received a career intervention tended to score about a third of a standard deviation above those who did not receive an intervention" (Whiston et al., 2017, p. 179). The most effective interventions identified were counselor support, values clarification, and psychoeducation (understanding steps in the career decision-making process and setting goals). Additional evidence for the effectiveness of counselor support was demonstrated in a systematic review examining the working alliance (goal setting, task setting, and bonding) in career counseling services (Whiston et al., 2016). Individual counseling and group counseling were effective treatment modalities, while computer-based interventions were less effective. Career decision-making self-efficacy, an individual's belief in their ability to make career decisions, was the outcome most significantly impacted by the various interventions (Whiston et al., 2017). This analysis provides valuable information for planning the most effective interventions and modes of delivery for this career exploration program; however, most studies included in this meta-analysis were conducted among college students, and only 29% of the studies involved middle or high school students (Whiston et al., 2017).

Although several studies aligned with the purpose of this project, few provided adequate details of program curricula for replication purposes. However, common elements derived from these previous successful programs are incorporated into this project. Three studies identified the effectiveness of group-based interventions for career counseling (Blotnicky et al., 2018; Martinez et al., 2017; Whiston et al., 2017). Mentorship, both adult and peer-based, was also found to be an impactful part of career education interventions (Curran & Wexler, 2017; Mayberry, 2018). Additionally, in a study of minority high schoolers' predisposition for health science career interest, Boekeloo et al. (2017) found that adult encouragement and personal health experiences predicted pathways to pursuing health science careers and could be used as motivational strategies. Another vital concept identified in the studies is the idea of self-efficacy, or "the beliefs that individuals have about their ability to perform a specific task" (Ali et al., 2017, p. 58). A component of social cognitive career theory (SCCT), self-efficacy plays an essential role in how individuals make decisions about career paths (Lent et al., 1994). Five studies used various self-efficacy scales as measurement tools for evaluating program effectiveness (Ali et al., 2017; Ali et al., 2021; Ali et al., 2019; Blotnicky et al., 2018; Glessner et al., 2017).

Most curricula were delivered via in-person instruction and took place over five to eight sessions. However, one study evaluated the effectiveness of a virtually delivered college and career preparation intervention combined with a tour of a local college campus (Glessner et al., 2017). The authors found students who participated in the virtual training and college visit reported significantly higher college-going and career self-efficacy than students in the control group (Glessner et al., 2017). There is mixed evidence regarding the effectiveness of virtual

career development tools; overall, the literature is more supportive of in-person, group-based interventions.

Three programs included hands-on simulation activities to promote engagement and incorporate real-world learning among participants (Ali et al., 2017; Bidwell et al., 2019; Mayberry et al., 2018). Ali et al. (2017) evaluated the effectiveness of a health science career exploration program, Project HOPE (Healthcare Occupations Preparation and Exploration), in increasing middle schoolers' math and science self-efficacy, career decision self-efficacy, and health science career interest. Weekly sessions were delivered over six weeks and covered topics related to introducing health science careers, identifying interests within health science careers, evaluating barriers and supports to career attainment, identifying community resources for career development, and interacting with health care role models. The final seventh session was a field trip to a university where students participated in health science-related simulation activities. Participants were surveyed after program completion. The authors found that math and science self-efficacy significantly increased for all participants regardless of ethnic background. Although math and science interest and vocational self-efficacy both increased, the results were not statistically significant. Following a second modified program implementation, Latino students reported increased math and science interest and physician career interest (Ali et al., 2017). In a similar program for high school students, Bidwell et al. (2019) evaluated the effectiveness of a summer surgery pipeline program at increasing participants' interest related to this field. This descriptive study indicated that students' self-efficacy, knowledge of healthcare career paths, and science and technology knowledge related to health care significantly increased following the intervention (Bidwell et al., 2019). In another study, Mayberry et al. (2018) implemented and evaluated a program for middle schoolers focusing on dental and oral health

careers. Critical components of this program included exposing students to dentistry careers,

providing oral health education, and introducing role models within the profession. The authors

found that participants demonstrated improved knowledge of dentistry-related topics as well as

math and science interest. The majority of participants also reported that the program was

meaningful (Mayberry et al., 2018).

Evidence to Support the Intervention

A variety of healthcare career education programs exist and have been evaluated in recent

literature. The objectives, curriculum, and outcomes outlined in Project HOPE most closely align

with the goals and purpose of this project (Ali et al., 2017). The detailed Project HOPE

curriculum will serve as a general guideline for this project with appropriate modifications as

needed to best suit the needs of the participants and align with local labor market demands. The

curriculum also aligns with BGCA's strategic workforce development framework and is

supported by the project site and project team (BGCA, 2019). An additional component of this

project will be to discuss health care inequities within the local community to inspire students to

pursue healthcare careers and improve equity. This element is based on a finding from Ali et al.

(2019) indicating that incorporating SPD into a SCCT-based intervention for health care career

education was more effective at increasing health care interests among rural middle school

students than the SCCT-based intervention alone.

The Middle Grades CTE Shared Solutions Workgroup identified six desired outcomes for

student learning in career education programs: gain exposure to a wide array of careers, increase

self-awareness, develop essential skills, develop foundational technical skills, learn to make

more informed educational choices, and develop an action plan for high school (2020). Most

studies included in this review used Likert scale survey questions alone or in combination with

validated health science, vocational, math and science, and career decision self-efficacy scales to measure program outcomes (Ali et al., 2017; Ali et al., 2019; Bidwell et al., 2019; Blotnicky et al., 2018; Glessner et al., 2017; Mayberry et al., 2018). For this project, Likert scale style questions measuring participants' perceptions of healthcare career knowledge and interest, self-efficacy, educational requirements for selected career paths, essential skill development, and overall meaningfulness of the program will be utilized as outcome measures.

Evidence-Based Practice Framework

Identification of the Framework

The project utilizes a combination of relevant theory and framework to guide its development and implementation. SCCT is frequently referenced in career development literature and will serve as a foundation for program design. SCCT aims to explain how individuals develop basic academic and career interests, make educational and career choices, and obtain academic and career success (Lent et al., 1994). The theory posits that self-efficacy beliefs and outcome expectations play a crucial role in the career development process. Moreover, these concepts are affected by personal inputs (race and ethnicity, gender, health), background or contextual influences (social class), and environmental impacts (perceived support and barriers). Thus, SCCT is helpful, particularly for working with underserved and underrepresented populations, because it emphasizes that both personal and environmental factors work together to influence career choices and recognizes existing barriers to academic and career achievement (Lent et al., 1994).

The RE-AIM framework was selected to ensure effective program delivery. RE-AIM consists of five elements: reach, effectiveness, adoption, implementation, and maintenance (RE-AIM, 2022). The framework was used both as a tool for planning and program development and

evaluation of interventions. The elements of the RE-AIM framework were applied to the project as follows:

Reach: recruiting potential program participants through a pre-implementation informational session and assistance from the project site's Unit Director.

Effectiveness: assessing program success by surveying participants during and after implementation.

Adoption: working closely with the project site champion, Unit Director, and group leader throughout implementation to ensure organizational buy-in.

Implementation: employing evidence-based interventions and a model for improvement to enhance program quality throughout the implementation phase.

Maintenance: developing a sustainability plan for the program based on feedback from participants and the project team.

Throughout project implementation, the Plan-Do-Study-Act (PDSA) model was used as a tool for ongoing assessment and quality improvement (Institute for Healthcare Improvement, 2021). After the first week of implementation, the project leader conducted weekly PDSA meetings with the project team to assess the effectiveness of the prior week's session and strategize how to make improvements for the following week. Since the program was delivered over several weeks, using multiple PDSA cycles allowed for continuous improvement throughout project implementation.

Ethical Consideration & Protection of Human Subjects

The ethical principles of respect for persons, beneficence, and justice were considered when developing this project. The autonomy of participants, a requirement of respect for persons, was maintained by ensuring that participation in the program was voluntary and

participants were informed about the project's intent. This project was a participatory education

initiative that intended to recruit students interested in learning more about healthcare careers.

However, because the project involved working with adolescents, who are considered to have

limited autonomy, consent for participation was obtained from parents or guardians. Participants

were asked to provide their assent before beginning the program.

The project upheld the principle of beneficence by ensuring that the risk of harm to

participants was minimal. The safety of participants could be considered a risk since one aspect

of the project was a field trip to the local university. However, transportation was provided by

the partnering organization using an approved vehicle and driver. Travel is considered a minimal

risk procedure in which the threat of harm is no more than that encountered in daily life. To

protect the participants' privacy, data collection for the project did not include any personally

identifying information. There was also a risk of implicit bias towards participants by the project

leader. Implicit bias can be mitigated through self-awareness, mindfulness practices, and actively

working to dismiss negative stereotypes (Edgoose et al., 2019). The project leader completed

diversity and cultural competency training prior to implementation to help reduce this risk.

Lastly, the project was not research and did not involve testing in any form; thus, there was no

risk of harm related to this element. The project aimed to benefit participants by increasing their

perceived career and college readiness and providing individualized career path exploration and

planning. The project's potential benefit to participants was greater than any risk of harm.

The principle of justice requires that program participants are equitably selected.

Therefore, the program was open to any middle or early high school club member who desired to

participate. Students were asked to apply for the program in order to provide assent while

practicing an essential academic and career skill. Applications were not screened, and all club

members who completed an application were accepted into the program. The program activities

were equal for all participants.

The project site does not have an Institutional Review Board (IRB) and did not require

formal project approval. To prepare for the university's formal approval process, the project

leader completed the mandatory Collaborative Institute Training Initiative (CITI) modules for

social and behavioral research investigators and key personnel. These training modules ensure

that investigators have a keen understanding of the ethical principles involved in working with

human subjects. In addition, with the guidance of the project's faculty mentor, the project leader

completed the university's online Quality Improvement (QI)/Program Evaluation Self-

Certification tool. This tool is used to determine if a project constitutes research requiring IRB

approval or is considered a QI/program evaluation initiative that does not warrant formal IRB

approval. This tool was submitted online and concluded that the project constituted QI/program

evaluation and did not require IRB review (See Appendix A).

Section III. Project Design

Project Site and Population

The project was implemented at a non-profit community organization that provides

afterschool and summer programming for youth ages 6 to 18 years. As a whole, the organization

consists of 17 clubs located in seven counties across eastern NC. The health careers exploration

program was conducted at a site located in Pitt County, NC. Implementing this program in a

setting that primarily serves youth from minority and low-income backgrounds provides an

opportunity to lessen SDOH for this population, decrease health disparities, and improve health

equity. Additional facilitators for this project included using an evidence-based curriculum and

obtaining stakeholder support. The project location was an added benefit because participants

already attended afterschool programs at the site. Anticipated barriers to successful

implementation included the limited timeframe for implementation, inconsistent participant

attendance, a lack of participant interest in the program, and a lack of parental support.

