The Year of COVID-19
When Every Moment Counts

EVMS-Sentara Healthcare Analytics and Delivery Science Institute
2020 ANNUAL REPORT
HADSI Core Values

Support Services

Research Studies

Statistical Analysis

Project Collaboration
2020 started like any other year for EVMS-Sentara Healthcare Analytics and Delivery Science Institute (HADSI)—expansion in community engagement, increasing collaborative partners, until SARS-CoV-2, better known as COVID-19, happened and created a pandemic with consequences most of us have never seen before. We learned to adapt to working from home, wearing masks, washing our hands for 20 seconds and using hand sanitizer. We have had to social distance and stay home with our children for virtual learning. Medical personnel and first responders attended patients with COVID-19 and were in essence risking their own health and potentially the health of family members. This has become the “new” norm—at least for now. Despite these inevitable changes, research and medical personnel came together to figure out how to maintain health and safety guidelines and how to best combat COVID-19.

Throughout all of this, EVMS-Sentara HADSI continues to provide a collaborative framework for healthcare and analytics, along with translational research. With HADSI’s growing support and infrastructure, we have provided over $396,000 in pilot funding to researchers, which has resulted in huge scholarly achievements, yielding great financial and academic returns. In addition to this, we have become a very important and integral part of a statewide collaboration to look for statistical answers, prevention and eventual safe recovery from this virus.

Collectively, we in HADSI have come together with other institutions:

- To create a statewide registry to understand the impact of COVID-19 on our communities and health.
- To develop and support research to better understand the epidemiology, immunology, social/physical impacts, and health disparities of SARs-CoV-2 infection and COVID-19 disease.

These key collaborative achievements are highlighted in this report. From my vantage point as the Founding Director of HADSI, I am very proud of our HADSI efforts to develop, maintain and continue active collaborations so that scientific work finds traction in healthcare and delivery-science arenas in Hampton Roads and beyond.

Sunita Dodani, MBBS (MD), FCPS, MSc, PhD, FAHA
Founding Director, EVMS-Sentara Healthcare and Delivery Science Institute (HADSI)
Professor of Medicine, EVMS
Meet the HADSI Team

Sunita Dodani, MD, MS, PhD
HADSI Founding Director
Research Interests:
Implementation and Outcome Research, Cardiovascular Health Disparities

Marilyn Bartholmae, PhD, MS
Research Associate II
Research Interests:
Health Services Researcher, Health Disparities, Program Evaluation

Amanda Clarke, MS
Manager, HADSI and Community Research
Research Interests:
Community-based Participatory Research, Health Disparities

Sarah DePerrior, MPH
Clinical Data Specialist
Research Interests:
Environmental Health, Child Health, Chronic Disease Management & Prevention

Joshua Edward, MPH
Instructor
Research Interests:
Community-based participatory research, Health Disparities

Ismail El Moudden, PhD
Instructor
Research Interests:
AI & Machine Learning for Healthcare, Cancer Health Disparities, Public Health Study Design

Jiangtao Luo, PhD
Associate Professor
Research Interests:
Statistical Genetics and Genomics, Public Health Study Design

Kristi Morgan, DNP
Manager, Sentara SORI
Research Interests:
Critical Care Nursing, Evidence-Based Practice Implementation

Carter Overton
Office Coordinator

Mohan D. Pant, PhD
Associate Professor
Research Interests:
Bayesian Methods, Data Science, Research Methodology

Reem Sharaf Alldin, MD, MS
Research Associate II
Research Interests:
Biomedical Research

Brynn Sheehan, PhD
HADSI Assistant Director
Assistant Professor
Research Interests:
Substance Use and Abuse, Stress and Self-Regulation, Health Behaviors & Disparities

Angela Toepp, PhD, MS
Assistant Professor
Research Interests:
Infectious Diseases, Microbiome, COVID-19, Health Disparities
HADSI Takes the Lead to Address COVID-19 Research

