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South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program

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14. ABSTRACT

Background: There is a severe shortage of diverse biomedical scientists in the United States and in South Carolina. The goal of the South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program is to provide a biomedical research training experience to **12** students (*i.e.*, “*Student Fellows*”) from three Historically Black Colleges/Universities – Claflin University, South Carolina State University, and Voorhees College over a three-year period. The major goals of the Training Program are: Goal 1.) To provide training in biomedical and prostate cancer research through the participation of four Student Fellows each year in a newly developed 15 credit hour prostate cancer health equity research course; Goal 2.) To conduct a hands-on research laboratory intensive with four Student Fellows each year. Each Student Fellow will complete a 10-week research project; Goal 3.) To provide the Student Fellows with clinical, cultural, and biotechnical learning opportunities through clinical shadowing experiences with physicians and/or other allied health care professionals; observations of a multidisciplinary prostate cancer tumor board; lay navigation shadowing in the clinical setting to gain experiences in the cultural and social context of prostate cancer treatment/survivorship issues; and interacting with biotechnical experts within the HCC shared resources/courses (*e.g.*, Cancer Genomics, Proteomics, Biorepository & Tissue Analysis, Flow Cytometry & Cell Sorting, Cell & Molecular Imaging, and Lipidomics); Goal 4.) To prepare tangible scientific products through extended mentoring with the Student Fellows such as scientific abstracts and research papers summarizing their prostate cancer research **Results:** During the current reporting period, **four** Student Fellows were identified, recruited to participate in the program, and admitted to the South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program. The Student Fellows were matched with Research Mentors at MUSC, with whom they conducted research in the summer of 2017. Each Student Fellow prepared a scientific paper, gave a scientific presentation at the end of the summer program, and completed an 8-week Princeton Review Graduate Record Examination Test Preparation Course. **Conclusions:** State-of-the art comprehensive prostate cancer research education and training opportunities were provided to **four** Student Fellows from HBCUs in South Carolina. Each Student Fellow prepared a scientific paper and gave at least one scientific presentation. Sixteen additional Student Fellows were supported by leveraged funds. A cadre of developing scientists who are becoming well-prepared to conduct research spanning the continuum from basic science to clinical science to population-based research was developed.

15. SUBJECT TERMS

Prostate Cancer Research Training Program
 Prostate Cancer Health Equity Research
 Student Fellows from Historically Black Colleges and Universities (HBCUs)

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INTRODUCTION

Background

The South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program (referred to as the SC CHEC Program) will provide a biomedical research training experience to 12 students from three Historically Black Colleges/Universities (HBCUs) – Claflin University (CU), South Carolina State University (SCSU), and Voorhees College (VC) over a three-year period (2015-2018). Undergraduate students from the three HBCUs (defined as Student Fellows) will participate in research intensive summer internships in the laboratories/research units of senior prostate cancer research scientists at the Medical University of South Carolina Hollings Cancer Center (MUSC HCC).

The didactic component of the 10-week SC CHEC Program includes an introduction to research on cancer disparities and prostate cancer. The SC CHEC Program also encompasses additional exposure to biomarker development, genetics, survivorship issues, and developmental therapeutics through shadowing experiences in the MUSC HCC's clinics, shared resources/cores, and greater interaction with the Sea Island/Gullah population of South Carolina. The ultimate goal of the SC CHEC Program is to increase the diversity of emerging scientists who may choose prostate cancer research careers in the basic, clinical, and population sciences.

Major Goals:

- Goal 1: To provide training in biomedical and prostate cancer research through the participation of four Student Fellows each year in a newly developed 15 credit hour prostate cancer health equity research course.
- Goal 2: To conduct a hands-on research laboratory intensive with four Student Fellows each year. Each Student Fellow will complete a 10-week research project.
- Goal 3: To provide the Student Fellows with clinical, cultural, and biotechnical learning opportunities through clinical shadowing experiences with physicians and/or other allied health care professionals; observations of a multidisciplinary prostate cancer tumor board; lay navigation shadowing in the clinical setting to gain experiences in the cultural and social context of prostate cancer treatment/survivorship issues; and interacting with biotechnical experts within the HCC shared resources/courses (*e.g.*, Cancer Genomics, Proteomics, Biorepository & Tissue Analysis, Flow Cytometry & Cell Sorting, Cell & Molecular Imaging, and Lipidomics).
- Goal 4: To prepare tangible scientific products through extended mentoring with the Student Fellows such as scientific abstracts and research papers summarizing their prostate cancer research.

Impact: Measurable outcomes of the SC CHEC Program will include the number of Student Fellows who take the Graduate Record Examination (GRE), apply to graduate school, and complete scientific presentations and publications based on their summer research projects. Efforts will also be made to evaluate long-term SC CHEC Program outcomes such as the number of Student Fellows who choose to pursue a medical or biomedical focused graduate and postgraduate career.

Program Director and Leadership Team

Dr. Marvella E. Ford is the Program Director. Drs. Omar Bagasra (CU) and Judith Salley (SCSU), and Mrs. Gayle Tyler-Stukes (VC) are Associate Directors. Dr. Leroy Davis retired from Voorhees College in 2016 and appointed Mrs. Gayle Tyler-Stukes, former SC CHEC Program Faculty Advisor at Voorhees College, to take his place as Associate Director. This four-person leadership team collaborates closely in the management and administration of the award, as well as the continued development and enhancement of the SC CHEC Program. The Program Director and Associate Directors share scientific interests in health disparities, serve in other leadership roles within their institutions, and meet frequently, both formally and informally. Each institution has appointed Faculty Advisors consisting of Dr. Ewen McLean (CU) and Dr. James B. Stukes (SCSU). Additionally, Ms. Erica Martino (MUSC) serves as the Program Assistant of the SC CHEC Program.

KEYWORDS: Prostate Cancer Research Training Program, Prostate Cancer Health Equity Research, Student Fellows from Historically Black Colleges and Universities (HBCUs)

BODY

Statement of Work

Task 1. Identify and Recruit the Student Fellows *(Year 3, months 1-3)*

- (a) Identify the pool of potential Student Fellows
- (b) Interview the potential Student Fellows and select the best candidates
- (c) Notify the selected Student Fellows of their acceptance into the Training Program
- (d) Match the selected Student Fellows with their MUSC Research Mentors

Deliverables: Four Student Fellows (plus an additional 16 students who were supported using leveraged funds) were identified, recruited to participate in the SC CHEC Program, and matched with senior prostate cancer Research Mentors at MUSC.

Task 2. Provide Training in Biomedical and Prostate Cancer Research through a Newly Developed Prostate Cancer Health Equity Research Course and Laboratory Research Training Experience *(Year 3, months 6-8)*

- (a) Conduct a short-term education course in Prostate Cancer Health Equity Research
- (b) Provide a short-term Laboratory Research Training Experience
- (c) Sponsor the Student Fellows' participation in a Graduate Record Examination (GRE) Preparation Course

Deliverables: We provided cutting-edge comprehensive prostate cancer health equity research education and training opportunities for four students from three of South Carolina's HBCUs (plus an additional 16 students who were supported using leveraged funds). We have developed a cadre of biomedical scientists who are well-prepared to contribute to future scientific discoveries related to prostate cancer screening, diagnosis, and treatment. Their research will span the spectrum from basic science to clinical science to population-based research. A minimum of 75% of the Student Fellows will take the GRE. At least 75% of the Student Fellows will apply to graduate school.

Task 3. Prepare Tangible Scientific Products through Extended Mentoring with the Student Fellows *(Year 3, months 10-12)*

- (a) Student Fellows will prepare and present scientific abstracts based on their prostate cancer research
- (b) Student Fellows will prepare research papers summarizing their prostate cancer research

Deliverables: Five scientific presentations were conducted by the four Student Fellows. At least four peer reviewed publications are expected to result.

Task 4. Provide Student Fellows with Clinical, Cultural, and Biotechnical Learning Opportunities *(Year 3, months 6-8)*

- (a) Conduct a clinical shadowing experience with physicians and/or other allied health care professionals
- (b) Provide an opportunity for Student Fellows to observe a multidisciplinary prostate cancer tumor board
- (c) Offer lay navigation shadowing to provide experiences in the cultural and social contextual dynamics surrounding prostate cancer treatment/survivorship issues within the clinical setting
- (d) Provide interactions with biotechnical experts within the Hollings Cancer Center shared resource/cores (*e.g.*, Cancer Genomics, Proteomics, Biorepository & Tissue Analysis, Flow Cytometry & Cell Sorting, Cell & Molecular Imaging, and Lipidomics)

Deliverables: Four Student Fellows, plus the additional 16 students who were supported by other sources of funding, rotated through the Hollings Cancer Center Shared Resources/Cores. Preparation is underway to allow the Student Fellows to shadow physicians and/or allied health care professionals and attend prostate cancer tumor boards in the summer of 2019.

Task 5. Evaluate the Training Program

- (a) Assess the number of applicants to the Training Program (Year 3, months 1-4)
- (b) Count the number of Student Fellows who apply to graduate school and the number who are admitted to graduate school (Year 3, months 1-12; Year 4, months 1-12)
- (c) Identify the number of scientific abstracts presented and peer-reviewed publications that result (Year 3, months 1-12)
- (d) Survey the Student Fellows, Research Mentors, Principal Investigator, and Faculty Advisors at the end of each summer to provide feedback (Year 3, month 8)

Deliverables: Formative evaluation of the SC CHEC Program has been completed and summative Program evaluation is underway.

