Virginia Consortium for Public Health and Population Health Sciences (VCPHPHS)

Proposal

June 29, 2015

Old Dominion University

Eastern Virginia Medical School

College of William and Mary

Norfolk State University

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Contact Information and Acknowledgements

This report was prepared in response to language in an appropriation from the Virginia General Assembly for the 2014-16 Biennium, to Old Dominion University (ODU) for the purpose of planning for a joint School of Public Health in collaboration with Eastern Virginia Medical School (EVMS).

Oversight for the report was provided by:

Shelley C. Mishoe, Ph.D.
Dean
College of Health Sciences
Old Dominion University

C. Donald Combs, Ph.D.
Vice-President and Dean
School of Health Professions
Eastern Virginia Medical School

Questions or comments about the report may be directed to:

Muge Akpinar-Elci, MD, MPH
Director and Associate Professor
Center for Global Health
College of Health Sciences
Old Dominion University
757/683-6160
makpinar@odu.edu

Brian C. Martin, Ph.D., MBA
Director and Associate Professor
Graduate Program in Public Health
School of Health Professions
Eastern Virginia Medical School
757/446-6120
martinbc@evms.edu

Executive Summary

Background

Eastern Virginia Medical School (EVMS) and Old Dominion University (ODU) began a joint Graduate Program in Public Health (MPH Program) in 1997 with two tracks – Epidemiology and Health Management and Policy. Additional tracks in Health Promotion and Global Environmental Health were added in 2009. The MPH Program is fully accredited by the Council on Education for Public Health (CEPH).

In 2013, the Virginia General Assembly provided funding for EVMS and ODU to explore the further development of the MPH Program into a collaborative School of Public Health. A feasibility assessment was conducted and a panel of outside experts (Deans from current Schools of Public Health) was convened to review the plan. The conclusion was that such an endeavor was both supported and needed, and would be a worthwhile investment for improving the health of citizens in the Commonwealth of Virginia. However, it was also recognized that CEPH would not support a collaborative model for a School of Public Health, unless it met the requirement that one or both of the institutions have sufficient resources to *independently* administer the School and its functions in its entirety. EVMS and ODU do not have the resources to fulfill that accreditation standard. The strong opinion of the Deans of the Schools of Public Health we engaged was that CEPH will not change its standards. Therefore, the planning for a collaborative EVMS/ODU School of Public Health was tabled.

EVMS and ODU next explored the possibility of establishing an Institute of Public Health, which would allow for the expansion of the MPH Program efforts within the existing CEPH accreditation requirements. However, it was determined it made more sense to build a consortium among existing university programs rather than create yet another organizational entity. Additionally, the organizational differences between the two institutions lends itself to a less formal, less rigid structure. It was agreed that a collaborative model would create substantial value for the Commonwealth and region, while maximizing efficiency and flexibility. The recommendation, therefore, is that EVMS and ODU build an expanded program in public health and population health sciences that will fulfill a need in the Commonwealth for substantial additional research and education capacity in health data analytics, health services research, health economics, and social work related to healthcare. The collaboration will bridge four Virginia institutions – EVMS, ODU, the College of William and Mary, and Norfolk State University – and be known as the Virginia Consortium for Public Health and Population Health Sciences (VCPHPHS).

Rationale

The health of Virginians needs improving

- Public/population health concerns have been and remain a challenge for Virginia.

Health services research and data analytics can be applied to these health concerns

- Innovative solutions are needed to address Virginia's public/population health concerns.

- Health analytics is a powerful tool that will be used by faculty to explore these health concerns and identify best practices, via comparative outcomes research.
- Research findings will be disseminated to stakeholders via seminars, workshops, meetings, webinars, and other non-academic activities.
- Research findings may be used by stakeholders to influence development of intervention programs, identify opportunities for more efficient/effective service delivery, and inform public policy.

Health concerns that VCPHPHS can target

- Maternal and child health
  - Infant mortality
  - Pre-term and low-weight birth
  - Childhood immunization
- Suicide and mental health
- Chronic diseases
  - Heart disease
  - Cancer
  - Stroke
  - Diabetes
  - Asthma
- Resilience communities and environmental health

<u>Outcomes Expected from VCPHPHS Activities</u>

- Long-term health improvement in the Commonwealth.
- A model for the state/nation/world relative to best practices and dissemination of research findings.
- Service to private and public stakeholders relative to the health concerns in their populations.
- Findings that can inform health policy (e.g., workforce development).

<u>Organizational Structure</u>

VCPHPHS will leverage resources through collaboration with existing related entities within the four institutions.