Project Title: Evaluation of the COVIDsmart Registry's Digital Recruiting Strategies: Improving Outreach of Vulnerable and Underserved Populations
Collaborators: George Mason University (GMU) and Vibrent Health
PI: Sunita Dodani, MD, MS, PhD
HADSI Team Members: Sunita Dodani, MD, MS, PhD; Marilyn Bartholmae, PhD; Angela Toepp, MS, PhD; Sarah DePerrior, MPH

Project Title: Addressing Low-Income Housing Resident Mistrust in COVID-19 Guidance
PI: Andrew Plunk, PhD (EVMS)
HADSI Team Member & Co-I: Brynn Sheehan, PhD

Project Title: Comparing Methods for Treating Generalized Anxiety Disorder in high-risk adults from underserved populations in the Hampton Roads Virginia Area during COVID Pandemic: Efficacy and Feasibility of eCBT-SilverCloud Telehealth Program
PI: Frank Counselman, MD (EVMS/Sentara); Co-I: Sunita Dodani, MD, MS, PhD (HADSI)
HADSI Team Members: Angela Toepp, MS, PhD; Marilyn Bartholmae, PhD; Sarah DePerrior, MPH

Project Title: COVID-19 Patient Health Prediction using Machine learning and AI techniques
Collaborators: Hassan II University, Casablanca, Morocco.
HADSI Team Member: Ismail El Moudden, DSc (PhD)

Project Title: Basic Reproductive Number and Risk Factors for COVID-19 in Brazil—A Community Based Study
PI: Selma Jeronimo, MD, Universidade Federal do Rio Grande do Norte, Natal, Brazil
HADSI Team Member & Co-I: Angela Toepp, MS, PhD

Project Title: Microbiome Changes after Symptomatic COVID-19
PI: Angela Toepp, MS, PhD
Co-I’s: Ashley Kates, PhD; Marie Ozanne, PhD, University of Wisconsin-Madison & Mount Holyoke College
HADSI Team Member: Angela Toepp, MS, PhD

Project Title: COVID-19 Myths Debunker: Combat Medical Myths using Scientific Literature
PI: Jian Wu, PhD (ODU)
HADSI Team Member & Co-I: Ismail El Moudden, DSc (PhD)

Project Title: Food Insecurity Amongst the Hispanic Community of Norfolk, VA During COVID-19
PI: Alexandra Leader, MD (EVMS)
HADSI Team Member & Co-I: Ismail El Moudden, DSc (PhD)

Project Title: Efficacy of Quercetin Phytosome in the Treatment of Patients with COVID-19
PI: Umer Farooq, MBBS, Ayub Teaching Hospital, Abbottabad, Pakistan & University of Oxford, Oxfordshire, England
HADSI Team Members: Sunita Dodani, MD, MS, PhD; Ismail El Moudden, DSc (PhD)
HADSI Supports EVMS Research to Address COVID-19

**Project Title: Clinical Markers of COVID-19**  
**PI:** Paul Marik, MD (EVMS)  
**HADSI Team Members:** Sunita Dodani, MD, MS, PhD; Sarah DePerrior, MPH

**Project Title: The Effect of an Aerobic Exercise Regimen on Sleep Quality, Quantity and Stress Level in COVID-19 Health Professionals: A Feasibility Study**  
**PI:** Hamid Okhravi, MD (EVMS)  
**HADSI Team Member:** Reem Sharaf-Alldin, MD, MS

**Project Title: Impact of COVID-19 Shut Down on Anthropometric Body Measurements and Nutritional Behaviors in a Colombian cohort receiving Online Nutritional Advice**  
**PI's:** Jairo Noreña, MD; David Lieb, MD  
**HADSI Team Member:** Reem Sharaf-Alldin, MD, MS

**Project Title: Vaccine Hesitancy in the era of COVID-19**  
**PI's:** Mutaz Alkalbani, MD (EVMS); Jennifer Ryal, MD (EVMS)  
**HADSI Team Member:** Brynn Sheehan, PhD
COVIDsmart — A Statewide COVID Registry

A HADSI Initiative that Highlights the Institute’s Strengths and Collaborations During the Worldwide COVID-19 Pandemic

EVMS-Sentara Healthcare Analytics and Delivery Science Institute (HADSI), George Mason University, and Vibrent Health, a health technology company, are leading a digital health initiative, COVIDsmart, to gather information to help participants, researchers and public health entities better understand and address the impacts of the COVID-19 pandemic and future health crises.

