

AWARD NUMBER: W81XWH-14-1-0303

TITLE: Genetic Alterations in Prostate Cancers among African-American Men and Comparisons with Cancers from European and Asian Patients

PRINCIPAL INVESTIGATOR: Jianfeng Xu

CONTRACTING ORGANIZATION: NorthShore University Health System  
Evanston, IL 60201-1613

REPORT DATE: October 2015

TYPE OF REPORT: Annual Report

PREPARED FOR: U.S. Army Medical Research and Materiel Command  
Fort Detrick, Maryland 21702-5012

DISTRIBUTION STATEMENT: Approved for Public Release;  
Distribution Unlimited

The views, opinions and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy or decision unless so designated by other documentation.

# REPORT DOCUMENTATION PAGE

Form Approved  
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. **PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.**

<b>1. REPORT DATE</b> October 2015	<b>2. REPORT TYPE</b> Annual	<b>3. DATES COVERED</b> 29 Sep 2014 - 28 Sep 2015
<b>4. TITLE AND SUBTITLE</b>  Genetic Alterations in Prostate Cancers among African-American Men and Comparisons with Cancers from European and Asian Patients		<b>5a. CONTRACT NUMBER</b>
		<b>5b. GRANT NUMBER</b> W81XWH-14-1-0303
		<b>5c. PROGRAM ELEMENT NUMBER</b>
<b>6. AUTHOR(S)</b>  Jianfeng Xu  E-Mail: Jxu@northshore.org	<b>5d. PROJECT NUMBER</b>	
	<b>5e. TASK NUMBER</b>	
	<b>5f. WORK UNIT NUMBER</b>	
<b>7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)</b>  NorthShore University Health System 1001 University Place Suite 100 Evanston, IL 60201-3137		<b>8. PERFORMING ORGANIZATION REPORT NUMBER</b>
<b>9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)</b>  U.S. Army Medical Research and Materiel Command Fort Detrick, Maryland 21702-5012		<b>10. SPONSOR/MONITOR'S ACRONYM(S)</b>
		<b>11. SPONSOR/MONITOR'S REPORT NUMBER(S)</b>
<b>12. DISTRIBUTION / AVAILABILITY STATEMENT</b>  Approved for Public Release; Distribution Unlimited		
<b>13. SUPPLEMENTARY NOTES</b>		

<b>14. ABSTRACT</b>					
No progress was made in Year 1 due to the fact that transfer of the Award from Wake Forest University Health Services to NorthShore University HealthSystem took the entire year to complete.					
<b>15. SUBJECT TERMS</b>					
Prostate cancer; genetics					
<b>16. SECURITY CLASSIFICATION OF:</b>			<b>17. LIMITATION OF ABSTRACT</b>	<b>18. NUMBER OF PAGES</b>	<b>19a. NAME OF RESPONSIBLE PERSON</b>
<b>a. REPORT</b>	<b>b. ABSTRACT</b>	<b>c. THIS PAGE</b>			USAMRMC
U	U	U	UU	7	<b>19b. TELEPHONE NUMBER</b> <i>(include area code)</i>

**Standard Form 298 (Rev. 8-98)**  
 Prescribed by ANSI Std. Z39.18

## Table of Contents

	<u>Page</u>
<b>1. Introduction.....</b>	<b>5</b>
<b>2. Keywords.....</b>	<b>5</b>
<b>3. Accomplishments.....</b>	<b>5</b>
<b>4. Impact.....</b>	<b>5</b>
<b>5. Changes/Problems.....</b>	<b>6</b>
<b>6. Products.....</b>	<b>6</b>
<b>7. Participants &amp; Other Collaborating Organizations.....</b>	<b>7</b>
<b>8. Special Reporting Requirements.....</b>	<b>7</b>

