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(SUUPRT)

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14. ABSTRACT
The Shaw-UNC Undergraduate Program in Prostate Cancer Research and Training (SUUPPRT) is a collaborative project between the University of North Carolina at Chapel Hill (UNC-CH), and Shaw University, the oldest Historically Black College/University in the South. SUUPPRT provides research and academic training to prepare young men and women of color to become tomorrow's prostate cancer researchers and public health professionals. The second year of the SUUPPRT Program has been highly successful. In addition to our broad training program that introduces students to the biological, behavioral, environmental and nutritional factors that may contribute to the high incidence and mortality of prostate cancer among African Americans, we have introduced opportunities for students to shadow physicians treating prostate cancer patients and have increased student participation in community outreach programs. Three highly qualified students participated in Year 2, and two of these students are applying to graduate schools in the health sciences. Another student will return for a second year in the SUUPPRT Program in 2009.

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INTRODUCTION

The Shaw-UNC Undergraduate Program in Prostate Cancer Research and Training (SUUPPRT) is a collaborative project between the University of North Carolina at Chapel Hill (UNC-CH), a Research I university renowned for its multidisciplinary approach to cancer research, and Shaw University, the oldest Historically Black College/University in the South. SUUPPRT provides research and academic training to prepare young men and women of color to become tomorrow's prostate cancer researchers and public health professionals. Each year promising Shaw University undergraduate students with an interest in prostate cancer research enter Year One of the SUUPPRT program, which consists of a 10 week intensive laboratory research experience at UNC-Chapel Hill, professional training, course work and seminars, followed by two semesters of further training in prostate cancer and public health research at Shaw University. Students who successfully complete this year of training may sign on for a second year, during which they will receive additional research training, participate in a GRE preparatory course, and mentor younger students. Our goal is to provide these students with the career guidance and preparation necessary to successfully matriculate to UNC-CH or other Research I universities with prostate cancer training or research programs.

BODY

This report is organized according to our original goals as outlined in the Statement of Work in the approved application.

1. Recruit highly qualified students to the program.

In 2008 the program had a total of 6 applicants, however only 3 of these met the program qualifications and had appropriate academic backgrounds for the program. This included one student who had participated in 2007 and participate Year 2 of the program. All three students accepted our offer to participate in the program.

Male: 1 Female:2 Rising Junior : 1 Rising Senior: 2 Avg. GPA = 3.43

All three students had strong academic backgrounds in biology and chemistry. Only our returning student had previous research experience, specifically in the molecular biology of cancer. For her second research experience with the SUUPPRT Program, she chose to participate in a project focused on Health Behavior and Health Education.

2. Engage students in state-of-the-art prostate cancer research through active participation in hypothesis-driven or problem-solving research projects.

Two of the students carried out laboratory research under the direction of prominent cancer researchers, while the remaining student participated in an epidemiological and social study of health-seeking behaviors among African American men. While carrying out their research, the students participated in research group meetings and carried out their own research project with the guidance of either a faculty member or a senior graduate. At the end of the 10-week period, each student presented a research poster at the annual Lineberger Cancer Center Undergraduate Research Symposium and Poster Session. The projects, sponsors and students are listed below.

- *Denise M. Wharton* (Preceptor: Wizdom Powell-Hammond, Ph.D.) – “Early-life health socialization and health help-seeking among African American Men.”
- *Sarem Hailemarium* (Preceptor: Young Whang, M.D., Ph.D.) – “Effects of tyrosine kinase inhibitors on prostate cancer cells.”
- *Vitalis O. Wekheye* (Preceptor: William Kaufmann, Ph.D.) – “Decatenation and DNA Damage G2 Checkpoints in Different Cancer Cell Lines.”

The students also presented their posters at the Institute for Health, Social, and Community Research 2nd Conference on Minority Health, held at the Sheraton Raleigh Hotel on September 26, 2008. In addition, Miss Sarem Hailemaruim briefly addressed the group in Plenary Session on her experience in the SUUPPRT Program.