COVIDsmart is a statewide health study that examines the impacts of COVID-19 on individuals and their communities. The research project seeks to recruit more than 10,000 participants from all walks of life across the United States to share information on how the pandemic has affected their lives, even if they have not been infected by COVID-19.

The study will ask participants questions related to the pandemic and its impact on daily life, particularly its impact on financial, mental, and physical well-being such as, “Over the past 30 days, has your consumption of alcohol increased, decreased, or remained the same?” and, “When a COVID-19 vaccine is available, how likely are you to want to receive vaccination?”

COVIDsmart differs from other COVID-19 studies because it will give back individual and aggregate data to participants, so they can see how the pandemic has impacted them and their community. The study will also provide participants with resources and information — such as health and safety recommendations from governmental organizations — to help them protect themselves and their communities from COVID-19 infection.

To represent the full picture of COVID’s impact, the study aims to recruit individuals who are diverse in age, gender, sexuality, ethnicity, race, and culture to reflect the U.S. population’s diversity and to include groups historically underrepresented in biomedical research.

The study is open to anyone at least 18 years old living in Virginia and will gather information about participants’ experiences through the course of the pandemic. The study consists of easy-to-understand online surveys. As an incentive to participants, COVIDsmart offers gift card drawings for those who stay active in the study.

COVIDsmart uses a privacy-protected, secure platform. The anonymized results of the research will be made available to researchers and public health policy officials to help guide them in identifying at-risk communities that are disproportionately affected by COVID-19. These insights can help direct resources and services where they are most needed during the coronavirus pandemic and any potential future health crisis.

Join today: www.covidsmartstudy.org
Community Engagement Highlights

One of HADSI’s missions is community service and engagement where we strive to reduce and eventually eliminate health disparities in Hampton Roads through community partnerships and collaborative efforts.

HADSI AND EVMS RESEARCH TEAMS COLLABORATED WITH THE NORFOLK REDEVELOPMENT HOUSING AUTHORITY AND A COMMUNITY ADVISORY BOARD comprised of low-income housing residents in Norfolk. This work serves as the primary source of preliminary data for two current NIH funded projects. Tablets were provided to the CAB members when weekly meetings transitioned to virtual meetings, creating capacity for virtual community engagement in low-income housing.

HEALTHY EATING AND LIVING SPIRITUALLY (HEALS): A hypertension prevention and control program for American African Community Based Programs—partnership with Hampton Virginia Medical Center.

HEALS MED-TECH: Hypertension Control Program for African American Communities using Telehealth Technologies – partnership with Healthy Living Center, Norfolk, VA.

THE HADSI COMMUNITY ADVISORY BOARD (CAB) is composed of residents holding positions of significance and influence within local neighborhoods, community centers, churches in public housing communities. The CAB helped to identify local community needs, to increase the health knowledge of its members, and to develop a community-academic partnership. During regular meetings, the CAB created an action plan for reducing hypertension outcomes and improving access to health care.

IMPROVING PATIENT-CENTERED OUTCOMES RESEARCH (PCOR) AND COMPARATIVE EFFECTIVENESS RESEARCH (CER) AMONG FILIPINOS: Addressing hypertension among high-risk populations in South Texas and Eastern Virginia Project PCORI - Funding Pending.