KEY RESEARCH ACCOMPLISHMENTS

Task 1. Identify and Recruit the Student Fellows

(Year 3, months 1-3)

- (a) Identify the pool of potential Student Fellows**
- (b) Interview the potential Student Fellows and select the best candidates**
- (c) Notify the selected Student Fellows of their acceptance into the Training Program**

To accomplish Tasks 1(a) – 1(c), Dr. Ford, the Program Director, held bi-weekly teleconferences with Associate Directors Dr. Omar Bagasra (CU), Dr. Judith Salley (SCSU), and Mrs. Gayle Tyler Stukes (VC) as well as Faculty Advisors Dr. Ewen McLean (CU) and Dr. James Stukes (SCSU) to identify potential Student Fellows and discuss student recruitment techniques. To attract students to the SC CHEC Summer Program from the partnering institutions, SC CHEC developed a recruitment flyer (**See Appendix A**) providing a description of the program and highlighting program details. This flyer was distributed to the SC CHEC leaders at the partnering institutions, who disseminated them among their faculty and students and personally approached students whom they felt would be outstanding applicants for the summer research program. Moreover, Dr. Ford, visited the partnering institutions to inform the faculty about the SC CHEC summer program and to recruit students.

To further attract a pool of potential applicants, each Associate Director invited faculty and students from his/her institution to participate in the Ernest Just Symposium held on February 24, 2017 at MUSC. A total of 194 students representing 11 different colleges and universities participated. A total of 67 students from HBCUs in SC participated in the Symposium, as well as 49 students from HBCUs in other regions of the country. Drs. Bagasra and McLean from CU were instrumental in recruiting 50 students to attend the Symposium from Claflin University. The students who participated in the Symposium also received a tour of scientific research units at MUSC and met with MUSC faculty members who could become their future research mentors. The agenda and number of students from each institution are included in **Appendices B-C**.

An SC CHEC page was created on the MUSC Hollings Cancer Center website to advertise the SC CHEC Program (<http://www.hollingscancercenter.org/about-hollings/commitments/SC-CHEC/index.html>; see **Products**). This online application portal opened on September 19, 2016 and closed at 11:59 PM on March 24, 2017. A total of 34 applications were received. After review by the Program Director and Associate Directors, four students were accepted based on the following criteria: 1) Minimum GPA of 3.0; 2) Rising Junior or Senior; 3) Two letters of recommendation; 4) University Transcript; 5) Personal Statement indicating a desire for a research career; 6) Willingness to complete the entire 10-week SC CHEC Program. The four selected Student Fellows were comprised of four females (non-Hispanic Black/African American).

(d) Match the Student Fellows with their Research Mentors at MUSC

Once selected, the four Student Fellows were matched with Research Mentors at MUSC. The Leadership Team examined the expressed research interests of the Student Fellows as stated in their written SC CHEC applications and matched the students' stated research interests with those of available MUSC mentors, based on information contained in the mentors' biosketches. Upon matching, Dr. Ford sent an email to each mentor that contained descriptive information pertaining to their selected Student Fellow.

Task 1 Deliverables: Four Student Fellows (plus an additional 16 students who were supported using leveraged funds) were identified, recruited, and admitted to the SC CHEC Program. The Student Fellows were matched with MUSC Research Mentors, with whom they conducted research in the summer of 2017.

Task 2. Provide Training in Biomedical and Prostate Cancer Research through a Newly Developed Prostate Cancer Health Equity Research Course and Laboratory Research Training Experience
(Year 3, months 6-8)

(a) Conduct a short-term education course in Prostate Cancer Health Equity Research

The Student Fellows participated in an intensive, 10-week SC CHEC Program comprised of didactic training and hands-on laboratory research training. The curriculum of this program was designed around the previously implemented prostate cancer-focused cancer research training lectures and expanded to include a larger focus on breast, cervical, and head and neck cancer. This allowed the Student Fellows to experience a broader cancer research training program.

The SC CHEC Cancer Health Equity Research Course (BMTRY 777) is a fifteen-hour credit course comprised of six modules. Module 1 focused on the social determinants of cancer in the US, Module 2 provided training in the responsible conduct of research, Module 3 focused on breast cancer research, Module 4 covered prostate cancer research, Module 5 introduced head and neck cancer research, and Module 6 covered cervical cancer research. Student Fellows received instruction from leading experts in cancer research who collectively presented cutting-edge cancer information across multiple perspectives – basic sciences, clinical sciences, and population sciences with an emphasis on disparate outcomes in breast, prostate, head/neck, and cervical cancer. Each module concluded with a take-home quiz based on the scientific content that was presented during the module to evaluate the Fellows' understanding of the information presented in each module. The 10-week course curriculum is included in **Appendix D**.

To foster the professional development of the Student Fellows, the lectures included discussions of funding opportunities available to students, career opportunities in academic medicine, perspectives of prostate cancer among community members, and strategies for effective presentations. In addition, the Student Fellows participated in etiquette training to gain the tools needed to successfully navigate through their professional careers.

The Student Fellows were given articles at the beginning of the course describing how to run a successful Journal Club. The Journal Club sessions were designed to help the Fellows think critically about research. Each Student Fellow participated in leading a module-based Journal Club session. The Fellows worked in teams to read the assigned original research articles critically, review the design of each study, and present topics for discussion, including but not limited to issues related to measurement, study design, sampling scheme, recruitment, retention, loss to follow-up, statistical approaches, and interpretation of results. The Journal Club assignments are included in **Appendix E**.

In addition, each Fellow completed an 8- to 10-page paper, due on the last day of the course, summarizing what they learned. The Fellows also presented their research to the local scientific community and completed a formal written evaluation of the entire course. The SC CHEC Program schedule provided time for students to rehearse their research presentations and gain input from their mentors and other scientists at the HCC.

Student Fellows participated in a cultural enrichment experience to expose them to the Sea Island (Gullah) population. The Gullah population is a subpopulation of African Americans indigenous to the coastal regions of the eastern seaboard. They are one of the most genetically homogeneous groups of blacks in the U.S. Their particularly low rate of European American genetic admixture makes this a unique population for basic, clinical and population-based research. The Fellows participated in a guided tour to learn about the Gullah language, culture, and music.

(b) Provide a short-term Laboratory Research Training Experience

The Student Fellows were matched with Research Mentors at MUSC based on their research areas of interest stated on their applications. The Student Fellows worked ~30-35 hours per week with their assigned mentors conducting research. The Research Mentors helped to shape the Student Fellows’ summer experiences to ensure tangible outcomes – presentation of data results (preliminary or final), and submission of scientific abstracts and papers for peer review. The hands-on training involved learning/performing laboratory techniques, data collection and analytic methods, interviewing techniques, and data interpretation.

The following table shows the names of the students who participated in the 2017 South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program, their Research Mentors at MUSC, and their research topics.

Summer 2017 DoD-Funded SC CHEC Program Students, Mentors, and Research Topics			
Student Name	Academic Institution	MUSC Research Mentor	Title of Research Project
Ms. Rosaline Achiangia	Voorhees College	Brandon Welch, PhD	Review of Web-based Family Health History Tools
Ms. Taaliah Campbell	Claflin University	David Turner, PhD	Defining the Effects of a High AGE Diet on Mammary Development During Puberty
Ms. Nakea Pennant	SC State University	Shikhar Mehrotra, PhD	Understanding the Role of c-Jun N-Terminal Kinases (JNK) in T Cell Function and Metabolism for Improving Tumor Immunotherapy Abstract
Ms. Kenyatta Walker	SC State University	Kathleen Cartmell, MPH, PhD	Perceptions About HPV Vaccination and Suggestions for Improving HPV Vaccination Rates among SC Residents

In addition to the students listed above, the Program Director leveraged funding to support fourteen additional students (**Appendix F**).

(c) Sponsor the Student Fellows’ participation in a Graduate Record Examination (GRE) Preparation Course

In 2017, 20 Student Fellows (four supported by the DoD award and 16 supported by leveraged funds) took the 10-week Princeton Review GRE Test Preparation Course. Princeton Review provides test preparation materials for more than 90 standardized tests through tutoring, on-site classes, print books, and digital content for college and graduate school admissions. The course met on Mondays from 9:00 am – 12:00 pm. The course seamlessly adjusted classwork and homework to the skill level of each student. This was accomplished by focusing on the areas where each student needed the most improvement. The course provided instruction in test-taking skills, and provided opportunities for dynamic group discussions and collaborative drills.

Task 2 Deliverables: In 2017, state-of-the art comprehensive prostate cancer research education and training opportunities were provided for four students from three of South Carolina's HBCUs. Funds were leveraged from other funding sources to provide the same level of education and training to 16 additional students from partnering institutions in South Carolina. We are developing a cadre of scientists who are well-prepared to play a significant role in discovering and testing new prostate cancer biomarkers. In the future, these investigators will likely conduct research spanning the continuum from basic science to clinical science to population-based research.

Task 3. Prepare Tangible Scientific Products through Extended Mentoring with the Student Fellows
(Year 3, months 10-12)

- (a) Student Fellows will prepare and present scientific abstracts based on their prostate cancer research
- (b) Student Fellows will prepare research papers summarizing their prostate cancer research

Each Student Fellow prepared a scientific research paper that will form the basis of a peer-reviewed publication and also gave a scientific presentation based on the results of his or her work. Summaries of each Student Fellows' research projects are included in **Appendix G**. Please note that the biological mechanisms that are included in the Student Fellows research have direct relevance/application to prostate cancer research.

Task 3 Deliverables: A total of 20 scientific presentations were presented by the four DoD Student Fellows and the 16 additional Student Fellows who were supported through leveraged funds.