- The EVMS-ODU joint Graduate Program in Public Health
- The Ph.D. in Health Services Research Program at ODU
- The Center for Health Analytics and Discovery at EVMS
- The M. Foscue Brock Institute for Community and Global Health at EVMS
- The Center for Global Health at ODU
- The Schroeder Center at William and Mary
- The School of Social Work at Norfolk State University

A total of 16 new faculty lines will be distributed across academic partners as follows:

- 6 to be appointed at EVMS in the Graduate Program in Public Health and other EVMS departments as appropriate
- 6 to be appointed at ODU in the College of Health Sciences

- 2 to be appointed at William and Mary in the Schroeder Center
- 2 to be appointed at Norfolk State University in the Strong School of Social Work

VCPHPHS will be governed by a Board of Directors, made up of 3 representatives from EVMS, 3 representatives from ODU, 1 representative from the College of William and Mary, and 1 representative from Norfolk State University. Operations will be directed by a Council of Directors, which will be assisted by an Advisory Committee.

Timeline and Budget

Creating the infrastructure and allocating resources will be completed in the first 1½ years, with outcomes work beginning in year 2. The estimated ongoing annual cost of this proposal is $6.5 million dollars, phased in over the first two years. Funding would allow for the four institutions to hire 16 new faculty, distributed as follows:

- 6 to be appointed at EVMS in the Graduate Program in Public Health and other EVMS departments, as appropriate
- 6 to be appointed at ODU in the College of Health Sciences
- 2 to be appointed at the College of William and Mary in the Schroeder Center for Health Policy
- 2 to be appointed at Norfolk State University in the Strong School of Social Work

Introduction

EVMS and ODU began a joint Graduate Program in Public Health (MPH Program) in 1997 with two tracks – Epidemiology and Health Management and Policy. Additional tracks in Health Promotion and Global Environmental Health were added in 2009. The MPH Program is fully accredited by the Council on Education for Public Health (CEPH).

In 2013, the Virginia General Assembly provided funding for EVMS and ODU to explore the further development of the MPH Program into a collaborative School of Public Health. A feasibility assessment was conducted and a panel Deans from current Schools of Public Health was convened to review the plan (see findings Appendices A through C). The conclusion was that such an endeavor was both supported and needed, and would be a worthwhile investment for improving the health of citizens in the Commonwealth of Virginia. However, there was also recognition of a significant limitation from CEPH – specifically, that CEPH does not support collaborative models for a School of Public Health unless at least one of the participating institutions has sufficient resources to independently administer the School and its functions in its entirety. Neither EVMS nor ODU have the resources to fulfill that accreditation standard; therefore, the planning for a collaborative EVMS/ODU School of Public Health was tabled indefinitely.

EVMS and ODU next explored developing an Institute of Public Health, which would allow for the expansion of the MPH Program efforts within the existing CEPH accreditation requirements. However, it was determined it made more sense to build a consortium among existing university programs rather than create yet another organizational entity. Additionally, the organizational differences between the two institutions lend themselves to a less formal, less rigid structure. It was agreed that a collaborative model would create substantial value for the Commonwealth and region, while maximizing efficiency and flexibility. In developing the consortium, EVMS and ODU recognized the value that the Schroeder Center for Health Policy at the College of William and Mary and the School of Social Work at Norfolk State University would add to the Consortium's efforts.

The final recommendation is to build an expanded program in public health and population health sciences that would fulfill a need in the Commonwealth for substantial additional research and education capacity in: health data analytics, health services research, health economics, and social work related to healthcare. The collaboration, to be known as the Virginia Consortium for Public Health and Population Health Sciences (VCPHPHS), will include EVMS, ODU, the College of William and Mary, and Norfolk State University. The Presidents of the four institutions fully support VCPHPHS and its efforts to improve health outcomes in the Commonwealth of Virginia and a signed Memorandum of Understanding to facilitate the collaborative relationship is in development and will be executed prior to operationalization.

Background

There is a need for innovative public health practice in the Commonwealth of Virginia, where population-based healthcare is playing an increasingly important role. According to the World Health Organization (WHO), *public health* refers to all organized measures – whether public or private – to prevent disease, promote health, and prolong life among the population as a whole. The aim of public health activities to provide conditions in which people can be healthy with a focus on population health, versus individual patients or diseases. Thus, public health is concerned with the total system and not only the eradication of a particular disease.

According to the WHO, the three main public health functions are:

- The assessment and monitoring of the health of communities and populations at risk to identify health problems and priorities.
- The formulation of public policies designed to solve identified local and national health problems and priorities.
- To assure that all populations have access to appropriate and cost-effective care, including health promotion and disease prevention services.