A HADSI TEAM MEMBER ACTED AS A COVID-19 EPIDEMIOLOGIST FOR RESEARCH COLLABORATORS IN BRAZIL using data analytics to provide virtual support and up to date information on the ongoing COVID-19 outbreak. This data was used by researchers and public health officials on the ground to better assist by providing education to community members on best practices for reducing the spread of COVID-19 and improving overall COVID-19 testing.
2020 HADSI Services at a Glance

Number of Service Requests

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requests</td>
<td>48</td>
<td>112</td>
<td>136</td>
<td>96</td>
</tr>
</tbody>
</table>

Principal Investigator Type

- Faculty: 37%
- Residents: 31%
- Students: 23%
- Fellows: 7%
- Staff: 2%

Data Source Requested

- A=Other
- B=VHI
- C=Sentara Epic
- D=Sentara Cancer Registry
- E=EVMS Allscripts

*In 2020, HADSI began collecting from two new data sources: EVMS Allscripts and Sentara Cancer Registry

see Table A in the Appendix for matching data
Number of Service Requests by Type

- Abstract Preparation: 13
- Data Analysis: 49
- Data Extraction: 25
- Database Design: 20
- Database Management: 21
- Grant Submission: 10
- IRB Assistance: 25
- Power Analysis/Sample Size Calculation: 36
- Protocol Development: 16
- Publication Preparation: 15
- Study Design: 31
- Survey Research: 16
- TriNetX: 27
- Other: 6

Number of Service Requests by Department

- Dermatology: 3
- Emergency Medicine: 3
- Faculty and Community Medicine: 3
- Internal Medicine: 22
- Medical School Student: 3
- Obstetrics & Gynecology: 15
- Otolaryngology: 4
- Pathology and Anatomy: 10
- Pediatrics: 2
- Psychiatry & Behavioral Sciences: 3
- Surgery: 2
- Other: 20
IN SEPTEMBER 2020, the EVMS-Sentara Healthcare Analytics and Delivery Science Institute formed a Regional Health Disparity Forum to reduce and eventually eliminate disparities in health and healthcare by promoting greater scientific collaboration among Virginia’s academic institutions and healthcare partners. Given the complexity involved in eliminating health disparities, there is a need for more transdisciplinary, collaborative work. The forum stimulates interests and offers opportunities for collaborations and partnerships. Further, the forum provides an opportunity to work collaboratively to ensure health disparities research is conducted as an integrated and inclusive field of study, rather than as an aggregate of independent research activities occurring in separate research domains.

**VISION**
Close the health inequity gap through collaboration, advocacy, and institutional partnerships so that all people in the state of Virginia will have the opportunity to attain good health and well-being

**MISSION**
Reduce disparities by implementing the concepts that are shown to work and develop them into policies

**GOALS**
Engage a wide range of experts to create a transdisciplinary, systems-thinking approach to address the complex issues that limit individual agency efforts, to reduce and ultimately eliminate health disparities

**MEMBERS**
EVMS, GMU, ODU, UVA, VCU, VT, Carilion, Sentara, INOVA, & Vibrent

**OUTCOMES**
- Telehealth research group to improve access to care in the HIV population (EVMS, INOVA, ODU & VT).
- Health Research Group, in progress.
- Mental Health Collaborations (EVMS, GMU & INOVA)
HADSI Academic and Financial Returns

HADSI has awarded over $396,000 in pilot funding to 25 EVMS and Sentara Principal Investigators (PIs) to date. These HADSI funded pilot projects resulted in a number of scholarly outcomes, including funded and unfunded grant submissions, manuscript publications, and conference presentations. It should also be noted that more than 60% of these pilot funded projects are currently ongoing (see HADSI Grant Writing Support for details).

- **Funded Projects**: 2
- **Grants Submitted**: 2
- **Manuscripts**: 3
- **Presentations**: 7

*Dr. Elias Siraj (Round 1 recipient) received $1.5 mil in funding for an NIH-SIBR project. Dr. Tracy Fu (Round 3 recipient) received $420,875 in funding for an NIH project. Both investigators used data from their pilot funding projects for submission.