Task 4. Provide Student Fellows with Clinical, Cultural, and Biotechnical Learning Opportunities
(Year 2, months 6-8)

- (a) Conduct a clinical shadowing experience with physicians and/or other allied health care professionals
- (b) Provide an opportunity for Student Fellows to observe a multidisciplinary prostate cancer tumor board
- (c) Offer lay navigation shadowing to provide experiences in the cultural and social contextual dynamics surrounding prostate cancer treatment/survivorship issues within the clinical setting
- (d) Provide interactions with biotechnical experts within the Hollings Cancer Center shared resource/cores (e.g., Cancer Genomics, Proteomics, Biorepository & Tissue Analysis, Flow Cytometry & Cell Sorting, Cell & Molecular Imaging, and Lipidomics)

For SC CHEC course electives, the Student Fellows rotate through the MUSC HCC Shared Resource Core Facilities, giving them insight into the multifaceted aspects of biomedical research and the provision of assistance the Shared Resources offer to HCC members. These electives occur for one hour on Fridays. The Fellows were placed into five groups, with each group having a separate Shared Resource rotation schedule to allow for interactive contact with the Shared Resource members. The schedule and groups can be found in **Appendix H**.

Task 4 Deliverables: Four DoD Student Fellows and 16 Student Fellows supported by leveraged funds rotated through the Hollings Cancer Center Shared Resources/Cores. Preparation is underway to allow the Student Fellows to shadow physicians and/or allied health care professionals and attend prostate cancer tumor boards in the summer of 2019.

Task 5. Evaluate the Training Program

(a) Assess the number of applicants to the Training Program (Year 3, months 1-4)

In the spring of 2017, 34 students from SC CHEC Program partnering institutions in South Carolina applied to the South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program. As planned, four DoD-funded Student Fellows were selected to participate in the SC CHEC Program. Sixteen additional Student Fellows were selected whom were supported through leveraged funds (Appendix F).

(b) Count the number of Student Fellows who apply to graduate school and the number who are admitted to graduate school (Year 3, months 1-12)

The Student Fellows who participated in the 2017 SC CHEC Program were rising sophomores through seniors. To monitor the Student Fellows' progression through their academic careers, we are actively keeping track of their progress using the strategies that are described below.

1. Searching the MUSC graduate program databases to identify whether any of the students applied, were offered, or accepted positions at MUSC.
2. Contacting the participating universities' alumni offices.
3. Employing other internet-based search tools/communications (Google, Twitter, Facebook, and Historically Black College/University Connections, *etc.*) to identify students' current locations, contact information, and academic achievements (Year 3 and beyond)

We have implemented several steps for tracking student scientific progress. Communication and assistance from the Associate Directors and Faculty Advisors have proved to be very effective. Additionally, social media tools such as Facebook have also been useful for engaging the students and opening a venue for communication. Another method we have found useful is text messaging. We have found that students respond more quickly to text messages than to emails and telephone calls. We will utilize and build upon these methods to improve continued student tracking. These multiple tracking strategies will be used to update the table that is included in **Appendix I**, which lists the academic accomplishments of the Student Fellows.

(c) Identify the number of scientific abstracts presented and peer-reviewed publications that result (Year 3, months 1-12)

The Student Fellows gave a total of 23 scientific presentations (five presentations were led by DoD-funded Student Fellows and 18 presentations were led by the students whose SC CHEC Program participation was supported through other funding mechanisms). One DoD-funded student from Claflin University, Ms. Taaliah Campbell, presented her scientific research at the Annual Biomedical Research Conference for Minority Students. Additionally, Mr. Sean Bloos, a University of South Carolina student whose participation in the SC CHEC Program was supported by the National Cancer Institute, presented his summer research during the 2017 MUSC Perry V. Halushka Student Research Day. Ms. Sebrina Brink, a Claflin University student who was supported by the National Cancer Institute during the SC CHEC Program, submitted the following paper to a scientific journal for peer review:

- El Nahas, **Brink S**, Bansal-Travers M, O'Connor R, Heckman B, Alberg AJ, Cummings KM. Cigarette brand preferences of adolescent and adult smokers in the United States.

The mentors of many additional Student Fellows have confirmed that they are actively writing manuscripts that will include some of the Student Fellows as co-authors.

(d) Survey the Student Fellows, Research Mentors, Principal Investigator, and Faculty Advisors at the end of each summer to provide feedback (Year 3, month 8)

To evaluate the SC CHEC Program from the perspective of the mentors, the results from the 2017 SC CHEC Program Research Mentors are included in **Appendix J**.

Task 5 Deliverables: The Student Fellows gave a total of 23 scientific presentations. Currently, most of the Student Fellows will enter their junior or senior years of college and will begin applying to graduate or professional schools. The SC CHEC Program Research Mentors had positive things to say about the SC CHEC Program and provided positive feedback to enhance the program for future cohorts.

Plans to Accomplish Stated Goals for the Next Reporting Period

To accomplish the goals and objectives for the next reporting period, the Leadership Team will:

- Meet to confirm the activities for the next reporting period
 - Continue with monthly teleconferences and quarterly in-person meetings among the Leadership Team members
- Advertise and market the SC CHEC Program to faculty, students, and administrators at CU, SCSU, and VC in September 2018 – January 2019:
 - Circulate a recruitment flyer among the three partnering institutions
 - Post the flyer on each institution’s website
 - Travel to each institution to make presentations to the faculty, students, and administrators regarding the available research training opportunities
 - Participate in organizational activities at each institution, such as student-led health meetings, to recruit students from the three partnering institutions to the SC CHEC Program
 - Participate in health fairs at the three partnering institutions to publicize the SC CHEC Program
- Open the SC CHEC application portal on the MUSC Hollings Cancer Center website in September 2018
- Meet with the SC CHEC Leadership Team in January to review the submitted applications in January 2019
- Notify selected students of their acceptance into the SC CHEC Program in February 2019, after students have confirmed their participation in the SC CHEC Program, submit documents to MUSC Enrollment Management and MUSC Human Resources to facilitate student matriculation at MUSC for the SC CHEC Program
- In February 2019, confirm speakers and dates for the summer 2019 Cancer Health Equity Course
- In February 2019, confirm the physicians, allied health care professionals, and HCC Shared Resource Core directors for the clinical, cultural, and biotechnical learning electives for the summer 2019 Cancer Health Equity Course
- In March 2019, match students with Research Mentors for the summer 2019 Cancer Health Equity Course

IMPACT/REPORTABLE OUTCOMES

Student Summer Research Summaries

The SC CHEC Program is playing a key role in training the next generation of cancer disparities researchers. Prior to this program, some of the Student Fellows had no experience in conducting cancer disparities research. The SC CHEC Program provides a wonderful opportunity for the students embrace careers in this arena.

The South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program will help to address the problem of the gross underrepresentation of diverse students in the pool of US biomedical research scientists despite the fact that historically underrepresented groups are the most rapidly growing portion of the US population and experience a disproportionate burden of cancer morbidity and mortality.

The SC CHEC Cancer Health Equity Course and GRE training that are provided through the South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program are expected to facilitate:

- The Student Fellows' entry into graduate degree programs
- The Student Fellows' transition from graduate programs to postdoctoral fellowships
- The Student Fellows' appointment in their first independent scientific positions
- The award of the Student Fellows' first independent research grants from the NIH or from an equivalent scientific source
- The Student Fellows' receipt of tenure awarded in an academic or non-academic setting

The Student Fellows who participated in the 2017 South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program each prepared a research paper and gave a scientific presentation to his/her peers, mentors and other faculty at MUSC. Details regarding the manuscripts and scientific presentations developed by the Student Fellows are included in **Appendix I**. Ms. Taaliah Campbell presented her research at the 2017 Annual Biomedical Conference for Minority Students.

CHANGES/PROBLEMS

There are not changes or problems to report.

PRODUCTS

Several products have resulted during the current grant award period.

- A cancer research curriculum was developed.
- Inter-institutional relationships among the four partnering institutions (MUSC, CU, SCSU, and VC) were strengthened.
- An SC CHEC Program page was created on the Hollings Cancer Center website. This website provides information about the SC CHEC Program, i.e., program goals, SC CHEC Leadership, Student Fellow pictures, summer research titles, and Student Testimonials). The page also contains the application portal. The website is below.
 - <http://www.hollingscancercenter.org/about-hollings/commitments/SC-CHEC/index.html>
- A cohort of four DoD-funded Student Fellows were trained to conduct cancer research. Additionally, 16 other students participated in the SC CHEC Program. Their participation was supported through other leveraged funding sources.

- The Student Fellows received formal instruction in the history and culture of the unique Sea Island/Gullah population of South Carolina.
- During the reporting period, Ms. Taaliah Campbell gave a poster presentation at the 2017 Annual Biomedical Research Conference for Minority Students.
- All four DoD-funded Student Fellows are still enrolled at their home academic institutions. Among the additional 16 students who were supported by other funding mechanisms:
 - One student graduated from the University of South Carolina (USC) in May 2018 and has been accepted into medical school at Vanderbilt University.
 - One student is currently enrolled in Pharmacy School at the Medical University of South Carolina.
 - One student graduated from USC in May 2018 and will begin teaching science at a middle school in August 2018. She plans to apply to medical school in 2020.
- Several research mentors are writing manuscripts and will include their Student Fellows as co-authors, based on their substantial scientific contributions completed during their summer research training projects.

PARTICIPANTS & OTHER COLLABORATING ORGANIZATIONS

The individuals listed in the table below have worked on the project during the reporting period for at least one person month per year.

NAME	
Marvella E. Ford, PhD	No Change
Erica Martino, CHES	No Change
Kimberly Cannady, PhD	No Change

In addition to the three partnering institutions – CU, SCSU, and VC – we have partnered with the Palmetto Medical, Dental, and Pharmaceutical Association. The list of partner organizations is below.