Overcoming these barriers and ensuring program success required collaborating with the project

team and engaging in continuous improvement strategies throughout the project process.

Description of the Setting

Initially, two implementation sites were selected based on expressed interest in the

program from the Unit Directors. The first site (Site 1) is the largest club within the organization,

with 438 registered members in 2020 (BGCCP, 2020). This location serves youth from 12

different schools in the surrounding area, with transportation provided from 11 schools (BGCCP,

n.d.b). The second site (Site 2) is a smaller club with 169 registered members as of 2020, serving

youth in a more rural area of Pitt County (BGCCP, 2020). Transportation is also provided from

several nearby schools to this location (BGCCP, n.d.a).

During non-school and summer hours, the clubs operate Monday through Friday from

7:00 am to 6:00 pm. During the school year, the clubs are open Monday through Friday from

2:30 pm to 7:00 pm. Membership fees for both locations are $100 per academic year for each

student (BGCCP, n.d.a; BGCCP, n.d.b). Within the clubs, there are separate areas for

elementary, middle, and high school students. Each site has multiple classrooms, a gymnasium,

an outdoor play area, and a kitchen. Site 1 has an upstairs "teen center" for older adolescent

members, including a game room, study and lounge areas, classrooms, and a small kitchen. Site

2 has a "teen room" set up with tables and chairs, lounge furniture, and a television. Each site is

equipped with computers or tablets for student use (▮▮▮▮, personal communication, May 27,

2021).

During afterschool hours, members partake in different activities. Each age group has at

least one leader, usually a paid staff member, with additional volunteers as availability allows.

Activities are semi-structured, allowing for flexibility to meet the needs of members on any

given day. Members can work on homework, play games, do arts and crafts, engage in physical

activity, and enjoy socializing with peers. Special programs sponsored by community partners

are also offered throughout the year. These include health education classes, STEM courses, and

leadership development. Field trips give members the opportunity to visit local farms, science

centers, and recreational facilities throughout the year. However, the COVID-19 pandemic has

limited the availability of special programs and field trips over the last year. Additionally,

nutritious meals and snacks are provided for members daily.

Description of the Population

The target population for this project was seventh, eighth, and ninth-grade students who

attended the club regularly. Across the two sites, 38% of members are 10 to 12 years old, and

31% are 13 to 18 years old. 48% of members are female, and 52% are male. At Site 1, 83% of

members are African American, 8% are of another race, 7% are Caucasian, and 2% are Hispanic.

At Site 2, 64% of members are African American, 20% are Caucasian, 14% are of another race,

and 2% are Hispanic. 79% of members at Site 1 and 89% of members at Site 2 qualify for free or

reduced-cost lunch, an important indication of socioeconomic status. At both clubs, the majority

of members are from single-parent households. 32% of members at Site 1 and 58% of members

at Site 2 come from households with annual incomes of less than $25,000 (BGCCP, 2020).

Project Team

The project team primarily consisted of three members: the DNP student, the DNP

faculty member, and the project site champion. The DNP student served as the team leader. In

this role, the DNP student was responsible for developing a plan for program implementation

and communicating with team members throughout the course of the project. Additionally, the

DNP student completed a literature review to identify evidence-based practices for the

intervention, served as the primary program facilitator during implementation, collected and

analyzed data, and disseminated the project's results through written publication and oral

presentations. The DNP faculty member, a doctorally-prepared nurse, served as a scholarly

mentor and guided the student through the project process. The faculty member was responsible

for ensuring that the project was completed on time and evaluating all written work by the

student (Moran et al., 2020). The faculty member also facilitated obtaining permission from the

university for the field trip to the health sciences campus. The project site champion served as an

essential link between the team leader and the project partner, offering support and advice

throughout the project process (Moran et al., 2020). The site champion identified the

organizational need for a career development program for middle and early high school students.

She facilitated communication between the team leader and other key stakeholders within the organization. The site champion provided expert guidance in developing an age-appropriate curriculum and identifying career development resources within the community. Each of these team members played a crucial role in ensuring the success of the project.

Additional team members included the Unit Director and the Teen Leader. As those most familiar with the target population, these individuals played essential roles in helping the team identify the participants' needs and interests. The Unit Director identified the best time to conduct the sessions, contributed to curriculum development, assisted with facilitating the field trip, and participated in continuous program improvement meetings throughout implementation. The Teen Leader served as an assistant lesson facilitator, helping participants navigate activities as needed. Assistance from the Teen Leader during each session ensured that each participant received the attention and support needed to successfully complete the lesson objectives. A recruiter from the College of Nursing helped to coordinate and lead the health sciences field trip. During the field trip, the faculty mentor presented to participants about the nursing profession and served as an additional role model. Initially, the plan included having a diverse group of health sciences students from the university volunteer as session facilitators. However, COVID-19 policies within the organization required volunteers to be approved and attend an in-person safety training prior to working with members. These requirements were a barrier to having outside volunteers assist with sessions given the limited timeframe. Ultimately, sessions were facilitated by the project leader with assistance from the site champion and the teen leader.

Project Goals and Outcome Measures

The objectives of this project are grouped into two categories: immediate goals and prolonged goals (see Figure 1). After program completion, immediate goals included increasing

participants' knowledge of the vast array of healthcare careers, developing participants' interest in a healthcare career, and improving participants' understanding of the connections between academic and career success. The prolonged goals of the program are twofold and include individual and community level objectives. While these long-term goals were not measured during implementation due to the limited scope and timeframe of this project, they are important to consider and may be measured in the future as the project partnership continues. Individual goals are tied to helping participants overcome social determinants to attain academic and career success and achieve optimal health. Community goals include increasing diversity within the health career field, reducing poverty and unemployment, and improving health equity.

Figure 1

Health Careers Exploration Program Goals
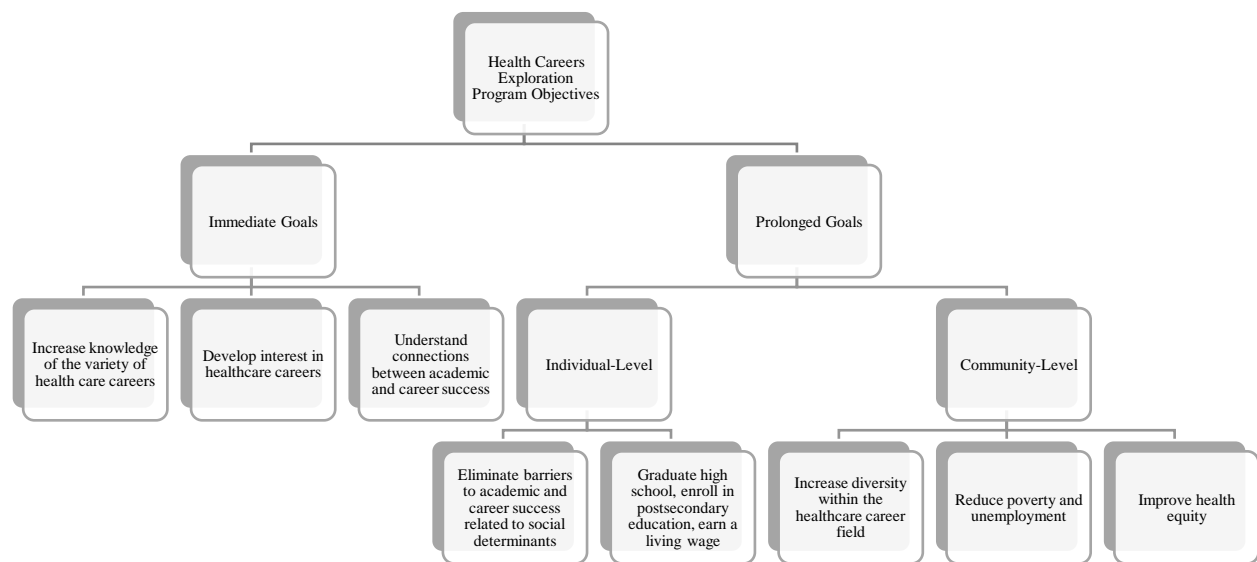
The intervention developed to address these goals was a health careers exploration program for middle and early high school students conducted at a local afterschool center. The program consisted of eight sessions, each aimed at helping students learn more about their

interests and abilities and how they align with various healthcare careers. Outcome measures included participants' self-evaluations of health career knowledge and interest, participants' program evaluations, and team members' program evaluations.

Description of the Methods and Measurement

Several tools and resources were used for project planning and implementation. Before implementation, project approval was decided upon using the university's online QI/Program Evaluation Self-Certification tool. This tool identified the proposed project as a quality improvement/program evaluation initiative that did not require IRB approval. The RE-AIM framework and PDSA model provided structure throughout the planning and implementation phases to ensure the program was delivered successfully and allow for ongoing improvement.

Throughout the planning phase, the project leader met with the site champion 13 times, both virtually and face-to-face, to discuss program development. Additionally, the project leader met with the DNP faculty mentor nine times during this time. These meetings consisted of discussions related to project planning, IRB approval, evidence from the literature review, and outcome measures and data collection development. Prior to implementation, the project leader and site champion met with the organization's Regional Vice President and Unit Director from Site 2 to discuss the program curriculum, objectives, and timeframe. The Unit Director from Site 1 was invited to attend this meeting but she was unable to join due to a scheduling conflict.

Two informational sessions, one at each site, were held for participants two weeks before implementation began. The sessions were delayed by one week due to COVID-19 related club closures. Furthermore, the team leader was unable to facilitate these sessions due to a COVID-19 exposure, so the site champion and Unit Director hosted the sessions instead. The team leader developed a one-page information sheet with talking points regarding program benefits,

activities, and requirements (see Appendix B). All middle and early high school club members were invited to attend the sessions. These sessions were used to recruit participants for the program. After the meetings, members interested in participating in the program were asked to fill out a brief application (Appendix C) and were also given parental consent forms (Appendix D) to have signed and returned.

The methods for implementing this health careers exploration program were based upon the Project HOPE curriculum (Ali et al., 2017). Each of the eight sessions consisted of a hands-on activity to promote participant engagement. The sessions were 45 to 60 minutes in length. The first five sessions, as well as Session 7, were conducted at the project site. Sessions 6 and 8 were planned to take place on the local university's health sciences campus. The program leader developed participant workbooks with objectives, instructions, and evaluations for each lesson. Workbook pages were printed by the program leader and placed in 3-prong pocket folders. Each participant was provided with his or her own workbook. Additionally, a PowerPoint presentation was developed for each session explaining the lesson objectives and instructions. Lessons, activities, and objectives for each session are presented in Table 1.

