VA Office of Research and Development
HBCU Research Scientist Training Program

TAKEN FROM THE CRADO briefing book
Scientific Program Manager
VHA/ORD/RRD

January 22nd, 2017
Goals of the HBCU Research Scientist Training Program

Dramatically increase the number of VA ORD-funded independent minority research scientists within the next 5 years by:

(1) Partnering with minority-serving institutions such as Historically Black Colleges and Universities (HBCUs)

(2) Aggressively recruit these early-career HBCU scientists into the VA funding system via the HBCU-RSTP Career Development Award mechanism.

(3) Encouraging current mid-career and senior investigators at HBCUs who are seeking or currently have NIH funding and whose research could impact Veterans health to apply for funding through VA ORD.
Rationale for the VA HBCU Program

Facts:
• Of the more than 1800 currently funded projects in ORD, only 1 project is currently funded at an HBCU. (2012)

• The VA has a community of over 3000 VA researchers with a long history of significant research accomplishments, however minority independent VA investigators are historically underrepresented within this community.

• While the NIH has developed numerous programs to specifically engage and recruit minority scientists over the years, the VA has not been able to sustain a single such program.

• African-American and Latino/Hispanic-Americans collectively represent nearly 30% of the Veteran population, however these groups represent less than 8% of current Career Development Awardees. This amounts to a significant racial/ethnic disparity within the scientific workforce in relation to both the Veteran and general population and may contribute to longstanding issues of health disparities in the VA health system.
Why Partner with HBCUs?

Top 5 HBCU NIH Grantees FY 2016

- **Jackson State University**
  - Grant: $4,183,066

- **North Carolina Central University**
  - Grant: $4,357,379

- **Howard University**
  - Grant: $11,111,531

- **Meharry Medical College**
  - Grant: $20,654,680

- **Morehouse School of Medicine**
  - Grant: $52,318,930

Source: NIH QVR and NIH ProjectReporter databases
Nationwide Strategy for the VA HBCU Program

VISNs to target include: 4, 5, 6, 7, 8, 9, 10, 11, 15, 16, 17

Majority of HBCUs are in the South and Southeast regions

We will need to reach out to the ACOS - Research in these regions to build relationships

= top 10 STEM HBCUs
Accomplishments to Date

- Dedicated effort within ORD has been tasked with developing the VA ORD HBCU program

- A legal opinion was sought and delivered from the US Justice Department and VA Office of General Counsel validating the constitutionality of VA ORD creating a program designed to increase the racial/ethnic diversity of its scientific workforce.

- An RFA document was written by Dr. Cunningham and posted on grants.gov in 2012. A subsequent peer-review round yielded 1 applicant who scored in the Excellent range (1.5 or lower) (Dr. Tamaro Hudson, Howard University, Washington DC VAMC).

- In November 2012, Dr. Hudson became the first VA ORD HBCU-RSTP Career Development Awardee for his project titled “A biomarker risk prediction model for prostate cancer.” This award was approved for a 5-year period.
Current HBCU CDA2 Awards

VA HBCU CDA2 Awards FY 2016

Total amount spent FY2016: $547,054

Total amount spent FY2012-2016: $1.4 million
VA - CTSA COLLABORATIONS IN CLINICAL AND TRANSLATIONAL RESEARCH AT THE WASHINGTON DC VAMC AND THE GEORGETOWN/HOWARD CTSA

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Overview

The CDC reported that, “Since the 1980s, our nation has made substantial progress in improving residents’ health and reducing health disparities, but ongoing racial/ethnic, economic, and other social disparities in health are both unacceptable and correctable.”

Continued health disparities based upon race, ethnicity, age (especially those over 65 years of age and children), sex, and disability increase the vulnerability of these special populations to a host of common and uncommon diseases and conditions, including obesity, diabetes, cardiovascular disease, diverse cancers, HIV/AIDS and other infectious diseases.

Consequently, programs targeted to communities with special needs are essential to reduce health disparities and enhance health equity.
Goals of the CTSA Consortium

The CTSA consortium has the following five goals:

- Building National Clinical and Translational Research Capability
- Training and Career Development of Clinical and Translational Scientists
- Enhancing Consortium-Wide Collaborations
- Enhancing the Health of our Communities and the Nation
- Encouraging T1-T4 Translational Research
Each CTSA Institution is a home (hub) for clinical and translational science

CTSA HOME

Clinical Research Ethics

Biomedical Informatics

Clinical Resources

Biostatistics

Regulatory Support

Advanced Degree-Granting Programs

Participant & Community Involvement

Trial Design

NIH & other government agencies (VA, DoD, CDC, etc)

Industry

Healthcare organizations
Georgetown-Howard Universities
Center for Clinical Translational Science
(GHUCCTS)
Specific Aims of GHUCCTS

1. To speed improvements in human health by stimulating innovative, multidisciplinary, cross-institutional (intra-hub) and inter-CTSA (inter-hub) research.

2. To support the careers of clinical and translational investigators (didactic educational programs; mentorship, e.g. TL-1, KL-2, VA-HBCU CDA2).