1.

Organization Name	Clafin University
Location of Organization	400 Magnolia Street Orangeburg, South Carolina 29115
Partner’s Contribution to the Project	Collaboration

2.

Organization Name	South Carolina State University
Location of Organization	300 College Street NE Orangeburg, South Carolina 29115
Partner’s Contribution to the Project	Collaboration

3.

Organization Name	Voorhees College
Location of Organization	481 Porter Drive Denmark, South Carolina 29042
Partner's Contribution to the Project	Collaboration

4.

Organization Name	Palmetto Medical, Dental, and Pharmaceutical Association
Location of Organization	South Carolina
Partner's Contribution to the Project	Other: In addition to the four partnering institutions, a new partner is the Palmetto Medical, Dental, and Pharmaceutical Association (PMDPA). This organization recently invited the Leadership Team to give a presentation describing the SC CHEC Program during their annual statewide convention. The PMDPA was established in 1896. It serves as South Carolina's auxiliary branch of the National Medical Association. In this capacity, the PMDPA provides seminars and workshops for diverse health care professionals to ensure that these professionals achieve their annual CME/CE requirements for continued certification. Additionally, the PMDPA maintains a strong focus on educating and training the next generation of diverse health care professionals. This mission overlays with the mission of the South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program. Therefore, the leaders of the PMDPA have pledged to work with the Leadership Team to help identify applicants who could participate in future years of the SC CHEC Program.

SPECIAL REPORTING REQUIREMENTS

N/A.

CONCLUSIONS

During the past year of funding for the South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program, the tasks outlined in the Statement of Work were successfully met. Four Student Fellows were recruited from CU, SCSU, and VC. Additional funds were leveraged to support 16 additional students. Each Student Fellow conducted research and prepared a research paper that was presented at the conclusion of the program. These 20 Student Fellows are now trained to conduct cancer research and some are expected to be included as co-authors on future peer-reviewed scientific publications, based on their summer research.

2017 Annual Report Appendices

Appendix A: 2017 SC CHEC Program Advertisement Flyer



2017 Summer Undergraduate Cancer Research Training Opportunity

You are invited to participate in an exciting 10-week, summer research training program where you will learn from the nation's leading cancer researchers and receive hands-on training at the Medical University of South Carolina Hollings Cancer Center. You will be exposed to the latest advances in biomedical and biobehavioral cancer research spanning basic, clinical, and population sciences with an emphasis on cancer disparity dynamics in South Carolina.



Program Description

- 10 week program (May 22, 2017 — July 28, 2017)
- Cancer Health Equity Research Course
- Transferable credit hours
- Hands-on research experience with faculty member
- Cultural awareness activities
- GRE prep course
- Competitive stipend

Location: Medical University of South Carolina, Charleston, SC

Application Opens: September 19, 2016

Deadline: March 24, 2017

To Apply: <http://www.hollingscancercenter.org/about-hollings/commitments/SC-CHEC/program.html>

For more information, please contact:

Marvella E. Ford, PhD, Program Director, fordmar@musc.edu

Erica Martino, CHES, Program Assistant, martinoe@musc.edu

Appendix B: 2017 Ernest E. Just Symposium Agenda



**THE 2017 ERNEST E. JUST SYMPOSIUM
FEBRUARY 24, 2017
DRUG DISCOVERY AUDITORIUM**

WWW.MUSC.EDU/GRAD/JUST/



8:00 – 8:30 am	Registration and Breakfast
8:30 - 8:40 am	<p>Opening Lisa K. Saladin, P.T., Ph.D. Interim Provost Professor of College of Health Professions</p> <p>Greeting Donna Kern, M.D. Senior Associate Dean for Medical Education Associate Professor of Medicine</p> <p>Paula Traktman, Ph.D. Hirschmann Endowed Professor Dean, College of Graduate Studies Professor of Biochemistry & Molecular Biology Professor of Microbiology & Immunology</p>
	<p>8:45 – 9:05 am</p> <p>Stephen P. Ethier, Ph.D. Director, Center for Genomic Medicine Professor of Medicine Medical University of South Carolina <i>“Genomics and Genetics in the Era of Precision Medicine”</i></p>
	<p>9:10 – 9:35 am</p> <p>William Richard Jeffery, Ph.D. Professor of Biology University of Maryland <i>“E.E. Just: Establishing the Axis of Symmetry During Embryonic Development”</i></p>
	<p>9:40 - 9:55 am</p> <p>LaShardai Brown Ph.D. Candidate Department of Pathology and Laboratory Medicine Medical University of South Carolina <i>“Macrophages Contribute to Auditory Nerve Refinement by Regulating Glial Cell Numbers in the Postnatal Mouse Cochlea”</i></p>
10:00 - 10:30 am	Presentations of The E.E. Just Undergraduate Awards for Excellence in Research
10:30 - 10:40 am	Break
10:40 -11:25 am	<p><u>Ernest E. Just Symposium Keynote Speaker</u> Charles Modlin, M.D., M.B.A. Kidney Transplant Surgeon and Urologist Founder and Director, Minority Men’s Health Center Associate Professor of Surgery at the Glickman Urological & Kidney Institute Section of Renal Transplantation Cleveland Clinic <i>“The Making of an African American Kidney Transplant Surgeon & Urologist Dedicated to Substantively Innovating Ways to Improve Health Outcomes in Minority Populations”</i></p>
11:30 - 12:00 pm	Panel Discussion (Q&A with Speakers)
12:00 – 1:00 pm	<p>Ernest E. Just Guest Lecture 112 Bioengineering Building</p> <p>Christine Garcia, M.D., Ph.D. Kern and Marnie Wildenthal President’s Research Council Professorship in Medical Science Eugene McDermott Center for Human Growth and Development, Internal Medicine UT Southwestern Medical Center <i>“Retinoic Acid Controls Urothelial Progenitors During Development, Homeostasis and Regeneration”</i></p>
12:00 – 3:00 pm	<p>Educational Sessions/Lunch Visiting students meet with the MUSC College Admissions Officers</p>
3:00 – 4:00 pm	<p>Table Discussions</p> <ul style="list-style-type: none"> • How to choose a mentor in science and medicine careers • Personal statement (what not to include) • Public health issues • Professional ethics • Applying to graduate school
4:00 pm	RECEPTION (refreshments will be served)

For more information contact: Mrs. Keisha Vaughn brownkn@musc.edu, Dr. Titus A. Reaves reaves@musc.edu
Sponsored by: MUSC Department of Regenerative Medicine and Cell Biology * MUSC College of Graduate Studies * SC EPSCoR/IDeA
MUSC Offices of the Provost * Student Diversity * MUSC Colleges of Dental Medicine * Health Professions * Medicine * Nursing * SC College of Pharmacy * Avery Research Center for African American History and Culture (College of Charleston) * SC NASA Space Grant * Mu Alpha Chapter of the Omega Psi Phi Fraternity

Appendix C: 2017 Ernest E. Just Symposium Student Attendees

Schools that Participated in the 2017 Ernest E. Just Symposium	
Name of School	# of Students
Anderson University	18
Benedict College	17
Claflin University	50
Clark Atlanta University	28
Clemson University	16
Coastal Carolina University	7
Fayetteville State University	21
Medical University of South Carolina	1
University of Maryland Baltimore County	9
USC Aiken	20
Winthrop University	7
TOTAL	194

- HBCU outside of SC
- HBCU in SC

Appendix D: 2017 SC CHEC BMTRY 777 Curriculum

BMTRY 777 - MUSC Cancer Health Equity Research Course (Course Will Meet for One Hour Per Lecture)				
Week 0	Mon. 5/15/17	12:30PM- 1:30PM	BE412	Mentors' Orientation Meeting Description of the course goals, modules, and expectations of Mentors (M. Ford, PhD)
Week 1	Mon. 5/22/17	12:00PM- 3:00PM	BS502 HCC120	Welcome and Kickoff Intensive 12:00PM-1:00PM: Mentor-Student Meet and Greet Luncheon (M. Ford, PhD) 1:30PM-3:00PM: Description of the course goals, modules, and expectations of Student Fellows (M. Ford, PhD)
MODULE 1: INTRODUCTION TO CANCER DISPARITIES RESEARCH				
Week 1	Tues. 5/23/17	9:00AM- 10:00AM	BS355	Unnatural Causes: Health and health equity: framework, data sources, national and state priorities (M. Ford, PhD)
Week 1	Wed. 5/24/17	9:00AM- 10:00AM	BS355	Clinical trials: overview & participation of diverse populations (M. Ford, PhD)
Week 1	Thurs. 5/25/17	9:00AM- 10:00AM	BS349	Unnatural Causes: Health and health equity: framework, data sources, national and state priorities (M. Ford, PhD)
Week 1	Fri. 5/26/17	9:00AM- 10:00AM	BS355	Disparities Research Journal Club (led by M. Ford, PhD)
Module 1 Cancer Disparities Research Take-Home Test				
MODULE 2: TRAINING IN THE RESPONSIBLE CONDUCT OF RESEARCH				
Memorial Day Holiday – No Class on 5/29/17				
Week 2	Tues. 5/30/17	11:00AM- 3:00PM	BE402 HCC	11:00AM- 1:30PM Etiquette Training and Lunch (Paula Payton) 2:00-3:00PM SC CHEC Pictures (MUSC Photography)
Week 2	Wed. 5/31/17	9:00AM- 11:00AM	Baruch Auditorium	Responsible Conduct of Research (E. Krug, PhD)
Week 2	Thurs. 6/1/17	8:30AM- 10:30AM	Baruch Auditorium	
Week 2	Fri. 6/2/17	8:30AM- 10:30AM	Baruch Auditorium	
Week 3	Mon. 6/5/17	8:30AM- 10:30AM	Baruch Auditorium	
Week 3	Tues. 6/6/17	10:00AM- 3:15PM	N/A	
Module 2 Responsible Conduct of Research Take-Home Test				
MODULE 3: INTRODUCTION TO BREAST CANCER RESEARCH				
Week 3	Wed. 6/7/17	9:00AM- 10:00AM	BS435	<i>Basic Sciences Research Lecture</i> Genetic and molecular characteristics of breast cancer; importance of race/ethnicity/ancestry (V. Findlay, PhD)
Week 3	Wed. 6/7/17	10:30AM- 11:30AM	BS435	Disparities Research Journal Club (led by M. Ford, PhD)
Week 3	Thurs. 6/8/17	9:00AM- 10:00AM	BS435	Professional Communication (M. Ford, PhD)
Week 3	Fri. 6/9/17	HCC Shared Resources Rotation (1 hr)		
Week 4	Mon. 6/12/17	9:00AM- 12:00PM	BE201	GRE and Study Day
Week 4	Tues. 6/13/17	9:00AM- 10:00AM	BE201	<i>Clinical Trials: Overview, Design and Results of a Breast Cancer Trial</i> (N. DeMore, MD)