**Over $396,000 HADSI Pilot Funding Support to Date**

Pilot Funding Support by Year

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AMOUNT</strong> Funded in Dollars</td>
<td>10,000</td>
<td>10,000</td>
<td>≤ 25,000</td>
<td>≤ 25,000</td>
<td>≤ 25,000</td>
</tr>
<tr>
<td><strong>APPLICATIONS</strong> Funded</td>
<td>8</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td><strong>EVMS PI Applications Funded</strong></td>
<td>6</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td><strong>SENTARA PI Applications Funded</strong></td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
HADSI Grant Writing Support

Grant editing support was provided to the investigators who submitted grants to the following agencies:

- American Heart Association (AHA)
- Health Resources and Service Administration (HRSA)
- Geriatrics Workforce Enhancement Program (GWEP)
- Small Business Innovation Research (SBIR) Program
- Veterans Affairs Medical Center (VAMC)
- Hampton Roads Community Foundation (HRCF)
- Robert Wood Johnson Foundation (RWJF)
- Arthroscopic Association of North America (AANA)
- Emergency Medicine Foundation (EMF)
- National Institutes of Health (NIH)
- Patient-Centered Outcomes Research Institute (PCORI)

EVMS/HADSI submitted 4 grants with:

- George Mason University
- Old Dominion University
- Oxford University
- University of Texas

see Table B in Appendix for matching data
Pilot Funding Outcomes

ROUND 1 – 2017
$10,000

John Brush, MD (Sentara)
Retrospective Study: Epic Data Project
Project Keywords: Health Disparities, Diabetes & its Complications
Grant Submitted: NIH R21 – Score, not funded
Manuscripts Submitted: American Journal of Cardiology, Accepted 2019
Status: completed

Megan Clay, RN (Sentara)
Retrospective Study: Epic Data Project
Project Keywords: Critical Care Nursing, Evidence-Based Practice Implementation
Presented results at two nursing conferences
Status: ongoing

Marissa Galicia-Castillo, MD (EVMS)
Retrospective Study: Epic Data Project
Project Keywords: Quality of Life Research, Cost Utilization
Manuscript on hold due to COVID-19
Status: completed

Kent Lam, MD (EVMS)
Retrospective Study: Epic Data Project
Project Keywords: Olfactory Physiology, Nasal Drug Delivery Devices
Manuscripts in progress
Status: completed

David Lieb, MD (EVMS)
Retrospective Study: Epic Data Project
Project Keywords: Thyroid Cancer Management, Type 1 and 2 Diabetic Complications
Presented data results at a conference
Status: study on hold due to COVID-19

Brian Martin, PhD (EVMS)
Retrospective Study: Epic Data Project
Project Keywords: Access to care, financing healthcare services, cost/benefit analysis, and healthcare workforce development
Status: completed

Deborah Morris, MD (EVMS)
Retrospective Study: Epic Data Project
Project Keywords: Hospice and Palliative Medicine
Manuscript Submitted: Journal of Hospital Administration, Accepted 2019
Presented at 2 conferences
Status: completed

Elias Siraj, MD (EVMS)
Retrospective Study: Epic Data Project
Project Keywords: Cardiovascular disease in the diabetic population, post-transplant diabetes
Grant Submitted: NIH R21- received score
Status: completed

ROUND 2 – 2018
$10,000

Marybeth Hughes, MD (EVMS)
Retrospective Study: Epic Data Project
Project Keywords: Neuroendocrine Tumors, Colorectal Cancers
Presented results at a conference
Status: completed

Jeff McTavish, MD (Sentara)
Retrospective Study: Epic Data Project followed by prospective survey
Project Keywords: General Radiology, Radiologic Interventions
Status: ongoing - Phase 1 completed
Phase 2 starting (prospective study)

Beverly Roberts-Atwater, DO, PhD (EVMS)
Prospective Study
Project Keywords: Cerebro-Vascular Rehabilitation, Sub-Acute
Status: study on hold due to COVID-19