Table 1

Health Careers Exploration Program, Week-by-Week Curriculum

Lesson Title	Activities	Purpose
Session 1: *Finding Your Place in the World of Work*	Introduction, *Reality Check*, Ice Breaker, Health Careers Jeopardy Game	Explain the program to participants and introduce students to various occupations that comprise the healthcare career field. Introduce financial literacy.
Session 2: *Connecting Your Strengths and Interests to Potential Careers*	Career Fair, *NC Careers Interest Finder,* Holland Code Rankings	Students self-evaluate strengths and interests through hands-on games. Use the Holland Code to identify three occupations of interest.
Session 3: *Understanding Supports and Barriers to Your Career Path*	Opportunities and Roadblocks Game	Help students learn about community resources and identify support systems for career attainment. Anticipate barriers to success and brainstorm solutions.
Session 4: *Let's Get a Job!*	*Reality Check*, Job Research, Job Applications	Reevaluate financial literacy. Select one career of interest and research job requirements, salary, and educational requirements. Share career story in a creative manner.
Session 5: *Create Your Career Poster*	Poster Creation	Use new knowledge gained regarding the health career of interest to share information in a creative manner. Reflect upon career choice, interests, strengths, and path to success.
Session 6: *Health Sciences Field Trip #1 (HSC, CON)*	Campus Tour, Simulation Lab Scavenger Hunt, Guest Speaker Presentation	Connect new knowledge to real-world scenarios. Continue to set goals and envision future success. Interact with positive role models.
Session 7: *Presentations and Skills Building Day*	Poster Presentations, Interview Skills, Character Traits Bingo, *open to input from students	Practice oral presentation skills. Understand basic interview skills. Review character traits essential to success in a healthcare career.
Session 8: *Health Sciences Field Trip #2 (SODM, EAHEC)*	Dental School Tour and Simulation, EAHEC Activity, Health Sciences Academy Presentation, Final Program Evaluations	Learn more about health careers and educational resources in Pitt County. Connect with mentors. Provide program feedback.

Note. These lessons and activities were based on the Project HOPE curriculum (Ali et al., 2017). This represents the pre-implementation plan.

For Session 1, the program leader used an online tool to create a Health Careers Jeopardy game. Categories included healthcare professions, educational requirements, salaries, community resources, interest and career connections, and miscellaneous healthcare trivia. The Jeopardy game introduced participants to broad themes to be covered throughout the program. During Session 2, participants completed interest inventories linking their strengths to potential healthcare careers. Participants also played a series of games including Pictionary, Reverse Pictionary, 20 Questions, Categories, Building Blocks, and Shark Tank to help them better understand their personality type and how it relates to potential career choices.

The activity planned for Session 3 consisted of an opportunities and roadblocks game where participants were given scorecards and asked to rotate through stations simulating their future path to a healthcare career. The stations included Volunteering, Extracurricular Activities, Financial Aid, Family & Friends, Work Experience, 2-Year College, 4-Year College, Healthcare School, and Finding a Job. At each station, participants were given two point cards representing local opportunities or resources related to the topic. Additionally, participants were given one roadblock card representing a potential barrier on their path. To proceed to the next station, the participant was asked to brainstorm a proposed solution to the barrier with assistance from the lesson facilitator(s) as needed.

Sessions 4 and 5 involved more independent activities with appropriate guidance from the lesson facilitator(s). During Session 4, participants were asked to select one health career of interest to further study. They completed mock job applications that included a brief description of their chosen career, educational requirements, helpful high school classes, salary, required skills, and work activities or tasks. Additionally, participants were asked to reflect upon what they liked or disliked and anything that surprised them about the career. For Session 5,

participants used their job applications to create a presentation about their career of choice.

Participants used their Chromebooks to create Google Slides presentations.

The Session 6 field trip to ECU's Health Sciences Campus and the College of Nursing included a campus tour, scavenger hunt, and guest speaker presentation. During Session 7, participants presented their career posters and shared new knowledge with their peers. Plans for the Session 8 field trip included a tour of the School of Dental Medicine (SODM), a presentation and hands-on activity at the Eastern Area Health Education Center (EAHEC), and a presentation about the Health Sciences Academy (a high school program for health careers exploration and development).

Several measurement tools were used for program evaluation. As a component of the program activities, participants completed the Reality Check tool from the NCCareers.org online resource bank (NCCareers.org, 2021). The tool is a short 5–10-minute survey that asks questions about housing, transportation, and lifestyle and uses responses to calculate the income necessary to support desired preferences. The tool estimates expenses according to the specific city, county, or zip code selected (NCCareers.org, 2021). To improve financial literacy, participants completed this tool at Session 1 before choosing a specific healthcare career to research and present. During the Session 7 poster presentations, students were asked to reflect upon and share how using the Reality Check tool changed their perceptions about managing expenses and influenced their career choices.

Additionally, participants were asked to self-evaluate their knowledge of and interest in healthcare careers at the close of each session. The self-evaluation consisted of a simple survey using a 3-point improvement scale with additional space for questions and comments (see Appendix E). Following the final session, participants were asked to complete a more

comprehensive program evaluation. The program evaluation was used to collect quantitative and qualitative data and included seven 3-point Likert scale style questions and four open-ended questions (see Appendix F). Participants were also asked to report demographic data, including gender, age, grade level, and race/ethnicity.

The final component of program evaluation was a team member survey. This survey was used to gauge team members' perceptions of the appropriateness and effectiveness of interventions and guide improvements for future programs. The survey consisted of both 3-point Likert scale style questions and open-ended questions (see Appendix G).

Discussion of the Data Collection Process

To ensure the anonymity of participants, no self-identifying questions were used in any data collection tool. Before completing the first self-evaluation, participants were asked to create a password. The password was used as an anonymous identifier on all survey documents collected throughout the program. The password allowed the team leader to measure changes in participants' perceptions of knowledge gained over time.

The team leader administered paper surveys to program participants before the end of each session. Participants were informed that completing the survey was voluntary but were encouraged to provide valuable feedback. Time was allotted at the end of these sessions for survey completion. A paper survey was given to all team members following program completion. Again, the team members were informed that completing the survey was voluntary, their responses would remain anonymous, and their feedback was welcomed.

Implementation Plan

The implementation plan was coordinated with the help of the project site champion, the Regional Vice President, and the Unit Director. The initial plan was to offer the program at two

sites within the organization, with separate sessions held at each site to limit group size and maximize time. Site 1 sessions would be held on Tuesdays from 5:00 pm to 6:00 pm. Site 2 sessions would be held on Thursdays from 4:30 pm to 5:30 pm. For the field trips, participants from each site would be combined into one group. Ultimately, the program was only offered at Site 2 due to low participant interest at Site 1. This is further discussed in the following section. To allow adequate time for these sessions, the field trip dates selected were coordinated with Pitt County's public-school calendar and planned on an early-release day and a holiday. The Session 6 College of Nursing field trip was planned for October 26, 2021. The Session 8 SODM and EAHEC field trip was planned for November 11, 2021, when participants were out of school for the Veterans Day holiday.

This plan was continuously adjusted throughout implementation to meet the needs of the project site and participants. Since the program was only offered at Site 2, some sessions were held on Tuesdays and others were held on Thursdays, depending on the participants' schedules and other after-school commitments. Due to a scheduling conflict, the second field trip was rescheduled for February 14th, 2021, but ultimately cancelled due to club staffing shortages.

During implementation, the project leader met with team members for weekly PDSA meetings. These meetings were held either face-to-face following a session or virtually depending on the availability of team members. Discussions included aspects of the program that were successful and potential areas for improvement. Changes were made for the following sessions, if necessary.

Timeline

Project planning began in January 2021 and continued through early September 2021. Two team meetings were held before the program started. Additionally, two informational

sessions were offered for potential program participants the week of September 13th, 2021. Due

to the delay in program start because of COVID-19, the program took place over seven weeks

instead of eight as originally planned. However, all eight sessions were still conducted, with

Sessions 4 and 5 being held within the same week. The program officially began on September

30th and concluded on November 9th, 2021. Data analysis and results dissemination took place

from November 2021 to April 2022. A detailed project timeline is presented in Appendix H.

Section IV. Results and Findings

Results

Eight sessions, including one field trip, were conducted over a seven-week implementation period. During this time, participants' attendance was tracked from week to week. Additionally, participants were asked to self-report perceived improvements related to health careers knowledge and interest at the close of each session. Weekly progress, defined by any amount of increase in health careers knowledge or interest, was tracked and recorded by the team leader. Several adjustments were made throughout implementation based on feedback from PDSA meetings, session evaluations, and unexpected scheduling conflicts. An updated post-implementation curriculum plan is presented in Table 2.

Table 2

Health Careers Exploration Program, Week-by-Week Curriculum, Updated

Lesson Title	Activities	Purpose
Session 1: *Finding Your Place in the World of Work*	Introduction, *Reality Check*, Ice Breaker, Health Careers Jeopardy Game	Explain the program to participants and introduce students to various occupations that comprise the healthcare career field. Introduce financial literacy.
Session 2: *Connecting Your Strengths and Interests to Potential Careers*	Career Fair, Holland Code Rankings	Students self-evaluate strengths and interests through hands-on games. Use the Holland Code to identify three occupations of interest.
Session 3: *Understanding Supports and Barriers to Your Career Path*	Opportunities and Roadblocks Game	Help students learn about community resources and identify support systems for career attainment. Anticipate barriers to success and brainstorm solutions.
Session 4: *Let's Get a Job!*	Job Research & Job Applications	Select one career of interest and research job requirements, salary, and educational requirements.
Session 5: *Create Your Career Poster*	Poster Creation	Set personal goals. Summarize knowledge gained throughout the program. Share career story in a creative manner.
Session 6: *Health Sciences Field Trip*	Campus Tour, Simulation Lab Activity, Scavenger Hunt, Guest Speaker Presentation	Connect new knowledge to real-world scenarios. Continue to set goals and envision future success. Interact with positive role models.
Session 7: *Share Your Career Story*	Student Career Presentations	Share information with the group about the career of choice and path to success. Practice oral presentation skills. Understand basic interview skills.
Session 8: *Focus Group*	Final Program Evaluations, Open Group Discussion	Complete post-program evaluation surveys. Group discussion about program impact and recommendations for future programs.

Note. These lessons and activities were based on the Project HOPE curriculum (Ali et al., 2017). This represents the post-implementation plan.

During the planning phase of the project, the intention was to implement the career exploration program at two separate sites within the organization. The program was planned to consist of six 1-hour long sessions, conducted face-to-face at the specific sites, plus two field trips to East Carolina University's Health Sciences Campus. The goal was to have a minimum of five participants at each site (ten participants total) and a maximum of ten participants at each site (20 participants total). Initially, students were expected to attend every session in order to participate in the field trips with the goal being for 75% of participants to attend at least six of the eight sessions.