Week 4	Tues. 6/13/17	10:30AM- 11:30AM	BE201	Strategies for Effective Presentations (P. Halushka, MD, PhD)
Week 4	Thurs. 6/15/17	9:00AM- 10:00AM	BS355	Graduate School Funding Opportunities for Underrepresented Students (C. Frichtel, MBA)
Week 4	Thurs. 6/15/17	10:30AM- 11:30AM	BS355	Population Sciences Research Lecture Racial/ethnic disparities in breast cancer treatment, outcomes and survivorship (C. Hughes-Halbert, PhD)
Week 4	Fri. 6/16/17	HCC Shared Resources Rotation (1 hr)		
Week 5	Mon. 6/19/17	9:00AM- 12:00PM	BE201	GRE and Study Day
Week 5	Tues. 6/20/17	9:00AM- 10:00AM	BE201	Breast Cancer Journal Club (moderated by V. Findlay, PhD)
Week 5	Tues. 6/20/17	10:30AM- 11:30AM	BE201	<i>Clinical Sciences Research Lecture</i> Etiology of and current treatment approaches for breast cancer (M. Ford, PhD)
Module 3 Breast Cancer Research Take-Home Test				
MODULE 4: INTRODUCTION TO PROSTATE CANCER RESEARCH				
Week 5	Wed. 6/21/17	9:00AM- 10:00AM	BS349	<i>Clinical Sciences Research Lecture</i> Etiology and current treatment approaches for prostate cancer (M. Lilly, MD)
Week 5	Wed. 6/21/17	10:30AM- 11:30AM	BS355	<i>Translational Science Research Lecture</i> Immunotherapeutic approaches to prostate cancer (J. Wu, PhD)
Week 5	Thurs. 6/22/17	9:00AM- 10:00AM	GAZES641	<i>Population Sciences Research Lecture</i> Racial and ethnic disparities in prostate cancer research (M. Ford, PhD)
Week 5	Fri. 6/23/17	HCC Shared Resources Rotation (1 hr)		
Week 6	Mon. 6/26/17	9:00AM- 12:00PM	BE201	GRE and Study Day
Week 6	Tues. 6/27/17	9:00AM- 10:00AM	BE201	<i>Basic Sciences Research Lecture</i> Cancer genes and molecular regulation of prostate cancer (D. Turner, PhD)
Week 6	Wed. 6/28/17	10:30AM- 11:30AM	BS355	Biostatistical Methods Lecture (B. Hill, PhD)
Week 6	Thurs. 6/29/17	9:00AM- 10:00AM	BS355	Prostate Cancer Journal Club (moderated by D. Watson, PhD)
Week 6	Thurs. 6/29/17	10:30AM- 11:30AM	BS349	<i>Clinical Trials: Overview, Design and Results of a Prostate Cancer Trial</i> (M. Ford, PhD)
Week 6	Fri. 6/30/17	9:30AM- 12:30PM	N/A	Sea Island/Gullah Cultural Awareness Activity: Gullah Tour
Module 4 Prostate Cancer Research Take-Home Test				
Week 7	Mon. 7/3/17	9:00AM- 12:00PM	EL109	GRE and Study Day
Fourth of July Holiday – No Class on 7/4/17				
MODULE 5: INTRODUCTION TO HEAD/NECK CANCER RESEARCH				
Week 7	Wed. 7/5/17	9:00AM- 10:00AM	BS355	<i>Populations Sciences Research Lecture</i> <i>Racial/ethnic disparities in head/neck cancer</i> (M. Ford, PhD)
Week 7	Wed. 7/5/17	10:30AM- 11:30AM	BS355	Careers in Academic Medicine (G. Silvestri, MD)

Week 7	Thurs. 7/6/17	9:00AM- 10:00AM	BS355	<i>Basic Sciences Research Lecture</i> Using genomic approaches to enhance personalization of head/neck cancer care (D. Neskey, MD)
Week 7	Thurs. 7/6/17	10:30AM- 11:30AM	BS349	<i>Clinical Trials: Overview, Design, and Results of a Head/Neck Cancer Trial</i> (D. Neskey, MD)
Week 7	Fri. 7/7/17	HCC Shared Resources Rotation (1 hr)		
Week 8	Mon. 7/10/17	9:00AM- 12:00PM	BE201	GRE and Study Day
Week 8	Mon. 7/10/17	1:00PM- 3:00PM	TBA	SC CHEC Presentation Rehearsals (Group A)
Week 8	Tues. 7/11/17	9:00AM- 10:00AM	BS355	<i>Populations Sciences Research Lecture</i> Survivorship issues in head and neck cancer (K. Sterba, PhD)
Week 8	Tues. 7/11/17	1:00PM- 3:00PM	TBA	SC CHEC Presentation Rehearsals (Group B)
Week 8	Thurs. 7/13/17	9:00AM- 10:00AM	BS355	<i>Basic Sciences Research Lecture</i> HPV background and role in head/neck cancer (L. Pirisi-Creek, MD)
Week 8	Thurs. 7/13/17	1:00PM- 3:00PM	TBA	SC CHEC Presentation Rehearsals (Group C)
Week 8	Fri. 7/14/17	HCC Shared Resources Rotation (1 hr)		
Week 9	Mon. 7/17/17	9:00AM- 12:00PM	BE201	GRE and Study Day
Week 9	Mon. 7/17/17	1:00PM- 3:00PM	TBA	SC CHEC Presentation Rehearsals (Group D)
Week 9	Tues. 7/18/17	9:00AM- 10:00AM	BS355	Head/Neck Cancer Journal Club (moderated by S. Rosenzweig, PhD)
Module 5 Head/Neck Cancer Research Take-Home Test				
MODULE 6: INTRODUCTION TO CERVICAL CANCER RESEARCH				
Week 9	Wed. 7/19/17	9:00AM- 10:00AM	BS355	<i>Population Sciences Research Lecture</i> Overview of HPV infection and cervical cancer in the US (J. Korte, PhD)
Week 9	Wed. 7/19/17	1:00PM- 3:00PM	TBA	SC CHEC Presentation Rehearsals (Group A)
Week 9	Thurs. 7/20/17	9:00AM- 10:00AM	BS355	<i>Clinical Sciences Research Lecture</i> Etiology of and treatment approaches for cervical cancer (K. Cannady, PhD)
Week 9	Thurs. 7/20/17	1:00PM- 3:00PM	TBA	SC CHEC Presentation Rehearsals (Group B)
Week 9	Fri. 7/21/17	HCC Shared Resources Rotation (1 hr)		
Week 10	Mon. 7/24/17	9:00AM- 12:00PM	BE201	GRE and Study Day
Week 10	Mon. 7/24/17	1:00PM- 3:00PM	TBA	SC CHEC Presentation Rehearsals (Group C)
Week 10	Tues. 7/25/17	9:00AM- 10:00AM	BE201	<i>Clinical Sciences Research Lecture</i> Global perspective of cervical cancer screening and early detection (J. Young Pierce, MD)
Week 10	Tues. 7/25/17	1:00PM- 3:00PM	TBA	SC CHEC Presentation Rehearsals (Group D)
Week 10	Wed. 7/26/17	9:00AM- 10:00AM	BS355	<i>Population Sciences Research Lecture</i> Racial/ethnic disparities in cervical cancer in the US (K. Cartmell, PhD)

Week 10	Wed. 7/26/17	10:30AM- 11:30AM	BS355	<i>Basic Sciences Research Lecture</i> Cellular and molecular changes associated with HPV infection in cervical cancer (K. Creek, PhD)
Week 10	Thurs. 7/27/17	9:00AM- 10:00AM	BS355	Cervical Cancer Journal Club (moderated by J. Luque, PhD)
Week 10	Thurs. 7/27/17	10:30AM- 11:30AM	BS355	Experiences of a Prostate Cancer Survivor (S. Slaughter, PhD)
Week 10	Thurs. 7/27/17	12:00PM- 2:00PM	BS502	SC CURE Summer Research Presentation Colloquium: Students' Presentations
Module 6 Cervical Cancer Research Take-Home Test				
Week 10	Fri. 7/28/17	8:30AM- 4:30PM	HA809	SC-CHEC Summer Research Presentation Colloquium: Students' Presentations *Course Evaluations and Final Papers Are Due