3. To enhance clinical and translational research on diverse populations, both in the Washington DC region and nationally, prominently including racial and ethnic minorities, geriatric populations, and persons with disabilities.
INCLUDING DIVERSE POPULATIONS (IDPs) MODULE OF THE GHUCCTS

Specific Aims
To increase clinical and translation research programs aimed at reducing health disparities in special populations, including individuals from racial and ethnic minorities, and persons with physical and/or neurobehavorial disabilities.

To increase clinical and translation research programs across the lifespan, particularly in those aged 65 years or older and in children and adolescents with special needs.

To more effectively and efficiently integrate novel recruitment activities with the functions of the GHUCCTS’ patient clinical interaction, community engagement and recruitment modules.
Center of Excellence for Health Disparities in Our Nation’s Capital

- The National Institute on Minority Health and Health Disparities, NIH, awarded a five year grant to Georgetown University Medical Center to establish the Center of Excellence for Health Disparities in Our Nation’s Capital (CEHD).

- The CEHD’s vision is to eliminate or dramatically reduce health disparities in minority populations in Washington, D.C. The CEHD expands and strengthens collaborations with other academic, government, nonprofit, faith-based and community partners to have maximum impact on disparities.

The CEHD also promotes careers in minority health research through educational and training programs. Training and education includes targeted mentorship to postdoctoral and junior faculty colleagues to help advance their research interests.
DC Research Institutions Partner on Development of Health Disparities Online Tool

The Clinical and Translational Science Institute-Children’s National (CTSI-CN) and the GHUCCTS received a grant from the NIH’s National Center for Advancing Translational Sciences to develop an information system that will provide the community with timely and actionable local health metrics to address adult and pediatric health disparities in the nation’s capital.

While there have been significant advances in healthcare technology for many Americans, racial and ethnic minorities in DC continue to face staggering health disparities. In 2009, disparities in the prevalence of obesity were alarming; obesity was significantly more prevalent in African Americans (65 percent) and Hispanics (44 percent) than Caucasians (37 percent).

The web-based information system, known as the DC Healthy Communities Network (DC-HCN), is a bilingual, community-driven, interactive web-based portal that will enhance community-based organizations’ ability to identify information, share and seek expertise and research, and access tools to impact health in local communities.
Every journey begins with the first step.
MY JOURNEY AS THE FIRST RECIPIENT OF VA-HBCU RSTP

Dr. Tamaro Hudson, PhD, MPH
Assistant Professor, Howard University
Health Science Research Specialist, DC VAMC
What is the Unique Signature of VA-HBCU-RSTP

• A three to five year grant
• 5/8\textsuperscript{th} appointment at the VA
• Salary support (75%)
• Research Technician
• Equipment support
• Materials and supply support
• Mentoring and training support between VA and HBCU
• Allowed to apply for VA-merit award

Benefits

- Interaction with VA military and civilian personnel
- Access to unique population
- Access to reliable database
- Ability to link with the VHA’s Million Veterans Program
- Ability to create team science
Aggressive gene signatures have a journey and propensity to express in different directions.

A Biomarker Risk Prediction Model for Prostate Cancer

Conventional Biomarkers

SPINK1

Annexin 2
Collaborative and Financial Support

Dr. Carla Williams
Dr. Georgia Dunston
Dr. Desta Beyene

Dr. Marc Blackman
Dr. Suman Chauhan

Dr. Noma Kanarek
Dr. Michael Carducci
Memory, Mentors, & Muscle

Establishing Muscle Health as a Geriatric Vital Sign at the VA

- **Dr. Michael Harris-Love**
  - Director, Muscle Morphology and Mechanics Laboratory,
  - Washington DC VA Medical Center
  - Associate Director, Human Performance Research Unit,
  - DC VAMC Clinical Research Center
  - VA-HBCU Research Scientist, Howard University/DC VAMC
Prologue: Memory
“Patience is not learned in safety.”

— Pema Chödrön, Comfortable with Uncertainty
Mentors (and more…)

Invaluable undergraduate support was provided by Drs. Stan & Elise Lindstedt and NASA’s outreach programs.

After the thesis defense with doctoral advisors, Dr. Domholt & Dr. Killian in Indiana.

Dr. Rich McGee (left) convinced me to apply to the Mayo Clinic; Mr. Jason Hill worked hard to see me succeed.

Dr. Marc Blackman, R&D ACOS, led the way for the new Clinical Research Center at the DC VAMC.

Dr. Tshaka Cunningham, VA-HBCU training grant evangelist.
**Muscle: Sarcopenia Assessment – Challenges & Solutions**

1) Sarcopenia screening is **not** a formal element of the geriatric examination.

2) Muscle **quality** may affect muscle performance more than muscle **mass** in older adults.

The VA challenge: Veterans are nearly 20 years older than the civilian population.

3) Assessment via proxy measures of tissue composition and innovative approaches to treatment.

Low-cost proxy measures of skeletal muscle: CT and ultrasound image exemplars depicting 7% vs 40% intramuscular fat (Harris-Love et al., 2014)

Mobile solutions: Force/angle feedback sonography (left) and strength training using rotational inertia (right).

Ismail/Harris-Love et al., 2015; Harris-Love et al., 2017; Falcon & Harris-Love, 2017 in press)
Epilogue:
Greater than the Sum of our Parts
Thank you!

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