Ultimately, the program was only conducted at one site within the organization. Prior to implementation, interest meetings were conducted at both sites, but there was low interest at one site, with only one student returning the program application and parental consent form. Fortunately, several members at the second site were interested in participating. In total, 11 members participated in the program. The average attendance was 7.75 participants per session, with a range of 5 to 11 students per session. The highest attendance was at Session 4 (Career Research and Job Applications); the lowest attendance was at Session 5 (Career Presentation Creation). The goal for attendance was not met as only 64% of participants attended at least six, or 75%, of the sessions. Several barriers to attendance were encountered throughout implementation, including COVID-19 quarantine and other afterschool commitments such as athletic teams and sporting events. Due to these barriers being outside of the participants' control, the decision was made to allow students to attend any session they were able to, including the field trip. Nine participants attended the field trip, and all had attended at least one prior session. Only three students attended all eight sessions. There were two students who only attended one of the eight sessions and did not complete the final program evaluation.

Initially, the plan was to offer the program to middle and early high school students, or those in seventh, eighth, or ninth grade, based on the need identified by the site champion. However, at the informational meeting, a few tenth-grade club members expressed interest in the program, and they were invited to attend as well. The average age of participants was 14.13 years. 37% of program participants were eighth-graders, 38% were ninth graders, and 25% were tenth graders. No seventh-grade students participated in the program. 64% of participants were Black and 36% were White. Two male students, or 18% of participants, attended the program, though most participants (82%) identified as female.

Outcomes Data

Outcome measures for this project included participants' perceived improvement in health careers *knowledge* and *interest.* Participants were asked to complete a brief evaluation tool (Appendix E) at the end of Sessions 1 through 7. Following Session 8, the focus group, participants were asked to complete a more in-depth program evaluation tool (Appendix F). Additionally, project team members were asked to complete a different program evaluation tool (Appendix G) after the final session.

After the first session, 75% of students reported increased health careers knowledge and 50% reported increased interest in health careers. Participants self-reported knowledge gains increased from Session 1 to Session 3 but decreased to only 55% reporting increased knowledge after Session 4. From Session 5 through Session 8, participants' knowledge gains began to increase again, with 80% reporting increased knowledge of health careers after Session 5, 89% reporting increased knowledge after Session 6, and 100% reporting increased knowledge after Sessions 7 and 8. Interest in health careers also steadily increased among participants throughout the program. After Session 1, 50% of participants reported increased interest in a healthcare

career. By Session 8, 100% of participants reported increased interest in a healthcare career. See Appendix I for a graph depicting these outcomes measures among all participants for each session.

Individual improvements in health careers knowledge and interest were measured from week to week among students with consistent attendance (those attending at least 75% of sessions). All seven of these participants demonstrated improvements in health careers knowledge and interest as the program progressed. The majority of those with consistent attendance started to report increases in health careers knowledge and interest after Session 1 and were consistently reporting improvements after Session 5. None of these participants ever reported that their knowledge or interest decreased or was worse after a session. From Sessions 1 to 6, some participants reported no change or that their knowledge and/or interest was about the same. However, by Sessions 7 and 8, all participants reported that their knowledge of and interest in a health career had improved since starting the program. See Appendix J for a graph depicting growth throughout the program among participants with consistent attendance.

Discussion of Major Findings

Overall, attendance was less than expected since the program was only implemented at Site 2. The lowest attendance was at Session 5. Sessions 4 and 5 took place within the same week to keep the program on track after starting one week late. It was expected that Session 5 would have lower attendance because several middle school students were attending an afterschool sporting event that day. Other afterschool commitments were a recurring barrier to consistent participation. The program took place during a time of year when students were participating in or attending athletic events after school, meaning that they were arriving at the club later in the afternoon or not coming at all.

Another program goal was for 25% of participants to be male. This goal was not met since only 2 participants (18% of the total) were male. Recruiting male students into health careers is an important strategy in increasing healthcare workforce diversity and improving health equity. In the future, identifying ways to increase male participation in the program would be necessary. Race demographics of program participants were proportionate to the overall make-up of Site 2. The goal was for most participants to be from a minority racial background since this group is underrepresented within the healthcare workforce. The majority of program participants were Black, but there were no participants from other minority races. Future programs could extend to sites with higher Hispanic/Latino attendance in order to recruit an even more diverse group of participants.

The decrease in reported knowledge gains after Session 4 is suspected to be due to a few factors. This session involved participants independently researching a healthcare career of interest and completing a mock job application. The objective for this lesson was to give participants an opportunity to further explore a specific career of interest based on their findings from previous lessons. Two participants at this session had not attended a previous session, making this activity more challenging. High attendance at this session also made providing individual guidance and feedback a challenge since there were only two facilitators. Additionally, participants reported being tired from school and that this activity felt more like schoolwork. Keeping participants engaged and invested in the activities was a consistent challenge in the afterschool setting. Overall, program outcomes were better than expected. The goal was for 75% of participants to report increased knowledge of and interest in a health career after the final session. This goal was exceeded as 100% of participants reported increased knowledge and interest after Session 8.

Section V. Interpretation and Implications

Cost Benefit Analysis

The costs of implementing this program were minimal and included lesson materials,

food for participants, and transportation for the field trip. Some expenses, such as prizes and

snacks for each session, are optional and at the discretion of the program leader. Many supplies

and materials, including Chromebooks and a television with a high-definition multimedia

interface (HDMI) adapter for viewing lesson PowerPoints were available for use at the project

site at no additional cost. The main organizational expense was transportation for the field trip,

including the bus, gas, and bus driver. Since the project leader served as the lesson facilitator,

there was no additional cost associated here. It is expected that this would remain a volunteer

position, keeping the cost of implementing the program minimal for the project site. One paid

staff member was present for each session, including the field trip. However, she was a full-time

staff member and would have been working regardless of whether or not this program was taking

place, so there was no additional cost for her participation. A detailed budget is presented in

Appendix K.

The program benefitted the participants, the organization, and the community.

Participants were given the opportunity to learn more about healthcare career options. This

program allowed them to take steps to plan for their future and develop an academic roadmap for

success. By participating in this program, there is the potential to improve future health outcomes

related to education and employment. For example, after one session, a participant reported that

she was more motivated to study for her Biology exam because she realized that making good

grades in science classes in high school was important for a future healthcare career. Perhaps she

then made a better grade on her exam and a better grade in the class overall. This could lead her

to graduate high school and be more successful in pursuing a college degree. Her achievements in education could then lead her to secure a better-paying and more satisfying career in healthcare. Ultimately, this would lead her to be able to afford better housing, health care, food, and more, contributing to her overall health and well-being.

The project supported the mission, vision, and values of the organization. This evidence-based career exploration program highlighted key organizational initiatives, including improving academic success and preparing students for the workforce. The organization was also able to form a relationship with the College of Nursing which will ensure that future DNP students continue to facilitate this project partnership and grow and expand upon this program.

The community benefits from this program as well. The program successfully increased interest in healthcare careers among a diverse group of young students. If these students pursue healthcare careers in the future, the community benefits from increased healthcare workforce diversity which leads to improved patient outcomes.

Resource Management

Each session, except for the field trip, took place at the project site. The team leader was given a dedicated space equipped with tables, chairs, and television for facilitating each session. The site also provided an HDMI cable so that lesson PowerPoints could be viewed on the television. Each student also had their own Chromebook provided by the site. The Chromebooks were used for multiple lessons requiring Internet access for specific activities. The project site also provided a staff member to assist the team leader at all times.

Resources for the field trip were coordinated with assistance from the faculty mentor. A recruiter from the College of Nursing conducted the tour and was available to answer

participants' questions. He also facilitated access to a simulation lab. A classroom in the College

of Nursing was utilized for the guest speaker presentation.

Initially, students from the Multicultural Student Nurses' Association were intended to

serve as session volunteers and mentors for the participants. The goal was to connect program

participants with diverse nursing students with whom they could more easily identify. However,

COVID-19 restrictions made it difficult to have outside volunteers at the project site. Two

professional guest speakers from the local hospital were originally planned to provide a

presentation about leadership in health careers during the field trip. However, due to scheduling

conflicts, the speakers were unable to attend on the scheduled day. Instead, the faculty mentor

served as the guest speaker.

Implications of the Findings

There is a lack of career education and planning offered in public schools. Unfortunately,

career and technical education (CTE) is often the first elective to be eliminated due to budget

restrictions. Students, especially those from underserved backgrounds, have very limited access

to career exploration and education. Middle school CTE is almost nonexistent, which is a

disservice to this age group because then they are required to blindly make decisions about high

school classes and electives without ever having explored their career interests. This program

provided the opportunity for students interested in a healthcare career to learn more about job

options, necessary skills, and academic requirements. Students set goals for their future

throughout the program. At the end of each session, they were asked to identify one activity they

could do today to benefit themselves in the future. Participants were indirectly introduced to the

concept of career self-efficacy by identifying, researching, and presenting about a healthcare

career of interest to them.

Implications for Patients/Population

This project has the potential to improve health outcomes related to education and employment. Career exploration is vital to finding a career that aligns with personal goals, interests, and skills. This program helped participants better understand their unique interests and life goals and identify a healthcare career that aligned with those goals.

Implications for Nursing Practice

This project was not a traditional clinical practice improvement initiative. Rather, the program focused on targeting SDOH, including education and employment, which are highly linked to improving health outcomes for both individuals and populations. The program was a first step in recruiting a future generation of diverse healthcare workers. Additionally, this project supports the Doctor of Nursing Practice Essentials (Appendix L) and demonstrates that nurses can help prepare the future generation of healthcare workers by participating in and leading career exploration programs such as this.

Impact for Healthcare System(s)

By lessening the burden of SDOH through career exploration and preparation, this program has the potential to decrease negative impacts on the healthcare system. Specifically, by leading participants to achieve academic success, stable employment, and economic stability, they are more likely to have better access to preventive health services and live healthier lives. This lessens the impact on the healthcare system. A positive impact of this program is the potential to increase diversity within the healthcare workforce by recruiting students from minority backgrounds. A diverse healthcare workforce leads to better patient outcomes.

Sustainability

There is a great potential for sustainability of this program. The project partner and site champion have expressed interest in continuing and expanding this program in the future. The project could be replicated at other organizational sites within the Pitt County region or even expanded to other counties within the Coastal Plain region.

Dissemination Plan

After completion of project implementation and review of findings, the project was presented to regional Unit Directors during a regularly scheduled monthly staff meeting on April 4, 2022. The project and poster (Appendix M) were also presented to ECU College of Nursing faculty, students, and guests during a DNP project presentation event on April 5, 2022. Finally, the completed paper was published to The ScholarShip, ECU's digital repository of graduate student work.

Section VI. Conclusion

Limitations

The literature reviewed for this project identified structured afterschool settings as important places for career development programs. While there are certainly benefits to providing programming during this time, there were also several limitations. Namely, conducting the sessions during afterschool hours created a barrier to attendance because students had other afterschool commitments such as sports and club meetings. Another reason for inconsistent attendance week to week was COVID-19, though this was not as much of a barrier to implementation as initially feared because we were able to conduct each session face-to-face, including the field trip. Additionally, the clubs require face-to-face safety training related to COVID-19 protocols for all volunteers and guests who enter the clubs. These trainings are currently offered twice monthly and take about two hours. While these trainings are very important, they are a barrier to having multiple guest speakers come to sessions throughout the program. It is challenging to get a healthcare professional to commit to a one-hour presentation, but when they have to also take time out of their work schedule to attend training on a specific date and time before being allowed to enter the club, it is nearly impossible.