Appendix E: 2017 SC CHEC Journal Club Assignments

2017 SC CHEC Journal Club Groups

Breast Cancer Journal Club

June 20, 2017

Rosaline Achiangia
Sean Bloos
Tiare Brown
Danielle Garrett
Taaliah Campbell

Prostate Cancer Journal Club

June 29, 2017

Kenyatta Walker
Chloe Keeve
Allison Swiecki
Taylor Jones
Sebrena Brink

Head/Neck Cancer Journal Club

July 18, 2017

Starr Frazier
Jerrica Walden
Elizabeth Davis
Nic Elrod
Jennifer William

Cervical Cancer Journal Club

July 27, 2017

Kennede Duncan
Melody Volbrecht
Heidi Carpenter
Daijah Thibodeaux
Nakea Pennant

Appendix F: 2017 Students Supported from Leveraged Funding Sources

Summer 2017 South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program Additional Student, Mentor, Funding Source, and Title of Research Project

Student Name	Academic Institution	MUSC Research Mentor	Funding Source	Title of Research Project
Sean Bloos	Voorhees College	Phillip Howe, PhD	NIH/NCI R25E	Mechanism of TGFβ-induced Cancer Stem Cell Formation through ILEI and LIFR
Sebrena Brink	University of South Carolina	Michael Cummings, PhD, MPH	NIH/NCI R25E	Cigarette Brand Preferences of Adolescent and Adult Smokers in the United States
Tiare Brown	Clafflin University	Gayenell Magwood, PhD, RN, FAAN	NIH/NCI R25E	Assessing the Relationship between the Life's Simple 7 Metric with Diabetes and Breast Cancer Risk in African American Women
Heidi Carpenter	University of South Carolina	Kristin Wallace, PhD	NIH/NCI R25E	Tumor Infiltrating Lymphocytes and Colorectal Cancer Survival in African American and Caucasian Patients
Elizabeth Davis	University of South Carolina	Marvella E. Ford, PhD	NIH/NCI R25E	Design of a Patient Navigation Intervention to Enhance Receipt of Surgery in African American Adults with Early-Stage Lung Cancer
Kennede Duncan	University of South Carolina	Erin McClure, PhD	NIH/NCI R25E	Tobacco and Marijuana Co-occurrence in Adults: Identifying Co-use Mechanisms to Understand Prevalence and Patterns
Nicolas Elrod	University of South Carolina	Hiu Cheung, PhD	NIH/NCI R25E	Development of a Mouse Model for Gynecologic Cancers
Starr Frazier	Clafflin University	Marvella E. Ford, PhD	NIH/NCI R25E	Assessing an Intervention to Increase Cervical Cancer Knowledge and HPV Vaccination Knowledge in SC
Danielle Garrett	University of South Carolina	Juan Luque, PhD	NIH/NCI R25E	Targeted Mammography Screening Interventions for Hispanic Women: A Systematic Review
Taylor Jones	South Carolina State University	Danyelle Townsend, PhD	NIH/NCI R25E	Evaluation of NF-kB Transcription Factor in Lung Cancer Patient Samples
Chloe Keeve	University of South Carolina	Bryan Heckman, PhD	NIH/NCI R25E	Racial Disparities in Smoking Cessation Treatment Utilization
Allison Swiecki	University of South Carolina	Bart Smits, PhD	NIH/NCI R25E	Investigating the Connection Between Breast Cancer and Obesity Through TOX3 Regulation
Daijah Thibodeaux	South Carolina State University	Matt Carpenter, PhD	NIH/NCI R25E	Is Smoking History Affected by Cessation Fatigue and the Moderation of Race and Gender?
Melody Volbrecht	University of South Carolina	Nancy Demore, MD, FACS	NIH/NCI R25E	The Effect of hSFRP2 Monoclonal Antibody on Angiogenesis and Tumor Growth
Jerrica Walden	University of South Carolina	Victoria Findlay, PhD	NIH/NCI R25E	miR-204 Expression Disrupts Normal Lactation during Mammary Gland Development
Jennifer William	Voorhees College	LaShanta Rice, PhD, MPH	NIH/NCI R25E	Relationship between Weight Loss Advice and Weight Loss Attempts amongst Overweight and Obese Patients

DoD Funded SC CHEC Fellows and SC CHEC Fellows Supported by Other Sources



Rosaline Achiangia

Review of Web-based Family Health History Tools

Attending University: Voorhees College
MUSC Mentor: Brandon Welch, Ph.D.



Sean Bloos

Mechanism of TGF β -induced Cancer Stem Cell Formation through ILEI and LIFR

Attending University: University of South Carolina
MUSC Mentor: Phillip Howe, Ph.D.



Sebrena Brink

Cigarette Brand Preference of Adolescent and Adult Smokers in the United States

Attending University: Claflin University
MUSC Mentor: Michael Cummings, Ph.D., MPH



Tiare Brown

Assessing the Relationship between the Life's Simple 7 Metric with Diabetes and Breast Cancer Risk in African American Women

Attending University: Claflin University
MUSC Mentor: Gayenell Magwood, Ph.D., RN, FAAN



Taaliah Campbell

Defining the Effects of a High AGE Diet on Mammary Development During Puberty

Attending University: Claflin University
MUSC Mentor: David Turner, Ph.D.



Heidi Carpenter

Tumor Infiltrating Lymphocytes and Colorectal Cancer Survival in African American and Caucasian Patients

Attending University: University of South Carolina
MUSC Mentor: Kristin Wallace, Ph.D.



Elizabeth Davis

Design of a Patient Navigation Intervention to Enhance Receipt of Surgery in African American Adults with Early-Stage Lung Cancer

Attending University: University of South Carolina
MUSC Mentor: Marvella E. Ford, Ph.D.



Kennede Duncan

Tobacco and Marijuana Co-occurrence in Adults: Identifying Co-use Mechanisms to Understand Prevalence and Patterns

Attending University: University of South Carolina
MUSC Mentor: Erin McClure, Ph.D.



Nicolas Elrod

Development of a Mouse Model for Gynecologic Cancer

Attending University: University of South Carolina
MUSC Mentor: Hiu Cheung, Ph.D.



Starr Frazier

Assessing an Intervention to Increase Cervical Cancer Knowledge and HPV Vaccination Knowledge in SC

Attending University: Claflin University
MUSC Mentor: Marvella E. Ford, Ph.D.



Danielle Garrett

Targeted Mammography Screening Interventions for Hispanic Women: A Systematic Review

Attending University: University of South Carolina
MUSC Mentor: Juan Luque, Ph.D.



Taylor Jones

Evaluation of NF-kB Transcription Factor in Lung Cancer Patient Samples

Attending University: South Carolina State University
MUSC Mentor: Danyelle Townsend, Ph.D.



Chloe Keeve

Racial Disparities in Smoking Cessation Treatment Utilization

Attending University: University of South Carolina
MUSC Mentor: Bryan Heckman, Ph.D.



Nakea Pennant

Understanding the Role of c-Jun N-Terminal Kinases (JNK) in T Cell Function and Metabolism for Improving Tumor Immunotherapy Abstract

Attending University: South Carolina State University
MUSC Mentor: Shikhar Mehrotra, Ph.D.



Allison Swiecki

Investigating the Connection Between Breast Cancer and Obesity Through TOX3 Regulation

Attending University: University of South Carolina - Aiken
MUSC Mentor: Bart Smits, Ph.D.



Daijah Thibodeaux

Is Smoking History Affected by Cessation Fatigue and the Moderation of Race and Gender?

Attending University: South Carolina State University
MUSC Mentor: Matt Carpenter, Ph.D.



Melody Vollbrecht

The Effect of hSFRP2 Monoclonal Antibody on Angiogenesis and Tumor Growth

Attending University: University of South Carolina
MUSC Mentor: Nancy Demore, M.D., FACS



Jerrica Walden

miR-204 Expression Disrupts Normal Lactation During Mammary Gland Development

Attending University: University of South Carolina
MUSC Mentor: Victoria Findlay, Ph.D.



Kenyatta Walker

Perceptions About HPV Vaccination and Suggestions for Improving HPV Vaccination Rates among SC Residents

Attending University: South Carolina State University
MUSC Mentor: Kathleen Cartmell, Ph.D., MPH



Jennifer William

Relationship Between Weight Loss Advice and Weight Loss Attempts amongst Overweight and Obese Patients

Attending University: Voorhees College
MUSC Mentor: LaShanta Rice, Ph.D., MPH

**Appendix G: Summaries of Students' Scientific Research from the 2017
SC CHEC Program**

Rosaline Achiangia
Voorhees College
Mentor: Brandon Welch, PhD

ABSTRACT

Review of Web-based Family Health History Tools

It is important for everyone to know his/her family's health history (FHx). Knowing one's FHx and sharing it with his/her physician helps in creating better chances of identifying the possibilities of preventing specific diseases from happening or catching them at an earlier stage. In this research, we identified several web-based tools that can be used by individuals to collect FHx. These FHx tools have unique features, approaches, advantages, and disadvantages. Some of the FHx tools have been successfully used, others haven't; some are designed solely for patients, while others are intended to be used by both patients and physicians. The purpose of this research is to identify key FHx tool features and approaches that have successfully worked in collecting FHx and those that weren't effective. These insights will inform the development of ItRunsInMyFamily.com, a new FHx tool that is currently being developed at MUSC to make the collection of FHx easier, better and more effective.