3. Introduce students to the basic scope of prostate cancer research in 3 areas; tumor biology, host factors, and public health issues.

During their 10-week research experience at UNC-Lineberger Cancer Center, the students attended a number of seminars and journal clubs aimed at acquainting them with these three areas of prostate cancer research. These included:

- *Major Themes and Challenges of Prostate Cancer*, presented by Mary C. Anderson, explored risk factors, incidence, mortality, and racial disparities as well as some general areas of causation such as genetic, environmental, sociological, and cultural. Miss Anderson is Associate Director for the Shaw UNC-CH Center for Prostate Cancer Research (SUCPCR), the Shaw Johns-Hopkins Center for Prostate Cancer Research (SJHCPCR), and the Shaw UNC Undergraduate Program for Prostate Cancer Research and Training (SUUPPRT). She is also the Executive Director of the Prostate Cancer Coalition of North Carolina (PCCNC).
- *Introduction to Prostate Cancer Biology and the Androgen Receptor*, by Dr. Young Wang. Dr. Wang is both a clinician and a basic researcher who studies changes in gene expression in prostate cancer at Lineberger Comprehensive Cancer Center at UNC-Chapel Hill.
- *Men's Health Disparities: Implications for Research and Intervention*, a two hour symposium presented at the 14th Annual Summer Public Health Research Institute and the Program for Ethnicity, Culture and Health Outcomes at UNC-Chapel Hill, June 3, 2008.
- *Cancer Disparities by Race/Ethnicity and Socioeconomic Status*, a journal club led by Dr. Gwen Sancar, based upon the paper by E. Ward, et al. (2004). *CA Cancer J Clin* 54:78-93.
- *Prostate Cancer Screening was presented by Dr. Louie E. Ross*, a chronic disease epidemiologist from the Shaw-UNC Center for Prostate Cancer Research. Dr. Ross introduced the students to the types of screening tests, and to current controversies about whether screening is effective in reducing mortality.
- *Tumor Immunobiological Differences in Prostate Cancer Between African-American and European-American Men*, a journal club led by Dr. Gwen Sancar, based upon the paper by T. Wallace et al. (2008). *Cancer Res* 68:927 – 936.
- *Mutations in the Androgen Receptor and Their Implications for Recurrent Prostate Cancer*, a journal club led by Dr. Gwen Sancar, based upon the paper by J. Duff and I. J. McEwan (2008). *Molecular Endocrinology* 19:2943 – 2954.

In addition to the summer program, SUUPPRT students participated in program-sponsored activities throughout the 2008 – 2009 academic year. These program were led by Ms. Mary Anderson under the guidance of Dr. Daniel Howard and emphasized prostate cancer awareness, and serving families diagnosed with prostate cancer.

- In October 2008, the students attended the quarterly meeting of the North Carolina Advisory Committee on Cancer Coordination and Control. Here the students witnessed where research translates into public policy. This agency advises the Secretary of the NC General Assembly regarding the statewide interagency comprehensive cancer control program, reports on access of NC citizens to the services of the NC cancer control program, and identifies health promotion and disease prevention strategies relating to the leading causes of cancer in NC.
- In November 2008 and January 2009, students attended the North Carolina Minority Prostate Cancer Awareness Action Team Meeting. The "Action Team," provides targeted outreach for minority men who are at the greatest risk of developing prostate cancer. The Action Team is comprised of volunteer professionals and community leaders with a deep commitment to service. These individuals work in partnership with churches, Greek-letter organizations and others to disseminate information about prostate cancer.