Abby Van Voorhees, MD (EVMS)
Retrospective Study: Epic Data Project
Project Keywords: Psoriasis and Eczema Research
Presented findings at a conference
Status: completed

Greg Weingart, MD (Sentara)
Retrospective Study: Epic Data Project
Project Keywords: Emergency Department Utilization
Status: study on hold due to COVID-19
Pilot Funding Outcomes (continued)

**ROUND 3 - 2019**
Up to $25,000

- **Paul Aravich, PhD (EVMS)**
  Prospective Study: Epic Data Project
  Project Keywords: Cognitive and Emotional Impact of Brain Injury
  Status: study not started due to COVID-19

- **Tracy Fu, PhD (EVMS)**
  Retrospective Study: Epic Data Project
  Project Keywords: Family and Community Based Interventions
  Status: ongoing-analysis phase

- **Thomas McCune, MD (EVMS)**
  Retrospective Study: Epic Data Project
  Project Keywords: Acute Kidney Injury, Disease Burden, Health-Related Quality of Life
  Status: ongoing-Aim 1 completed; submitted manuscript; Presentation at HADSI seminar

- **Aaron Nelson, MD (EVMS)**
  Prospective Study: Allscripts Data Project
  Project Keywords: Diabetes, Cardiovascular Disease/Heart Failure and Calcium Disorders
  Status: ongoing-awaiting IRB approval

- **Hamid Okhravi, MD (EVMS)**
  Retrospective Study: Medicare Data Project
  Project Keywords: Quality of Life, Impact of Mild Cognitive Impairment
  Status: ongoing

**ROUND 4 - 2020**
Up to $25,000

- **Carrie Elzie, PhD (EVMS)**
  Prospective Study: Allscripts Data Project
  Project Keywords: "Use of Virtual Reality to Improve Understanding, Empathy and Self-efficacy in Caregivers of Dementia Patients"
  Status: study on hold due to COVID-19

- **Margaret Baumgarten, MD (EVMS)**
  Prospective Study: "Mentoring4Health - Assessing Health Impacts of Adding Home Monitoring of Blood Pressure and Weight for Food Pantry Clients Enrolled in the Connect4Health Wellness Coaching Model"
  Status: ongoing

- **Marissa Galicia-Castillo, MD (EVMS)**
  Prospective Study: Epic Data Project
  Project Keywords: "Effectiveness of a dedicated "Goals of Care Team" for Older Patients in the Intensive Care Unit"
  Status: ongoing

- **Alexandra Leader, MD (EVMS)**
  Retrospective Study: Practice Fusion Data
  Project Keywords: "Examining Hampton Roads’ Most Socially Disadvantaged Populations"
  Status: ongoing

**ROUND 5 - 2021**
Up to $25,000

- **Cristina Baldassari, MD (EVMS)**
  Prospective Study: "Correlation of Endocan Levels with Pediatric Obstructive Sleep Apnea"
  Status: study not started

- **Tetsuya Kawakita, MD (EVMS)**
  Retrospective Study: Epic Data Project
  Project Keywords: "Outcomes of women with body mass index 60 or greater: planned cesarean versus indication of labor"
  Status: study not started

- **Hamid Okhravi, MD (EVMS)**
  "The Effects of an Aerobic Exercise Regimen on Sleep Quality, Quantity and Stress Level in COVID-19 Health Professionals: A Feasibility Study"
  Status: study not started
Funded Projects with HADSI Support

Projects Submitted

**Health Resources and Services Administration**
Geriatrics Workforce Enhancement Program
**PI:** Mary Rubino, MD (EVMS) | $3M | 2019–2024
**HADSI Personnel:** Angela Toepp, MS, PhD
**Status:** ongoing

**NIH-NCI P30 Supplement**
Cancer Center Catchment Area Population Health Assessment
**PI:** Bernard Fuemmeler, PhD (VCU) | 2019–2021
**HADSI Personnel & Site PI:** Sunita Dodani, MD, MS, PhD; Co-I: Sarah DePerrior, MPH
**Status:** completed - Manuscript in progress