Schedule conflicts were a recurring barrier. The second field trip was rescheduled once and ultimately canceled due to site closures. Limited time and availability when students were out of school made scheduling events quite challenging. Evolving plans within the organization made it difficult to set up and plan field trips and secure guest speakers and other volunteers. The decision was made to close the clubs across the region for staff training on the day the field trip was planned. This was a day that students were out of school for a federal holiday. On a day when many students may rely on the club to have a safe space outside of school, maybe closing

the club was not in the best interest of the members. In the future, perhaps offering staff trainings during school hours would be a better option to meet the needs of the members.

A goal of this project was to address three important social determinants of health: education, employment, and income. Education was addressed by discussing educational requirements for different healthcare careers, local options for educational attainment, and ways to pay for higher education. The field trip to East Carolina University allowed students to have a hands-on experience at a higher education institution and better understand how to reach this level of education. However, in reality, many of these participants will opt for a two-year college degree as the first step after high school due to affordability and access. Also, many students were interested in health careers that required an associate degree or certificate. While options for community college were discussed extensively throughout the program, a field trip to the local community college would have been a great experience for the participants.

Employment and income were addressed throughout the program by having participants research and present about a healthcare career of interest. Students used resources from NC Careers, including the Reality Check tool and Interest Finder, to help them select a career. They were asked to complete a mock job application and then make a poster presentation about their selected career that included a description of the job, why they chose this career, skills needed for success, typical daily activities, educational requirements, and salary. While these activities did help the participants broaden their knowledge of the wide variety of health careers available, it was still difficult for some fully understand the occupation or grasp what the job actually entailed. This is where more hands-on experiences or at least hearing from a professional in the field would be a great benefit.

Recommendations for Others

After the final session, participants were asked if they would be interested in continuing to participate in a health careers exploration program at the club and if they would recommend this program to their peers. Eight of the nine students who attended the last session (89%) reported they would like to continue to program; all nine students (100%) reported they would recommend the program to their friends. Additionally, the Unit Director, Teen Leader, and Site Champion were asked if they would like to continue the program and all agreed that they would.

I do not foresee that many organizational changes would need to be made in order to continue this program. This was a low-cost project with the club already having many of the tools needed for the lessons and activities. The biggest challenge with this project was scheduling. This will continue to be a challenge in the future to coordinate club schedules, school calendars, and field trip availability. Flexibility with scheduling is important for both the project leader and implementation site. Successful replication of this project at another site within the organization will require that the Unit Director is invested in the program and willing to meet to discuss scheduling and logistics. As discussed, COVID-19 was a barrier to having additional guest speakers/presenters at the club during implementation. One recommendation from participants and the project team was to have more guest speakers from various health occupations come to the club each week. If the organization would allow these guests speakers to attend a one-time session at the club without completing the required face-to-face safety training in advance, I believe this would make this option much more feasible. If this does not change in the future, having virtual guest speakers would be an option.

Additional recommendations for replication are to start the planning process as early as possible. Field trips and guest speakers are challenging to coordinate and require planning well in advance. The participants and team leaders offered suggestions for a future program to include

a field trip to the local community college and the local hospital. This will require contacting these sites well in advance to get approval for the trips, coordinate a schedule, and plan activities. Also, the participants offered the suggestion of discussing a different health career each week with a guest speaker presentation from someone in that field. Gaining a better understanding of different health careers would certainly be beneficial. However, this will require first surveying participants to see which health careers they are most interested in learning more about, and then contacting potential speakers willing to take time to share their career story. An important aspect of this idea would be recruiting racial, ethnic, and gender-diverse healthcare professionals to speak to the students so that they are able to see someone they can relate to in their career of interest. This will need to be intentional and will require early planning and effort.

Recommendations for Further Study

Ideally, the program will continue to be implemented within the organization in two ways. First, a continuation of the program at the original site, including presentations from different health care professionals and a deeper exploration into these careers of interest, would be beneficial. Secondly, replicating the program at a different site within the organization would help broaden the impact of the program by extending it to more students.

Future program leaders should identify ways to recruit males into health professions. Also, a mentorship program with current health sciences students at the community college or university would be of great benefit to program participants. Connecting students to diverse mentors with whom they can identify is also important for helping students envision their future success and develop career self-efficacy.

Career exploration programs such as this have great value, especially since many students do not get much career guidance or planning in school. Continuation of this program will help

achieve the overarching goals of improving academic and career success for participants, as well

as increasing healthcare workforce diversity and improving health equity.

References

Ali, S. R., Brown, S. D., & Loh, Y. (2017). Project HOPE: Evaluation of health science career

    education programming for rural Latino and European American youth. *The Career*

    Development Quarterly, 65, 57-71. https://doi.org/10.1002/cdq.12080

Ali, S. R., Garrison, Y. L., Cervantes, Z. M., & Dawson, D. A. (2021). Sociopolitical

    development and healthcare career interest, self-efficacy, and outcome expectations

    among rural youth. *The Counseling Psychologist, 49*(5), 701-727.

    https://doi.org/10.1177/00110000211007440

Ali, S. R., Pham, A., Garrison, Y. L., & Brown, S. D. (2019). Project HOPE: Sociopolitical

    developmental and SCCT beliefs of Latinx and White rural middle school students.

    Journal of Career Development, 46(4), 410-424.

    https://doi.org/10.1177/0894845319832973

Association for Career and Technical Education. (2017). *Career exploration in middle school:*

    Setting students on the path to success. Association for Career and Technical Education

    & Career Cruising. https://files.eric.ed.gov/fulltext/ED596321.pdf

Association for Career and Technical Education. (2021). *CTE in North Carolina.*

    https://www.acteonline.org/wp-content/uploads/2022/01/NC-CTE-Fact-Sheet-

    December2021.pdf

Bidwell, S. S., Miller, M. O., Lee, E. W., Yelorda, K., Koshy, S., Hawn, M., & Morris, A. M.

    (2019). Development and implementation of a hands-on surgical pipeline program for

    low-income high school students. *JAMA Network Open, 2*(8), 1-4.

    https://doi.org/10.1001/jamanetworkopen.2019.9991

Blotnicky, K. A., Franz-Odendaal, T., French, F., & Joy, P. (2018). A study of the correlation

between STEM career knowledge, mathematics self-efficacy, career interests, and career

activities on the likelihood of pursuing a STEM career among middle school students.

International Journal of STEM education, 5(22), 1-15. https://doi.org/10.1186/s40594-

018-0118-3

Boekeloo, B. O., Todaro Brooks, A., & Qi Wang, M. (2017). Exposures associated with minority

high schoolers' predisposition for health science. *American Journal of Health Behavior,

41*(2), 104-113. https://doi.org/10.5993/AJHB.41.2.1

Boys and Girls Clubs of America. (2019). *Building economic opportunity: Youth workforce

readiness.* https://www.bgca.org/-/media/Documents/KidsInNeed/WorkforceReadiness-

GreatThinkWhitePaper_DIGITAL.ashx

Boys and Girls Clubs of the Coastal Plain. (2020). *Region 1 statistics – 2020 membership*

[Unpublished raw data].

Boys and Girls Clubs of the Coastal Plain. (n.d.a). *Dr. Ledyard E. Ross unit, Ayden.*

https://www.bgccp.com/clubs/dr-ledyard-e-ross-unit/

Boys and Girls Clubs of the Coastal Plain. (n.d.b). *Jack Minges unit, Winterville.*

https://www.bgccp.com/clubs/jack-minges-unit/

Boys and Girls Clubs of the Coastal Plain. (n.d.c). *What we do.*

https://www.bgccp.com/who-we-are/what-we-do/

Bureau of Labor Statistics & NC Department of Commerce. (2018). *North Carolina employment

projections 2018-2028.*

https://files.nc.gov/nccommerce/documents/LEAD/Projections/2018-

2028_NC_Employment_Projections_Summary.pdf

Burrus, B. B., Krieger, K., Rutledge, R., Rabre, A., Axelson, S., Miller, A., White, L., &

Jackson, C. (2018). Building bridges to a brighter tomorrow: A systematic evidence review of interventions that prepare adolescents for adulthood. *American Journal of Public Health, 108*(S1), S25-S31. https://doi.org/10.2105/AJPH.2017.304175

Cohen, M. D., Therriault, S., Scala, J., Lavinson, R., & Brand, B. (2019). *Afterschool programming as a lever to enhance and provide career readiness opportunities.* College and Career Readiness and Success Center at American Institutes for Research. https://files.eric.ed.gov/fulltext/ED603026.pdf

Curran, T., & Wexler, L. (2017). School-based positive youth development: A systematic review of the literature. *The Journal of School Health, 87*(1), 71-80. https://doi.org/10.1111/josh.12467

Edgoose, J., Quiogue, M., & Sidhar, K. (2019). How to identify, understand, and unlearn implicit bias in patient care. *Family Practice Management, 26*(4), 29-33. https://www.aafp.org/fpm/2019/0700/p29.html

Glessner, K., Rockinson-Szapkiw, A. J., & Lopez, M. L. (2017). "Yes, I can": Testing an intervention to increase middle school students' college and career self-efficacy. *The Career Development Quarterly, 65*(4), 315-325. https://doi.org/10.1002/cdq.12110

Healthy People 2030. (n.d.a). *Economic stability.* US Department of Health and Human Services, Office of Disease Prevention and Health Promotion. https://health.gov/healthypeople/objectives-and-data/browse-objectives/economic-stability

Healthy People 2030. (n.d.b). *Increase employment in working-age people – SDOH-02.* US

Department of Health and Human Services, Office of Disease Prevention and Health

   Promotion. https://health.gov/healthypeople/objectives-and-data/browse-

   objectives/economic-stability/increase-employment-working-age-people-sdoh-02

Healthy People 2030. (n.d.c). *Reduce the proportion of adolescents and young adults who aren't

   in school or working – AH-09.* US Department of Health and Human Services, Office of

   Disease Prevention and Health Promotion. https://health.gov/healthypeople/objectives-

   and-data/browse-objectives/adolescents/reduce-proportion-adolescents-and-young-adults-

   who-arent-school-or-working-ah-09

Healthy People 2030. (n.d.d). *Reduce the proportion of people living in poverty – SDOH-01.* US

   Department of Health and Human Services, Office of Disease Prevention and Health

   Promotion. https://health.gov/healthypeople/objectives-and-data/browse-

   objectives/economic-stability/reduce-proportion-people-living-poverty-sdoh-01

Institute for Healthcare Improvement. (2021). *How to improve*.

   http://www.ihi.org/resources/Pages/HowtoImprove/default.aspx

Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of

   career and academic interest, choice, and performance. *Journal of Vocational Behavior,*

   45(1)*,* 79-122. https://doi.org/10.1006/jvbe.1994.1027

Lewis, K. (2020). *A decade undone: Youth disconnection in the age of coronavirus.* Measure of

   America, Social Science Research Council. https://ssrc-

   static.s3.amazonaws.com/moa/ADecadeUndone.pdf

Martinez, R. R., Baker, S. B., & Young, T. (2017). Promoting career and college readiness,

   aspirations, and self-efficacy: Curriculum field test. *The Career Development Quarterly,*

   65(2), 173-188. https://doi.org/10.1002/cdq.12090

Mayberry, M. E., Young, D. D., Sawilowsky, S., & Hoelscher, D. (2018). Exposure of seventh

and eighth grade urban youth to dentistry and oral health careers. *Journal of Dental

Education, 82*(1), 29-38. https://doi.org/10.21815/JDE.018.005

Melnyk, B. M., & Fineout-Overholt, E. (2019). *Evidence-based practice in nursing and

healthcare: A guide to best practice* (4th ed.). Wolters Kluwer.