## W81XWH-14-1-0303 Annual Report

- **INTRODUCTION:** Prostate cancer (PCa) research is lacking in the area of genetic epidemiology, particularly as it relates to African American men, who are 50 percent more likely to develop PCa than white men. Furthermore, more research is needed to be able to distinguish aggressive from non-aggressive PCa, especially at early stages. This study seeks to identify genetic alterations in African American men that are associated with aggressive and lethal PCa. Our secondary goal is to develop a cost-effective genetic test to better identify men at heightened risk of developing PCa, which will allow for earlier detection of disease and more effective treatment.
- **KEYWORDS:** Prostate cancer, genetics
- **ACCOMPLISHMENTS:**
  - **What were the major goals of the project?**
    - We will recruit 100 African American patients, and their tumor-specific DNA alterations will be identified using high resolution SNP (single nucleotide polymorphism) array and targeted next-generation sequencing technology.
    - We will compare these alterations with those identified from 240 European Americans and 65 Chinese PCa patients in order to find race-specific alterations that are associated with lethal PCa, as well as other clinical outcomes, such as Gleason score and pathological stage of the tumors.
    - We plan to develop a genetic test to translate these research findings to clinics
  - **What was accomplished under these goals?**
    - No progress was made in Year 1 due to the fact that transfer of the Award from Wake Forest University Health Services to NorthShore University HealthSystem took one full year to complete.
  - **What opportunities for training and professional development has the project provided?**
    - No progress was made in Year 1 due to the fact that transfer of the Award from Wake Forest University Health Services to NorthShore University HealthSystem took one full year to complete.
  - **How were the results disseminated to communities of interest?**
    - Not applicable at this stage
  - **What do you plan to do during the next reporting period to accomplish the goals?**
    - During the next reporting period, which will be our first active period for this study, we will complete the patient recruitment portion of this project, obtain their tumor tissues, and complete next-generation sequencing to identify PCa risk-associated SNPs in African American men.
- **IMPACT:**
  - **What was the impact on the development of the principal discipline(s) of the project?**
    - Nothing to Report
  - **What was the impact on other disciplines?**
    - Nothing to Report
  - **What was the impact on technology transfer?**

- Nothing to Report
- **What was the impact on society beyond science and technology?**
  - Nothing to Report
- **CHANGES/PROBLEMS:**
  - **Changes in approach and reasons for change**
    - Nothing to Report
  - **Actual or anticipated problems or delays and actions or plans to resolve them**
    - This grant was awarded to Dr. Jianfeng Xu while he was at Wake Forest University. In October, 2014, Dr. Xu moved to NorthShore University HealthSystem. Transfer of the award to Dr. Xu's new institution took one full year to complete. The transfer is now complete, so project activity can now commence.
  - **Changes that had a significant impact on expenditures**
    - Since we have not yet begun work on this project, no money has been spent.
  - **Significant changes in use or care of human subjects, vertebrate animals, biohazards, and/or select agents**
    - Nothing to Report
  - **Significant changes in use or care of human subjects.** N/a
  - **Significant changes in use or care of vertebrate animals.** N/a
  - **Significant changes in use of biohazards and/or select agents** . N/a
- **PRODUCTS:**
  - **Publications, conference papers, and presentations**
    - **Journal publications.**
      - Nothing to Report
    - **Books or other non-periodical, one-time publications.**
      - Nothing to Report
    - **Other publications, conference papers, and presentations.**
      - Nothing to Report
    - **Website(s) or other Internet site(s).**
      - Nothing to Report
    - **Technologies or techniques.**
      - Nothing to Report
  - **Inventions, patent applications, and/or licenses**
    - Nothing to Report
  - **Other Products**
    - Nothing to Report

- **PARTICIPANTS & OTHER COLLABORATING ORGANIZATIONS**

- **What individuals have worked on the project?**

- Project activity has not yet begun; therefore, no individuals have worked on the project.

- **Has there been a change in the active other support of the PD/PI(s) or senior/key personnel since the last reporting period?**

- Nothing to Report

- **What other organizations were involved as partners?**

- **Organization Name:** N/a
- **Location of Organization:** N/a
- **Partner's contribution to the project**
  - **Financial support** N/a
  - **In-kind support** N/a
  - **Facilities** N/a
  - **Collaboration** N/a
  - **Personnel exchanges** N/a
  - **Other.** N/a

- **SPECIAL REPORTING REQUIREMENTS**

- **COLLABORATIVE AWARDS:** N/a

- **QUAD CHARTS:** N/a

- **APPENDICES:** N/a

***DO NOT RENUMBER PAGES IN THE APPENDICES.***