**NIH-NICHD**
Impact of Virginia’s 2019 Medicaid Expansion and Services Integration on Maternal and Child Health Outcomes and Equity – Multilevel Modeling and Systems Science Approaches
**PI:** Tracy Fu, PhD (EVMS) | $420,875 | 2020–2023
**HADSI Personnel:** Jiangtao Luo, PhD

**Virginia Catalyst Grant**
Novel Preventive Treatment Paradigm to Change the Standard of Care for Those Who Recover from Opioid Overdose
**PI:** F. Gerard Moeller (VCU) | $226,449 | 2019–2021
**Site PI:** Andrew Plunk, PhD (EVMS)
**HADSI Personnel & Co-I:** Brynn Sheehan, PhD
**Status:** ongoing

NIH - SBIR
Regeneration of Epidermal Nerves in Human Diabetic Neuropathy
**PI:** Elias Siraj, MD (EVMS) | $1.5M | 2019–2021
**HADSI Personnel & Co-I:** Ismail El Moudden, DSc (PhD)
**Status:** ongoing

NIH - RO1
Targeting Brain Macrophage Reservoirs of SIV during HAART
**PI:** Woong-Ki Kim, PhD (EVMS) | $180,000 | 2017–2020
**HADSI Personnel:** Jiangtao Luo, PhD

NIH-NICHD R01
Using Differences in Perceived Legitimacy and Resident Compliance to Promote Fair and Effective Implementation of Smoke Free Housing
**PI:** Andrew Plunk, PhD (EVMS) | $3.35M | 2020–2025
**HADSI Personnel & Co-I:** Brynn Sheehan, PhD
**Funded**

NIH - SBIR
Regeneration of Epidermal Nerves in Human Diabetic Neuropathy
**PI:** Elias Siraj, MD (EVMS) | $1.5M | 2019–2021
**HADSI Personnel & Co-I:** Ismail El Moudden, DSc (PhD)
**Status:** ongoing

Hampton Roads Community Foundation, Mental Health Research
How Perceived Fairness of Smoking Bans Affects Substance Use and Willingness to Enter Treatment
**PI:** Andy Plunk, PhD (EVMS) | $14,729 | 2020
**HADSI Personnel & Co-PI:** Brynn Sheehan, PhD

American Heart Association
HEALS Med-Tech
**PI:** Sunita Dodani, MD, MS, PhD (HADSI) | $10,000 | 2020–2021

Grants Submitted By HADSI Personnel

Hampton Veteran Affairs Medical Center
Healthy Eating and Living Spiritually
**PI:** Sunita Dodani, MD, MS, PhD (HADSI) | $30,000 | 2020–2021
**Funding not renewed**

PCORI Engagement Award Capacity Building
Building Capacity for PCOR in Cardiovascular Disease Prevention among South Asian Immigrants
**PI:** Sunita Dodani, MD, MS, PhD (HADSI) | 2021–2024
HADSI Expands National and International Partnerships

Connecticut
- Yale University

Florida
- Mayo Clinic

Iowa
- University of Iowa

Maryland
- National Institutes of Health

Massachusetts
- Mount Holyoke College
- Harvard University

Missouri
- Washington University
- St. Louis University

South Carolina
- University of South Carolina

Texas
- University of Texas

Virginia
- American Diabetes Association
- American Heart Association
- Carilion Clinic
- Eastern Virginia Medical School
- George Mason University
- Hampton University
- Hampton Veteran Administration Medical Center
- Healthy Living Center
- Medical Society of Virginia
- Norfolk State University
- Old Dominion University
- Portsmouth Health Department
- Sentara Healthcare
- University of Virginia
- Vibrent Health
- Virginia Commonwealth University
- Virginia Department of Agriculture
- Virginia Tech
- William & Mary

Washington D.C.
- Academy Health

Wisconsin
- University of Wisconsin-Madison
DURING THIS UNPRECEDENTED TIME OF LIMITED TRAVEL AND QUARANTINE, HADSI continues to unlock, expand, and foster national and international collaborative efforts optimizing digital communication platforms for research growth. HADSI’s collaborations include more than 38 institutions/universities – 10 states in the U.S., Washington D.C., and 4 countries. These partnerships involve developing research to tackle some of the world’s most challenging and pressing health related issues including COVID-19, health disparities regarding mental health, healthcare access, and cardiovascular disease using some of the most advanced analytical methods.