Middle Grades CTE Shared Solutions Workgroup. (2020). *Broadening the path: Design

principles for middle grades CTE.* Advance CTE & Association for Career and Technical

Education. https://files.eric.ed.gov/fulltext/ED606187.pdf

Moran, K., Burson, R., & Conrad, D. (2020). *The doctor of nursing practice project: A

framework for success* (3rd ed.). Jones & Bartlett Learning.

NCCareers.org. (2021). *Reality check.* https://nccareers.org/find-career/reality-check

NC Institute of Medicine (2020). *Healthy North Carolina 2030: A path toward health*.

https://nciom.org/wp-content/uploads/2020/01/HNC-REPORT-FINAL-Spread2.pdf

Pitt County Public Health. (2019). *Pitt County community health needs assessment*. Pitt County

Health Department, Pitt Partners for Health, & Vidant Medical Center.

https://www.pittcountync.gov/DocumentCenter/View/9719/Pitt-County-2019-CHNA-

FINAL-August-2019

Population Health Institute. (2014). *County health rankings model.* University of Wisconsin

School of Medicine and Public Health. https://www.countyhealthrankings.org/explore-

health-rankings/measures-data-sources/county-health-rankings-

model?componentType=facotr-area&componenetId=4

RE-AIM. (2022). *Frequently asked questions*.

https://www.re-aim.org/about/frequently-asked-questions/

Richman, E., Spero, J., & Fraher, E. (2016, May 5). *Does the race and ethnicity of North Carolina's health workforce reflect the diversity of the population?* [Conference session]. AAMC Health Workforce Research Conference, Alexandria, VA, United States. https://www.shepscenter.unc.edu/wp-content/uploads/2016/09/Richman_Diversity_AAMC_May2016.pdf

Whiston, S. C., Li, Y., Goodrich Mitts, N., & Wright, L. (2017). Effectiveness of career choice interventions: A meta-analytic replication and extension. *Journal of Vocational Behavior, 100*, 175-184. https://doi.org/10.1016/j.jvb.2017.03.010

Whiston, S. C., Rossier, J., & Hernandez Baron, P. M. (2016). The working alliance in career counseling: A systematic overview. *Journal of Career Assessment, 24*(4), 591-604. https://doi.org/10.1177/1069072715615849

Appendix A

Quality Improvement/Program Evaluation Self-Certification Tool

Click "download PDF" to save a copy of this page for your records.
Note: The IRB Office does not maintain copies of your responses.

Below is a summary of your responses	Download PDF

Quality Improvement/Program Evaluation Self-Certification Tool

Purpose:
Projects that do not meet the federal definition of human research pursuant to 45 CFR 46 do not require IRB review. This tool was developed to assist in the determination of when a project falls outside of the IRB's purview.

Instructions:
Please complete the requested project information, as this document may be used for documentation that IRB review is not required. Select the appropriate answers to each question in the order they appear below. Additional questions may appear based on your answers. If you do not receive a STOP HERE message, the form may be printed as certification that the project is "not research", and does not require IRB review. The IRB will not review your responses as part of the self-certification process. For projects being done at Vidant Health, site support will be required. Please email crg.quality@vidanthealth.com to obtain site support from Vidant Health.

Name of Project Leader:

Anna Cook

Project Title:

Reducing Socioeconomic Health Disparities and Improving Health Equity Through Youth Workforce Development

Brief description of Project/Goals:

The goal of this project is to improve career readiness among middle school students by developing and implementing a healthcare careers exploration program. The project will take place at a non-profit afterschool center and be open to rising 7th, 8th, and 9th-grade students interested in healthcare careers. A post-implementation survey will be used to measure participants' knowledge gains related to awareness of healthcare careers, soft skills development, and workforce readiness.

Will the project involve testing an experimental drug, device (including medical software or assays), or biologic?

○ Yes

● No

Has the project received funding (e.g. federal, industry) to be conducted as a human subject research study?

○ Yes

● No

Is this a multi-site project (e.g. there is a coordinating or lead center, more than one site participating, and/or a study-wide protocol)?

○ Yes

● No

Is this a systematic investigation designed with the intent to contribute to generalizable knowledge (e.g. testing a hypothesis; randomization of subjects; comparison of case vs. control; observational research; comparative effectiveness research; or comparable criteria in alternative research paradigms)?

○ Yes

● No

Will the results of the project be published, presented or disseminated outside of the institution or program conducting it?

● Yes

○ No

Would the project occur regardless of whether individuals conducting it may benefit professionally from it?

● Yes
○ No

Does the project involve "no more than minimal risk" procedures (meaning the probability and magnitude of harm or discomfort anticipated are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests)?

● Yes
○ No

Is the project intended to improve or evaluate the practice or process within a particular institution or a specific program, and falls under well-accepted care practices/guidelines?

● Yes
○ No

Based on your responses, the project appears to constitute QI and/or Program Evaluation and IRB review is not required because, in accordance with federal regulations, your project does not constitute research as defined under 45 CFR 46.102(d). If the project results are disseminated, they should be characterized as QI and/or Program Evaluation findings. Finally, if the project changes in any way that might affect the intent or design, please complete this self-certification again to ensure that IRB review is still not required. Click the button below to view a printable version of this form to save with your files, as it serves as documentation that IRB review is not required for this project. 6/16/2021

Appendix B

Recruitment Session One-Pager

Health Careers Exploration Club: Information/Recruitment Sessions

1. ███████████ on Tuesday 9/14 from 5:30 pm – 6:00 pm
2. ███████████ on Thursday 9/16 from 4:30 pm – 5:00 pm

I.   Welcome/Introduction (~5 minutes)
   a. Please take a total headcount of how many students attend the session.
   b. Planning for your future and thinking about the type of career you want to have early on is so important! Going to work every day doesn't have to be boring or dreadful – finding a career that aligns with your passions and interests can make work exciting and rewarding!
   c. We've created a fun new program to help you all explore careers within the healthcare field.
       i.   Why healthcare?
              1. Many job opportunities in Pitt County and ENC (one of the largest employers); there will always be a need (not just here but all over the world)
              2. Helping others – working in healthcare is rewarding because you get to help others feel better and make a difference in many people's lives
              3. Variety – lots of different jobs you can do, not all have to work with patients; you can work with adults, children, babies. Different settings – hospital, doctors office, mobile clinic, city, or country.
              4. Flexibility – part time, full time, day shift, night shift, weekdays, or weekends; lots of options to fit your schedule/what works best for your family
              5. Options for education – anywhere from a HS diploma to a doctorate degree; some employers will help pay for you to go back to school to get a higher degree
              6. Good pay – top paying jobs in healthcare in NC are nurse practitioner, physician, and physical therapist ($39-$59/hr)
   d. The program will be led by Anna Cook, a doctoral nurse practitioner student from ECU. She has been a nurse for 6 years and worked in the Pediatric ICU at Vidant Medical Center. She loves working with students and is so excited to share more about health careers and help you all explore your passions!

II.   Health Care & Health Careers Q&A (~10 minutes)
   a. Review application questions – ask students to share responses; give out candy for responses
          i.   What does health care mean to you?
          ii.   Where do you or your family members go to get care when you're sick?
          iii. Ask for someone to share about a family member or friend who works in healthcare. What is their job? What do they like/dislike about it?
          iv.   Ask for someone to share about a health career they are interested in and would like to learn more about.

III.   Program Overview (~5 minutes)

a. We're going to explore all different kinds of health careers, not just the typical ones you think about like nurses and doctors. There are other interesting (and well paying) jobs like counselors, social workers, medical assistants, lab techs, music/art therapists, medical photographers and lots more! We want to help you learn more about your unique strengths and gifts and find a potential career that best fits your interests.

b. There will be activities, games, and prizes each week! This will not be boring!

c. You will each have the opportunity to research about a health career that interests you, use your creativity skills to make a poster, and share your work with the group.

d. The most exciting part is, we are planning two field trips to ECU's Health Sciences campus. We will get to tour the College of Nursing and Health Sciences Student Center, hear from speakers from Vidant Medical Center, and interview other health sciences students about what they're studying and tips for success.

e. Remember you need to attend all sessions to go on the field trips.

f. Review program schedule – ████████ on Tuesdays from 5-6pm and ██████ on Thursdays from 4:30-5:30pm. Field trips 10/26 (Early Release Day) and 11/11 (Holiday). *Update to delay start by 1 week.

IV.   **Applications/Questions (~10 minutes)**

a. Remember, this program is for any 7-9th graders interested in learning more about healthcare careers! Even if you're not sure if you would like to work in healthcare one day, you can sign up and learn more. Sometimes we have to rule out what we don't like to figure out what we do like.

b. If you are interested in participating, you will need to fill out an application. You can do that now if you're ready, or you can take one home.

c. You also need to take home a parental consent form and have this signed and bring it back NO LATER THAN FRIDAY 9/24. There will be a special prize/treat for those of you who get your application and consent form turned in by this Friday ████ or Monday ███████!

d. Answer questions and help students fill out applications.

Appendix C

Health Careers Exploration Club Participant Application

<div style="background-color: purple; text-align: center;">**Health Careers Exploration Club Application**</div>

We are so happy you're interested in learning more about healthcare careers! Please fill out this short application to let us know that you want to participate in the program.

Name: _____ Age: _____

What grade are you in? (Circle one)   7th grade   8th grade   9th grade   10th grade

List any extracurricular activities you are involved in (sports, church, volunteering, etc.).

_____

_____

What does health care mean to you?

_____

_____

Typically, where do you or your family members go to get care when you're sick?

_____

_____

Do you have any family members or friends who work in healthcare? If so, who? What is their job?

_____

_____

Are there any healthcare jobs you are interested in and want to learn more about? If so, please list them. (If you don't know the name of a specific job, try to describe it as best you can).