- In February 2009, the students participated in recruitment activities for SUUPPRT on the Shaw University campus.
- In March 2009, the students worked with members of the Action Team to set up a table at the Universoul Circus in Raleigh, NC during the week of March 11-15, where they distributed information to men and their families about screening and early detection of prostate cancer.
- From January through April, the students are working on their final projects for SUUPPRT. Sarem Hailemariam will be working with members of the Action Team to further develop and refine the PC Shepherds program. The PC Shepherds program “shepherds” men who have been diagnosed with the disease through the early days following diagnosis and treatment planning. The program provides needed social support to newly diagnosed men and furnishes them with evidence-based prognostic tools that serve to enhance patient understanding of his unique diagnostic situation. Denise Wharton will be working with members of the Action Team to expand and refine the PC Angels program. Angels provide support for wives, family members and other caregivers of men diagnosed with prostate cancer. Vitalis Wekheye will be trained and work in the IHSCR at Shaw University Center for Survey Research. He will work primarily on the Shaw-Johns Hopkins Center for Prostate Cancer Research projects, the “father’s study” and the “son’s study.” Both studies involve conducting 30-60 minute telephone interviews with men who have been diagnosed with prostate cancer and their at-risk sons.

4. Introduce students to the basic molecular biology and genetic concepts necessary to understand recent advances in prostate cancer research.

Dr. Sancar gave four lectures on introductory genetics and molecular biology and the molecular biology of the androgen receptor. Each lecture last 1.5 hours and included detailed handouts and examples relevant to prostate cancer.

5. Inform students regarding career choices in prostate cancer research and prepare them to compete effectively for entrance into graduate school and professional schools to pursue careers in prostate cancer research.

- Dr. Young Wang spoke to students about careers in medicine, specifically urology and oncology.
- Students who desired to “shadow” a physician participated in prostate cancer clinics with Drs. Godley and Wang for 2 hrs per week.
- The students toured the UNC-CH School of Public Health and learned about careers in epidemiology, biostatistics, health behavior and health education, nutrition, and health policy and management. The tour was lead by members of the Minority Student Caucus of the SPH.
- The students participated in several 50-minute workshops and panel discussions led by Dr. Sancar and designed to enhance their professional skills. These included:
 - Trust and trustworthiness in science and medicine
 - How to give a 10 minute science talk with Power Point
 - How to prepare a scientific poster
 - How to apply to graduate school
 - How to write a personal statement for graduate and medical school applications
 - Interviewing Skills

Key Accomplishments

- Recruited 3 highly qualified students to the program from a pool of six applicants.
- Placed the students in top research positions on appropriate projects.
- Carried out joint professional development and social activities with students in other summer programs on campus to more fully integrate students into the campus culture.
- Presented a series of seminars that inform students about many of the major issues in prostate cancer research.
- Informed students about paths to careers in prostate cancer research, including a shadowing opportunity in a urologic oncology clinic for students interested in becoming M.D.s
- Engaged students as active participants in community outreach work promoting prostate cancer awareness and screening
- One student returned for a second year in the SUUPPRT Program.
- Our two senior students are currently applying to graduate schools with the intention of continuing cancer or health related research. The junior student will be returning for a second year of the program in the summer of 2009.

Reportable Outcomes

Two senior students are currently applying to graduate schools with the intention of continuing cancer or health related research. The junior student will be returning for a second year of the program in the summer of 2009.

Conclusions

During its second year of operation the SUUPPRT Program expanded its program in training students to be community advocates for prostate cancer awareness. We believe that showing students the human cost of prostate cancer will increase their commitment to help overcome this disease. We continue to provide excellent training in prostate cancer research for promising undergraduate students from Shaw University. Considering the small size of Shaw University, we have been reasonably successful in finding qualified participants for the program. However in the spring of 2009 we redoubled our recruiting efforts to attract more qualified applicants. By providing training in biological research at UNC-CH and in public health research at Shaw University, we expose the students to the breadth of need and to a variety of career options they can choose from as they contribute to reducing and ultimately eliminating the scourge of prostate cancer from the African American population. During Year 3 we plan to continue the program in much the same vein as described above.