Taaliah Campbell
Claflin University
Mentor: David Turner, PhD

ABSTRACT

Defining the Effects of a High AGE Diet on Mammary Development during Puberty

The mammary gland is a unique organ because its functional development and differentiation are completed postnatally during puberty, pregnancy, lactation and involution. These cycles of mammary gland development are potential windows of breast cancer susceptibility. Due to links between diet and increased risk of breast cancer we hypothesized that consuming large amounts of sugar derived metabolites known as advanced glycation end products (AGEs) during puberty may cause mammary gland dysregulation and increase the risk for future pre-neoplastic lesions. AGEs are a heterogeneous group of macromolecules that are generated through non-enzymatic glycation and oxidation of proteins, lipids, and nucleic acids. Accumulation of AGEs leads to pro-inflammatory and pro-oxidant effects which can contribute to the development and complications associated with multiple chronic diseases. Our research shows that consuming a high AGE diet causes the formation of hyperplastic lesions which resemble pre-neoplastic lesions.

To take this research further, this study examines the effects of diet switching on the formation of hyperplastic lesions. Mice (3 weeks old) were initially fed the high AGE diet for 4 weeks followed by a regular diet for 5 weeks. This model mimics the concept of “metabolic memory” which postulates that events that occur early in disease onset are imprinted within cells and promote disease progression later in life. These studies show that consuming a high AGE diet during pubertal development still alters mammary gland morphology and promotes the formation of hyperplastic lesions, despite intervention with the regular diet. In summary, this supports the theory that a diet high in AGE metabolites during puberty may induce metabolic memory and may represent a window of susceptibility for breast cancer.

Nakea Pennant
South Carolina State University
Mentor: Shikhar Mehrotra, PhD

ABSTRACT

Understanding the Role of c-Jun N-Terminal Kinases (JNK) in T Cell Function and Metabolism for Improving Tumor Immunotherapy Abstract

The immune system is the body's defense system it is comprised of a network of cells, tissues, and organs that work together collectively to protect the body from infections and diseases. All cells involved in the immune system have extremely significant functions to ensure that the body operates properly; T cells are among the major cells that assist in the well-being of the immune system. In adoptive immunotherapy the survival and effectiveness of T cells is the most important. The mitochondrion is the "power house" of the cell; it converts oxygen and nutrients into chemical energy to produce adenosine triphosphate (ATP). ATP gives the cells the energy required for its metabolic activities. The mitochondria control cell signaling, cellular differentiation, cell cycle and growth. c-Jun N-terminal kinases (JNK) activity regulates the cellular function of T cell growth, differentiation, survival, and apoptosis. Therefore, the principal objective of this study was to test if interfering with JNK pathway will modulate the Jurkat E6-1 T cell viability and metabolism. Studies were performed by using cytotoxic drugs Staurosporine and Thapsigargin for activating Jurkat T cells, and determining the role of JNK on viability and glucose uptake by pharmacologically interfering with this pathway.

The JNK Inhibitor, SP600125 was used to inhibit JNK expression in the Jurkat E6-1 T cells that were treated with the drugs Staurosporine and Thapsigargin (to induce increased JNK activation). The experimental read-outs included assessing the viability (using 7ADD), membrane potential (using TMRM), glucose uptake (using 2NBDG), and effector cytokine function (using IL2 ELISA). Flow Cytometry/FACs analysis will be utilized to identify the differences, increase and decrease of cell death between the different treatments of the cells.

Kenyatta Walker
South Carolina State University
Mentor: Kenyatta Walker, PhD, MPH

ABSTRACT

Perceptions about HPV Vaccination and Suggestions for Improving HPV Vaccination Rates among SC Residents

Viruses can cause many health problems, both serious and mild. Some of the most commonly known viruses cause illnesses such as the flu, a common cold and AIDs. One of the most overlooked viruses is the HPV virus. HPV stands for the Human Papillomavirus. HPV is the most common sexually transmitted infection. HPV is so common that nearly 80% of all sexually active people will be infected by one strain of HPV in their lifetime. Some people can go years without having any symptoms, enabling them to continually pass the virus on to multiple sexual partners, if necessary protective precautions are not taken. For most people, the body usually clears itself of the virus over time. However, depending on which strain of the virus a person has, failure to clear the virus can be detrimental and lead to life changing diseases. HPV vaccination is the most efficient way to avoid HPV infection. Given the availability of an effective vaccine to prevent HPV-related cancers, it seems intuitive that individuals would want to get themselves and their loved ones vaccinated, but unfortunately the vaccine is underutilized in South Carolina. Vaccination completion rates in South Carolina are only 54% for females and 26% for males. These rates are much lower in comparison to females' and males' vaccination rates in the United States overall. This study aimed to characterize barriers, facilitators and strategies for improving HPV vaccination rates in South Carolina.

Methods: Six focus groups were conducted with community members in diverse parts of South Carolina. These focus groups were recorded, then later transcribed verbatim in a Word document. The transcribed audio files were then coded into themes and subthemes using a data dictionary format.

Results: Themes and subthemes were created based on common responses to similar open-ended questions asked during each meeting. The most common barriers to HPV vaccination identified were: 1) lack of awareness and thorough understanding of the relationship between HPV infections, associated cancers and HPV vaccines, 2) High cost and lack of coverage of vaccines for the underinsured and young adults and 3) health care providers lack of time to administer the vaccine given their heavy work load. The most common facilitators to HPV vaccination were: 1) allowing doctors to write prescriptions for the vaccine to be administered at local pharmacies to optimize accessibility to the vaccine and 2) an immunization registry that can help track vaccination completion rates. Suggestions for optimal HPV vaccination strategies included 1) making the vaccine required 2) finding ways to inform students through school events and 3) mobile health units that target the underserved and highly uninsured communities.

Discussion: In the current study, barriers, facilitators and potential strategies for improving HPV vaccination were explored within regionally and ethnically diverse communities in South Carolina. The theme of uncertainty of the vaccine's efficacy were similar in this study to the findings from a national study among different racial/ethnic adolescent girls. Specifically, our study in South Carolina also showed a significant distrust of health providers. Tackling this low vaccination problem will not be easy but with the efforts to bridge the gap in how information on HPV and available vaccines are distributed to help urge parents and young adults, vaccination rates can rise, immunity of HPV can be reached and HPV related cancers can be prevented.

Appendix H: 2017 SC CHEC Program Elective Groups

SC CHEC Elective Groups

Group A (4 people): Rosaline Achiangia, Sean Bloos, Tiare Brown, Taylor Jones

Group B (2 people): Kenyatta Walker, Chloe Keeve

Group C (2 people): Taaliah Campbell, Allison Swiecki

Group D (4 people): Starr Frazier, Jerrica Walden, Sebrena Brink, Elizabeth Davis

Group E (4 people): Jennifer William, Kennede Duncan, Melody Vollbrecht, Heidi Carpenter

Group F (4 people): Danielle Garrett, Nakea Pennant, Nic Elrod, Daijah Thibodeaux

4 groups with 4, 2 groups with 2 (20 total)

BETWEEN 8 AM AND 5 PM

SC CHEC 2017 Elective Schedule

HCC Shared Resource	June 9, 2017	June 16, 2017	June 23, 2017	July 7, 2017	July 14, 2017	July 21, 2017
LIPIDOMICS @ 10 AM	A&C: 6 people	B	NO STUDENTS	D	E	F
FLOW CYTOMETRY & CELL SORTING UNIT @ 2 PM	NOT AVAILABLE	NOT AVAILABLE	D&C: 6 people	E&B: 6 people	F	A
CONFOCAL MICROSCOPY (CELL & MOLECULAR IMAGING) @ 2 PM	NOT AVAILABLE	D&C: 6 people	E	F	A	B
BIOREPOSITORY & TISSUE ANALYSIS @ 3:30 PM	D	E	F	A	B	C
DNA SEQUENCING (GENOMICS) @ 11 AM	E&B: 6 people	F	A	NOT Available	C	D
CELL GROWTH & THERAPY UNIT @ 1 PM	F	A	B	C	D	E

Appendix I: Academic Accomplishments to Date of the 2017 Student Fellows

Year of Program Participation: 2017

❖ These are recent fellows who participated in the 2017 program. Therefore it is too early to report additional accomplishments at this time. Many accomplishments are expected to occur during the course of the next few years following their participation.

Student Name	Summer Research Project	Funding Source	Publications, Presentations and Honors	GRE Status	Graduate School Admission
Ms. Rosaline Achiangia Voorhees College	Mentor: Brandon Welch, PhD Research Project: Review of Web-based Family Health History Tools	Department of Defense (HBCU)	Publications: No publications to date Presentations: 2017 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at Voorhees College.
Mr. Sean Bloos University of South Carolina	Mentor: Phillip Howe, Ph.D. Research Project: Mechanism of TGFβ-induced Cancer Stem Cell Formation through ILEI and LIFR	NIH/NCI R25E	Publications: No publications to date Presentations: 2017 MUSC SC CHEC Research Colloquium 2017 Perry Halushka MUSC Research Day (poster)	Taken the MCAT in lieu of the GRE	Still enrolled at the University of South Carolina.
Ms. Sebrina Brink Claflin University	Mentor: K. Michael Cummings, PhD, MPH Research Project: Cigarette Brand Preferences of Adolescent and Adult Smokers in the United States	NIH/NCI R25E	Publications: El Nahas G, Brink S , Bansal-Travers M, O'Connor R, Heckman B, Alberg AJ, Cummings KM . Cigarette Brand Preferences of Adolescent and Adult Smokers in the United States. (Peer review) Presentations: 2017 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at Claflin University.