_____

_____

In one sentence, please explain why you want to participate in this program.

_____

_____

Signature: _____ **Date:** _____

Applications must be completed and returned no later than Monday, September 20, 2021.

Appendix D

Health Careers Exploration Club Parental Consent Form

Health Careers Exploration Club Parental Consent Form

_____(child's name), a member at ███████████ ███████████████████████████████████████, has my permission to participate in the program, **Health Careers Exploration Club, from September 21, 2021 through November 11, 2021**. I have read and understand the program description and tentative schedule (attached) and I agree to all of the conditions.

I understand that this program is being led by a doctoral student from East Carolina University's College of Nursing. I understand that my child will be asked to provide feedback throughout the program to measure their understanding of and interest in healthcare careers. I understand that my child's participation in this program is completely voluntary, and he/she may withdraw from the program at any time.

I understand that this program is for 7th, 8th, and 9th grade students. I understand that my child will be learning about various healthcare careers and participating in hands-on learning activities. I understand that this program involves two visits to East Carolina University's Health Sciences Campus, on October 26th, 2021 and November 11th, 2021. Transportation to and from campus will be provided by ██████. **Students must attend all sessions to participate in the field trips.** _There is no fee for participation in this program._ I understand that my child will be required to behave in a respectful manner and is to abide by all rules set forth by ██████.

I understand that lunch will be provided during the Health Sciences Campus field trip on November 11th, 2021 ONLY. I understand that it is up to me, the parent/legal guardian, to inform the program leader or a BGCCP staff member of any food allergies my child has and of any potential medical situations.

Field Trip Attire: Closed-toe shoes must be worn to enter the simulation labs. Masks will be required at all times while on campus.

Parent/Legal Guardian's Name: (Please print) _____

Home Telephone Number: _____ **Cell Number:** _____

Parent/Legal Guardian's Signature: _____

Date: _____

Consent forms must be signed and returned no later than September 20, 2021. Signed forms can be dropped off at the front desk at either club location. For more information, contact the program leader, Anna Cook, at ██████████ or manguma11@students.ecu.edu.

Appendix E

Program Participant Self-Evaluation Tool

Password: _____ Date: _____

Three Questions related to specific lesson objectives:

1.

2.

3.

Since starting this program:	Worse	About the same	Better
My knowledge of health careers is:			
My interest in health careers is:			

Comments/Questions:

Appendix F

Program Evaluation Tool for Participants

Password: _____ Date: _____

Gender: Male   Female   Prefer not to answer   Age: _____ Grade: _____ Race: _____

	YES	I DON'T KNOW	NO
The program increased my knowledge of healthcare careers.			
The program helped me better understand my career interests and goals.			
The program helped me identify a healthcare career I'm interested in.			
The program helped me create an action plan for high school based on my career interests.			
The program helped me understand supports and barriers/solutions on my career path.			
The program increased my knowledge of career development resources in Pitt County.			
I would be interested in continuing to participate in a health careers exploration program at Boys & Girls Club.			

What was your favorite part of the program and why?

What was your least favorite part of the program and why?

What would you change about the program?

What did you learn from the program?

Appendix G

Program Evaluation Tool for Team Members

Date: _____

	Disagree	Neutral	Agree
The program was beneficial for club members.			
Club members enjoyed the program activities.			
The time allotted for each session was adequate.			
The sessions fit in well with our current program schedule.			
We should continue to offer this program, or a similar program, at Boys & Girls Club.			

What were the most beneficial aspects of the program?
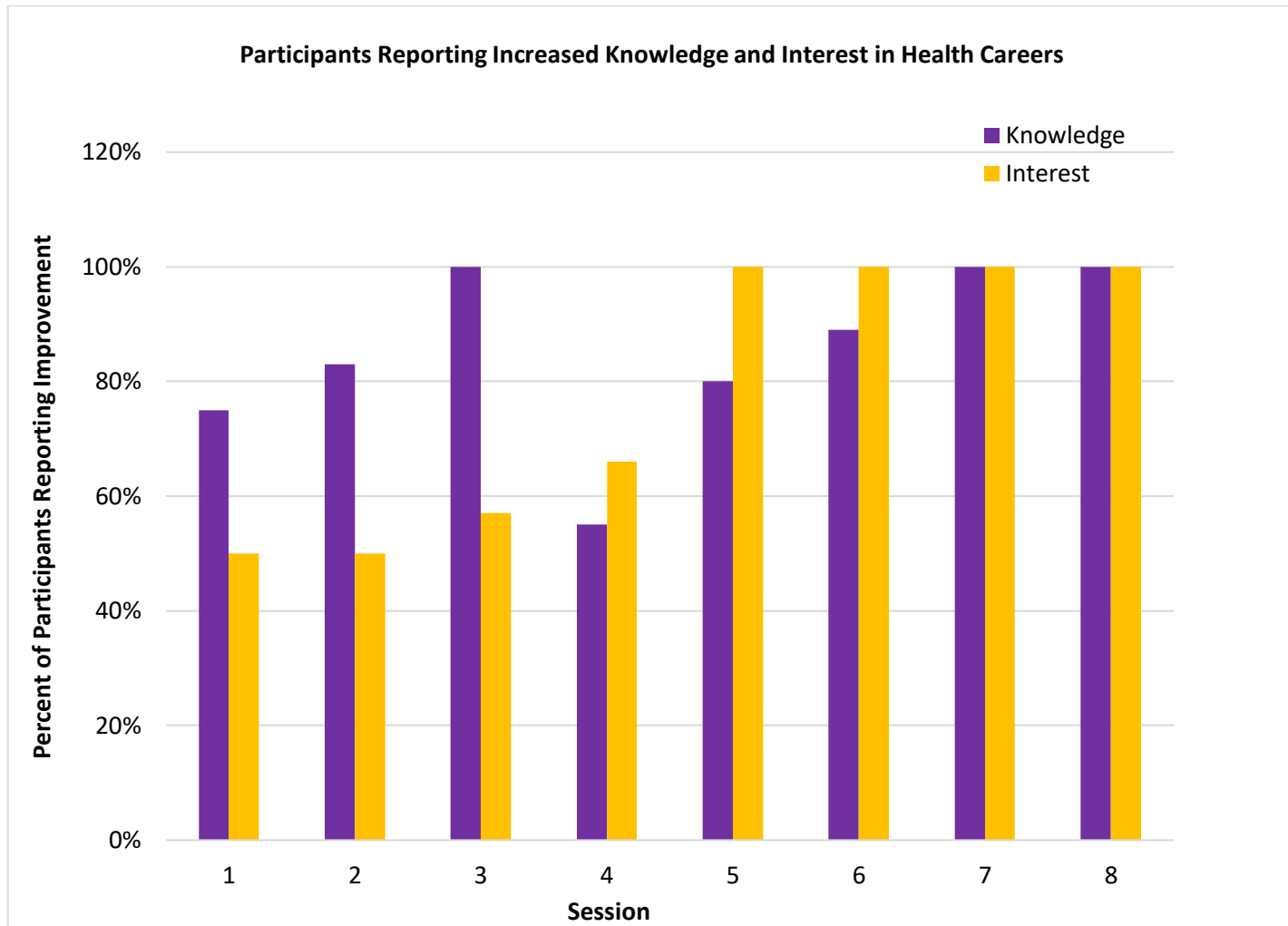
What would you change about the program?

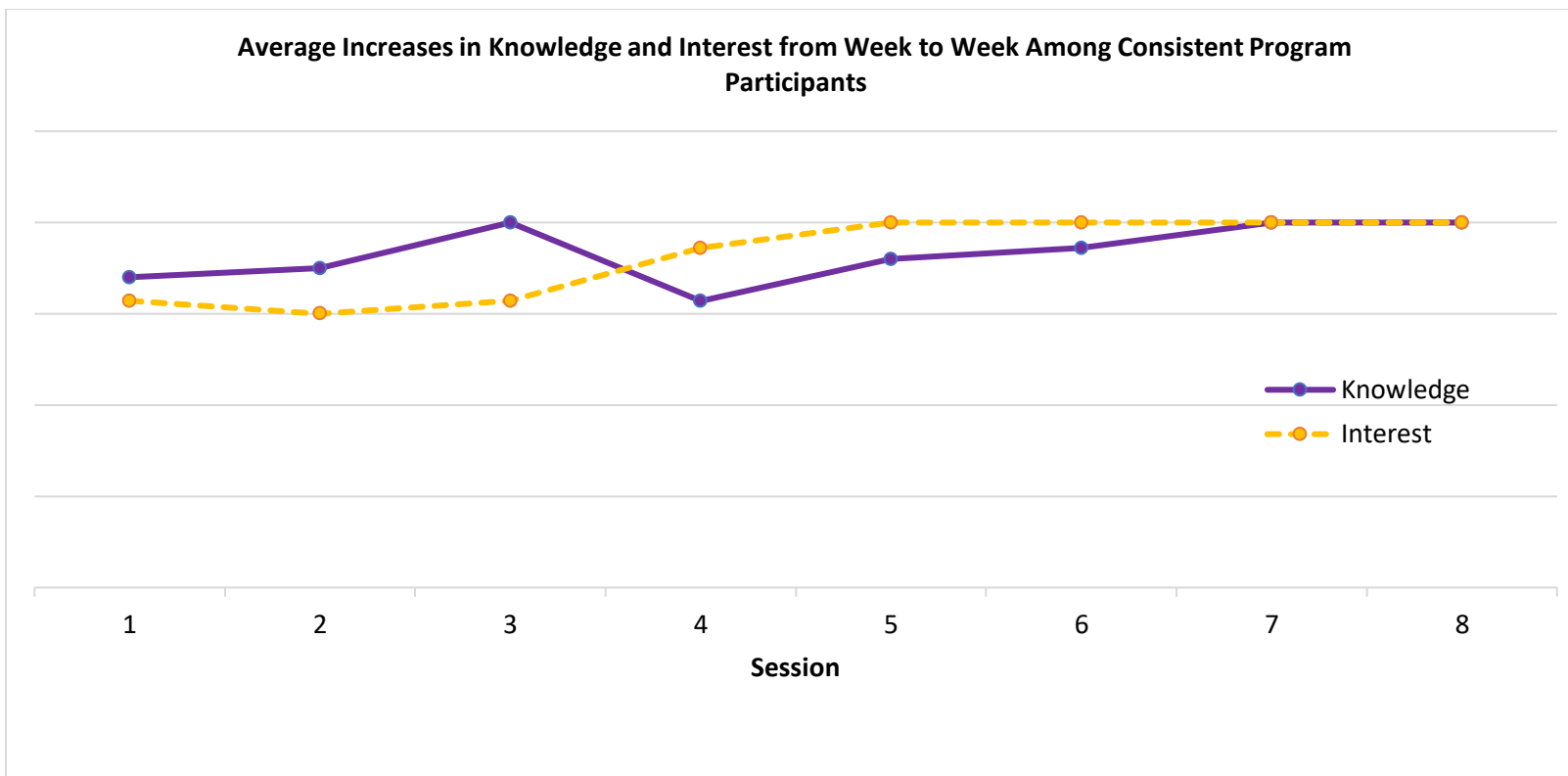Ideas for future health careers program activities:

Appendix H

Project Timeline

Planning August – September 2021	• 8/17: Project Team Meeting #1 • 8/30: Project Team Meeting #2 • 9/15: Information Session (Site 1) • 9/17: Information Session (Site 2)
Implementation September – November 2021	• 9/30: Session 1 + PDSA Meeting • 10/4: PDSA Meeting • 10/7: Session 2 + PDSA Meeting • 10/12: Session 3 + PDSA Meeting • 10/18: PDSA Meeting • 10/19: Session 4 • 10/21: Session 5 + PDSA Meeting • 10/26: Session 6 (Field Trip) • 10/28: PDSA Meeting • 11/2: Session 7 • 11/4: PDSA Meeting • 11/9: Session 8
Evaluation November 2021 – March 2022	• 11/9: Program evaluation surveys distributed • Data analysis
Results Dissemination April 2022	• 4/4: Project Site Poster Presentation • 4/5: University Project Poster Presentation • 4/27: Paper published in "The ScholarShip"

Appendix I

Outcome Measures

Participants Reporting Increased Knowledge and Interest in Health Careers

Appendix J

Outcome Measures

Average Increases in Knowledge and Interest from Week to Week Among Consistent Program Participants

Appendix K

Project Budget

Item	Quantity	Cost	Total
Lesson Materials			
Folders	12	$0.68	$8.16
Printed Workbook Pages	144	$0.15	$21.60
Name Tags	1	$1.99/pack	$1.99
Ink	2	$24.49	$48.98
Tangrams	1	$13.99	$13.99
Whiteboards	2	$5.00	$10.00
Dry Erase Markers	1	$4.89/pack	$4.89
Pens	1	$1.59/pack	$1.59
Index Cards	2	$0.49/pack	$0.98
Prizes	20	$5.00	$100.00
Certificates	11	$0.68	$7.48
Program Evaluations	80	$0.15	$12.00
Food			
Snacks	60	$1.00	$60.00
Pizza	4	$7.99	$31.96
Drinks (10-count box)	2	$2.48	$4.96
Plates (Pack)	1	$2.98	$2.98
Napkins (Pack)	1	$1.72	$1.72
Transportation			
Mileage	28	$0.31/mile	$8.68
Bus Driver	4	$7.25/hr	$29.00
TOTAL			**$370.96**

Appendix L

Doctor of Nursing Practice Essentials

	Description	Demonstration of Knowledge
Essential I *Scientific Underpinning for Practice*	**Competency** – Analyzes and uses information to develop practice **Competency** – Integrates knowledge from humanities and science into context of nursing **Competency** – Translates research to improve practice **Competency** – Integrates research, theory, and practice to develop new approaches toward improved practice and outcomes	Used best available evidence identified in literature review to develop a new health careers exploration program for minority middle and early high school students. Used relevant theory and framework to guide the project through planning, implementation, and evaluation phases.
Essential II *Organizational & Systems Leadership for Quality Improvement & Systems Thinking*	**Competency** – Develops and evaluates practice based on science and integrates policy and humanities **Competency** – Assumes and ensures accountability for quality care and patient safety **Competency** – Demonstrates critical and reflective thinking **Competency** – Advocates for improved quality, access, and cost of health care; monitors costs and budgets **Competency** – Develops and implements innovations incorporating principles of change **Competency** – Effectively communicates practice knowledge in writing and orally to improve quality **Competency** – Develops and evaluates strategies to manage ethical dilemmas in patient care and within health care delivery systems	Demonstrated critical and reflective thinking by completing continuous improvement cycles throughout the project process. Advocated for improved access and cost of health care through an upstream approach addressing SDOH that impact overall health outcomes and well-being. Communicated project results through written publication and oral presentation.

Essential III *Clinical Scholarship & Analytical Methods for Evidence-Based Practice*	**Competency** – Critically analyzes literature to determine best practices **Competency** – Implements evaluation processes to measure process and patient outcomes **Competency** – Designs and implements quality improvement strategies to promote safety, efficiency, and equitable quality care for patients **Competency** – Applies knowledge to develop practice guidelines **Competency** – Uses informatics to identify, analyze, and predict best practice and patient outcomes **Competency** – Collaborate in research and disseminate findings	Conducted an extensive literature review to determine best practices for implementing a career development program for the target population and setting. Used an evidence-based curriculum to guide lesson development with adjustments made as necessary to best fit the population and geographic area. After evaluation of program outcomes, results were disseminated at the project site and the university.
Essential IV *Information Systems – Technology & Patient Care Technology for the Improvement & Transformation of Health Care*	**Competency** – Design/select and utilize software to analyze practice and consumer information systems that can improve the delivery & quality of care **Competency** – Analyze and operationalize patient care technologies **Competency** – Evaluate technology regarding ethics, efficiency, and accuracy **Competency** – Evaluates systems of care using health information technologies	Utilized technology throughout program implementation to facilitate lesson objectives and enhance activities. Data collection and evaluation completed using Excel software.
Essential V *Health Care Policy of Advocacy in Health Care*	**Competency** – Analyzes health policy from the perspective of patients, nursing, and other stakeholders **Competency** – Provides leadership in developing and implementing health policy **Competency** – Influences policymakers, formally and informally, in local and global settings **Competency** – Educates stakeholders regarding policy **Competency** – Advocates for nursing within the policy arena **Competency** – Participates in policy agendas that assist with finance, regulation, and health care delivery	Advocated for equitable and ethical health care by developing and implementing a community-based project addressing upstream SDOH. Educated organizational stakeholders regarding the connections between SDOH and overall health and well-being. Ensured the program was available to underserved populations to promote health equity in the community.

	Competency – Advocates for equitable and ethical health care	
Essential VI *Interprofessional Collaboration for Improving Patient & Population Health Outcomes*	**Competency** – Uses effective collaboration and communication to develop and implement practice, policy, standards of care, and scholarship **Competency** – Provide leadership to interprofessional care teams **Competency** – Consult intraprofessionally and interprofessionally to develop systems of care in complex settings	Collaborated with the project site champion, faculty mentor, and Unit Director throughout the project process. Demonstrated leadership by developing and facilitating the program sessions. Consulted with the faculty mentor and project site champion to develop an impactful and sustainable career development program.
Essential VII *Clinical Prevention & Population Health for Improving the Nation's Health*	**Competency** – Integrates epidemiology, biostatistics, and data to facilitate individual and population health care delivery **Competency** – Synthesizes information & cultural competency to develop & use health promotion/disease prevention strategies to address gaps in care	Address health promotion and gaps in opportunity and job readiness by designing and implementing a health careers exploration program targeting youth disproportionately affected by SDOH. Aimed to lessen the burden of SDOH by preparing youth to achieve academic and career success and ultimately achieve better health.
Essential VIII *Advanced Nursing Practice*	**Competency –** Design, implement & evaluate nursing interventions to promote quality **Competency –** Develop & maintain patient relationships **Competency –** Demonstrate advanced clinical judgment and systematic thoughts to improve patient outcomes **Competency –** Mentor and support fellow nurses **Competency-** Provide support for individuals and systems experiencing change and transitions **Competency –** Use systems analysis to evaluate practice efficiency, care delivery, fiscal responsibility, ethical responsibility, and quality outcomes measures	Designed, implemented, and evaluated the health careers exploration program. Mentored and supported a fellow DNP student as she partnered with organization to continue this program. Demonstrated thorough evaluation of outcome measures through qualitative and quantitative data collection. Provided support to the organization, feedback, and ideas for future improvement to ensure the sustainability of this program.

Appendix M

DNP Project Poster

Health Careers Exploration Club: An Upstream Approach to Improving Health Equity

Anna Cook, BSN, DNP student, RN   annacook.fnp@gmail.com

BACKGROUND

- Social determinants of health (SDOH), including education, employment, and income, profoundly impact health outcomes
- Common goals of Healthy People 2030 and Healthy NC 2030 are to help people achieve economic stability
- Lack of career development programs for youth
- Need to ensure that youth are prepared to enter the future healthcare workforce
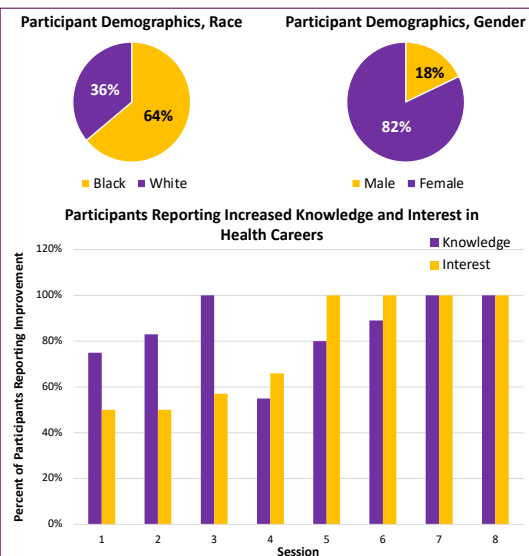
PURPOSE

- Lessen the burden of SDOH by preparing youth to achieve academic success, stable employment, and financial security
- Close the gap in young adults' skills and employers' needs

METHODOLOGY

- A health careers exploration program for middle and early high school students
- Implemented at a local afterschool community center
- 8 sessions conducted face-to-face over 7 weeks
- 1 field trip to ECU's Health Sciences Campus
- Utilized the Project HOPE* evidence-based curriculum
- Applied the RE-AIM framework and Plan-Do-Study-Act (PDSA) model

RESULTS

- Average attendance 7.75 participants per session (range 5 to 11)
- 8th, 9th, and 10th graders; average age 14 years
- At program completion, 100% of participants reported increased knowledge of and interest in a health career

Participant Demographics, Race

36% 64%
■ Black ■ White

Participant Demographics, Gender

18% 82%
■ Male ■ Female

Participants Reporting Increased Knowledge and Interest in Health Careers

OUTCOMES

- Diverse group of participants
- Better than expected program outcomes
- Majority of participants felt the program was meaningful and wished to continue in the future

IMPLICATIONS

- Opportunity for students to explore healthcare careers and understand the skills and academic requirements needed for future success
- Potential to increase healthcare workforce diversity
- Decrease negative impacts on healthcare systems by improving long-term health outcomes

BARRIERS

- Inconsistent attendance
- Volunteer restrictions
- Scheduling conflicts

RECOMMENDATIONS

- Recruit males and other racial/ethnic minorities
- Guest speakers and hands-on activities
- Mentorship component
- Community College partnership

ECU COLLEGE OF NURSING

Thank you to my Project Site Champion and Dr. Saba Ali & the Project HOPE Team*