Brazil
- Universidade Federal do Rio Grande do Norte (UFRN)
- Universidade Estadual do Ceará (UECE)

Morocco
- Hassan II University

England
- Oxford University

Pakistan
- Ayub Teaching Hospital
Year of HADSI Staff Accomplishments

Sunita Dodani, MD, MSc, PhD
MANUSCRIPT PUBLISHED
INTERVIEW
CONFERENCE PRESENTATIONS

Sarah De PERRIOUR, MPH
MANUSCRIPTS PUBLISHED

Joshua Edwards, MPH
MANUSCRIPT PUBLISHED

CONFERENCE PRESENTATIONS
An Investigation of Sun-Protective Clothing Behaviors and Knowledge in Virginia Beach, VA. EVMS 32nd Annual Research Day. Norfolk, VA. October 2020
Knowledge, Attitudes, and Beliefs Regarding HIV Post-Exposure Prophylaxis. 8th Annual EVMS Graduate Student Research Conference. Norfolk, VA. February 2020

POSTERS

Ismail El Moudden, PhD
MANUSCRIPTS PUBLISHED
Improve Microarray Data Classification. IIUM Engineering Journal, 22(1), 1-22.


MANUSCRIPTS SUBMITTED - UNDER REVIEW


CONFERENCE PRESENTATIONS

- Pant D M, El Mouadden I, Luo, J. Bayesian Estimation for Parameters of Non-linear Multilevel Models under Burr Distributions. Eastern North American Region International Biometric Society

Jiagntao Luo, PhD

CONFERENCE PRESENTATIONS

- Pant D M, El Mouadden I, Luo, J. Bayesian Estimation for Parameters of Non-linear Multilevel Models under Burr Distributions. Eastern North American Region International Biometric Society

Mohan Pant, PhD

CONFERENCE PRESENTATIONS

- Pant, D M, El Mouadden, I, Luo, J. Bayesian Estimation for Parameters of Non-linear Multilevel Models under Burr Distributions. Eastern North American Region International Biometric Society

Reem Sharaf-Alddin, MD, PhD

MANUSCRIPT PUBLISHED


POSTERS


MANUSCRIPTS SUBMITTED - UNDER REVIEW

Year of HADSI Staff Accomplishments (continued)


Brynn Sheehan, PhD

MANUSCRIPTS PUBLISHED

MANUSCRIPTS SUBMITTED - UNDER REVIEW
- Wray, J.V, Sheehan, BE, Rees, VW, Cooper, D, Morgan, E, & Plunk, AD. (Revise and Resubmit, 2020). "I want to quit on my own time": How perceived unfairness and distrust affect resident compliance with smoke-free housing. Annals of Behavioral Medicine.

CONFERENCE PAPER

AWARDS
- American Heart Association, COVID-19 Health Disparities Data Competition Semi-finalist ($5000)
- Psychiatric Society of Virginia, First Place Poster Award ($750)
- Faculty Rising Star Nominee, Eastern Virginia Medical School

INTERVIEW

Angela Toepp, MS, PhD

MANUSCRIPTS PUBLISHED

MANUSCRIPTS SUBMITTED
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## Table A: Data Source Requested

*In 2020, HADSI began collecting from two new data sources: EVMS Allscripts and Sentara Cancer Registry*

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<th>Data Source</th>
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<th>2020*</th>
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## Table B: HADSI Grant Writing Support

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