Ms. Tiare Brown Claflin University	Mentor: Gayenell Magwood, PhD, RN Research Project: Assessing the Relationship between the Life's Simple 7 Metric with Diabetes and Breast Cancer Risk in African American Women	NIH/NCI R25E	Publications: No publications to date Presentations: 2017 MUSC SC CHEC Research Colloquium 2017 Annual Biomedical Research Conference for Minority Students (poster)	N/A	Still enrolled at Claflin University.
Ms. Taaliah Campbell (Dual Year Participant 2016/2017) Claflin University	Mentor: David Turner, PhD Research Project: Defining the Effects of a High AGE Diet on Mammary Development during Puberty	Department of Defense (HBCU)	Publications: No publications to date Presentations: 2016 MUSC SC CHEC Research Colloquium 2017 MUSC SC CHEC Research Colloquium 2017 Annual Biomedical Research Conference for Minority Students (poster) Honors: Claflin University NIH Rise Program	Taken the GRE	Still enrolled at Claflin University. Currently employed as a Science, Technology, Engineering and Mathematics (STEM) Tutor for the Freshman College at Claflin University.
Ms. Heidi Carpenter University of South Carolina	Mentor: Kristin Wallace, PhD Research Project: Tumor Infiltrating Lymphocytes and Colorectal Cancer Survival in African American and Caucasian Patients	NIH/NCI R25E	Publications: No publications to date Presentations: 2017 MUSC SC CHEC Research Colloquium	Taken the MCAT in lieu of the GRE	Graduated from the University of South Carolina (USC) in May 2018 and has been accepted into medical school at Vanderbilt University.
Ms. Elizabeth Davis	Mentor: Marvella Ford, PhD	NIH/NCI R25E	Publications: No publications to date Presentations:	N/A	Currently enrolled in Pharmacy School at the Medical University of South Carolina.

University of South Carolina	Research Project: Design of a Patient Navigation Intervention to Enhance Receipt of Surgery in African American Adults with Early-Stage Lung Cancer		2017 MUSC SC CHEC Research Colloquium		
Ms. Kennede Duncan University of South Carolina	Mentor: Erin McLure, PhD Research Project: Tobacco and Marijuana Co-occurrence in Adults: Identifying Co-use Mechanisms to Understand Prevalence and Patterns	NIH/NCI R25E	Publications: No publications to date Presentations: 2017 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at the University of South Carolina.
Mr. Nicolas Elrod University of South Carolina	Mentor: Hiu Cheung, PhD Research Project: Development of a Mouse Model for Gynecologic Cancers	NIH/NCI R25E	Publications: No publications to date Presentations: 2017 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at the University of South Carolina.
Ms. Starr Frazier Claflin University	Mentor: Marvella E. Ford, PhD Research Project: Assessing an Intervention to Increase Cervical Cancer Knowledge and HPV Vaccination Knowledge in SC	NIH/NCI R25E	Publications: No publications to date Presentations: 2017 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at Claflin University.

<p>Ms. Danielle Garrett</p> <p>University of South Carolina</p>	<p>Mentor: Juan Luque, PhD</p> <p>Research Project: Targeted Mammography Screening Interventions for Hispanic Women: A Systematic Review</p>	<p>NIH/NCI R25E</p>	<p>Publications: No publications to date</p> <p>Presentations: 2017 MUSC SC CHEC Research Colloquium</p>	<p>N/A</p>	<p>Still enrolled at the University of South Carolina.</p>
<p>Ms. Taylor Jones</p> <p>South Carolina State University</p>	<p>Mentor: Danyelle Townsend, Ph.D.</p> <p>Research Project: Evaluation of NF-kB Transcription Factor in Lung Cancer Patient Samples</p>	<p>NIH/NCI R25E</p>	<p>Publications: No publications to date</p> <p>Presentations: 2017 MUSC SC CHEC Research Colloquium</p>	<p>N/A</p>	<p>Still Enrolled at South Carolina State University</p>
<p>Ms. Chloe Keeve</p> <p>University of South Carolina</p>	<p>Mentor: Bryan Heckman, PhD</p> <p>Research Project: Racial Disparities in Smoking Cessation Treatment Utilization</p>	<p>NIH/NCI R25E</p>	<p>Publications: No publications to date</p> <p>Presentations: 2017 MUSC SC CHEC Research Colloquium</p>	<p>N/A</p>	<p>Still enrolled at the University of South Carolina.</p>

<p>Ms. Nakea Pennant (Dual Year Participant 2016/2017)</p> <p>South Carolina State University</p>	<p>Mentor: Shikhar Mehrotra, PhD</p> <p>Research Project: Understanding the Role of c-Jun N-Terminal Kinases (JNK) in T Cell Function and Metabolism for Improving Tumor Immunotherapy Abstract</p>	<p>Department of Defense (HBCU)</p>	<p>Publications: No publications to date</p> <p>Presentations: 2016 MUSC SC CHEC Research Colloquium</p> <p>2017 MUSC SC CHEC Research Colloquium</p>	<p>N/A</p>	<p>Still enrolled at South Carolina State University.</p>
<p>Ms. Allison Swiecki</p> <p>University of South Carolina-Aiken</p>	<p>Mentor: Bart Smits, Ph.D.</p> <p>Research Project: Investigating the Connection Between Breast Cancer and Obesity Through TOX3 Regulation</p>	<p>NIH/NCI R25E</p>	<p>Publications: No publications to date</p> <p>Presentations: 2017 MUSC SC CHEC Research Colloquium</p>	<p>N/A</p>	<p>Still enrolled at the University of South Carolina- Aiken.</p>
<p>Ms. Daijah Thibodeaux</p> <p>South Carolina State University</p>	<p>Mentor: Matt Carpenter, Ph.D.</p> <p>Research Project: Is Smoking History Affected by Cessation Fatigue and the Moderation of Race and Gender?</p>	<p>NIH/NCI R25E</p>	<p>Publications: No publications to date</p> <p>Presentations: 2017 MUSC SC CHEC Research Colloquium</p> <p>Honors: South Carolina State University Honors College</p>	<p>N/A</p>	<p>Still enrolled at South Carolina State University.</p>

			Miss South Carolina State University, 2017-2018		
Ms. Melody Vollbrecht University of South Carolina	Mentor: Nancy DeMore, MD Research Project: The Effect of hSFRP2 Monoclonal Antibody on Angiogenesis and Tumor Growth	NIH/NCI R25E	Publications: No publications to date Presentations: 2017 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at the University of South Carolina.
Ms. Jerrica Walden (Dual Year Participant 2016/2017) University of South Carolina	Mentor: Victoria Findlay, Ph.D. Research Project: miR-204 Expression Disrupts Normal Lactation during Mammary Gland Development	NIH/NCI R25E	Publications: No publications to date Presentations: 2016 MUSC SC CHEC Research Colloquium 2017 MUSC SC CHEC Research Colloquium	N/A	Graduated from USC in May 2018 and will begin teaching science at a middle school in August 2018. She plans to apply to medical school in 2020.
Ms. Kenyatta Walker (Dual Year Participant 2016/2017) South Carolina State University	Mentor: Kathleen Cartmell, PhD, MPH Research Project: Perceptions about HPV Vaccination and Suggestions for Improving HPV Vaccination Rates among SC Residents	Department of Defense (HBCU)	Publications: No publications to date Presentations: 2016 MUSC SC CHEC Research Colloquium 2017 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at South Carolina State University.
Ms. Jennifer William	Mentor: LaShanta Rice, PhD, MPH	NIH/NCI R25E	Publications: No publications to date Presentations:	N/A	Still enrolled at Voorhees College.

Voorhees College	Research Project: Relationship between Weight Loss Advice and Weight Loss Attempts amongst Overweight and Obese Patients		2017 MUSC SC CHEC Research Colloquium		
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Appendix J: SC CHEC Mentor Program Evaluations

SUMMARY RESULTS OF MENTOR EVALUATIONS 2017 (n=5)

Survey Item	N	%	N	%	N	%	N	%
	1. How would you rate the SC CHEC Program?		Excellent		Very Good		Good	
	3	60.0	2	40.0	0	0.0	0	0.0
2. How would you describe the quality of your experience as a participant in the SC CHEC Program?		Excellent		Very Good		Good		Poor
	2	40.0	1	20.0	2	40.0	0	0.0
3. Would you volunteer to serve as a SC CHEC Mentor again next year or in the future?		Yes		Possibly		Not Sure		No
	3	60.0	0	0.0	2	40.0	0	0.0
4. Did the SC CHEC mentor orientation session help you prepare for your mentoring experience?		Yes		Somewhat		Not Sure		No
	2	40.0	3	60.0	0	0.0	0	0.0
5. Would you have liked additional training for mentors?		Yes		Maybe		Probably Not		No
	1	20.0	0	0.0	1	20.0	3	60.0
6. How clearly defined were your mentor responsibilities?		Very Clear		Moderately Clear		A Little Unclear		Very Unclear
	2	40.0	3	60.0	0	0.0	0	0.0
7. The SC CHEC Program staff were accessible and easy to talk to and seek advice from when necessary.		Always		Somewhat		Not Much		Never
	3	60.0	2	40.0	0	0.0	0	0.0
8. How would you describe your relationship with your mentee?		Very Good		Good		Fair		Poor
	2	40.0	2	40.0	1	20.0	0	0.0
9. Do you think that the time you spent with your mentee was sufficient?		Yes		Almost		Not Really		No
	2	40.0	2	40.0	1	20.0	0	0.0
10. Do you think that the time you spent together was helpful for your mentee?		Yes		Somewhat		Not Really		No
	2	40.0	3	60.0	0	0.0	0	0.0
11. Did you gain personally from this relationship?		Yes		Somewhat		Not Much		No
	3	60.0	1	20.0	1	20.0	0	0.0
12. I would have preferred to meet less often with my mentee.		Yes		Sometimes		Rarely		No
	0	0.0	1	20.0	0	0.0	3	60.0
13. I would have preferred to meet more often with my mentee.		Yes		Sometimes		Rarely		No
	2	40.0	1	20.0	0	0.0	1	20.0