The *mission* of VCPHPHS is to improve the public health of Virginians by addressing the most important health and healthcare challenges, using collaboration and interdisciplinary approaches. This mission recognizes the importance of the three main public health functions in protecting the health of Virginians, and allows for academic- and community-based scientific exploration of the ten essential public health services recognized by the Centers for Disease Control and Prevention (CDC).

Figure 1. What is Public health? *(*source *: http://ctb.ku.edu/en/table-of-contents/overview/models-for-community-health-and-development/ten-essential-public-health-services/main)*

Virginia ranks 21st in overall national health ranking for 2014, a rank which has remained essentially the same since 1990 (America's Health Rankings, United Health Foundation). Highlights of Virginia's 2014 America's Health Rankings include:

Strengths:

- Low rate of drug-related deaths
- Low violent crime rate
- Low percentage of children in poverty
- 6% decrease in air pollution (since 2013)
- 25% decrease in preventable hospitalizations among Medicare beneficiaries (since 1994)
- 38% decrease in infant mortality (since 1994)

Challenges:

- Low immunization coverage among children
- Low immunization coverage among teens
- High infant mortality rate

Measures where Virginia ranked at or below the 50th percentile (25th or worse out of 50 states), with 2014 rank, include:

- Immunizations – adolescents (42)
- Insufficient sleep (37)
- Infant mortality (31)
- High blood pressure (30)
- Immunizations – children (29)
- Income disparity (29)
- Public health funding (28)
- Disparity in health status (27)
- High cholesterol (27)
- Low birth weight (27)
- Chlamydia (26)
- Diabetes (26)
- Physical inactivity (26)
- Preterm birth (26)
- Cardiovascular deaths (25)
- Occupational fatalities (25)
- Salmonella (25)

A large degree of variation is seen when examining Virginia's county-level data. Such variation requires targeted public health efforts. The goal of VCPHPHS is to promote well-being, prevent disease, and reduce disparities across the Commonwealth through health services research and health data analytics. A critical component for success of

VCPHPHS activities is the development and maintenance of effective partnerships with communities and other constituents.

The Patient Protection and Affordable Care Act (ACA) and other health care reforms require an expanded role for public health agencies to improve health indicators. Strengthening of the public health workforce and expanding support for identifying effective public health policies, programs, and systems are critical for achieving this action (Fielding, 2008), and efforts made in this area are valuable investments for the future of Virginia. To meet these challenges in the Commonwealth of Virginia, VCPHPHS will leverage the strong multi-disciplinary capacity of EVMS, ODU, The College of William and Mary, and Norfolk State University.

According to the United States Census Bureau, Virginia has an estimated population of 8,326,289, which is around 3% of the total population of the United States (2014). From a review of health indicators, health burden, risk factors, and preventative services in Virginia, four public health challenges were identified: Maternal and Child Health; Suicide and Mental Health; Chronic Disease; and Resilience Communities and Environmental Health.

1. Maternal and Child Health

   a. Infant Mortality Rate: The Centers for Disease Control and Prevention (CDC) ranked Virginia's infant mortality rate the 13th highest in the nation in 2011. Virginia's infant mortality rate (6.8 deaths per 1,000 live births) is higher than national rate (6.1 deaths per 1,000 live births), and has been for many years. The Northern region of Virginia had the lowest rate of infant deaths at 4.6 per 1,000, while the Hampton Roads region had the highest rate at 9.1 deaths per 1,000 live births.

   Black, Non-Hispanics have the highest infant mortality rate nationally; however, Asian or Pacific Islander has the highest infant mortality rate in Virginia (CDC, 2011). Virginia is one of ten states with the largest Asian alone-or-in-combination populations. Between 2000 and 2010, the Asian alone-or-in-combination population in Virginia experienced substantial growth, increasing by 71 percent.

   b. Pre-term Birth and Low Weight Birth: For the entire Commonwealth of Virginia, pre-term birth rates are relatively high, but are marginally lower than the national rate. However, Virginia has a higher low birth weight rate (what %?) compared to the national rate of 8.1% (United Health Foundation, 2014). In the Commonwealth, Norfolk has the highest percentage of low weight births and very low weight births from total births (Virginia Department of Health, 2013).

   c. Childhood immunization: Virginia ranked 31st in the nation for child vaccination rates in 2012. Virginia's child vaccination rate dropped from 77.1% in 2011 to 71.1% in 2012. The national immunization rate is 71.9%. Virginia's rate was lower than all of its peer states: North Carolina (76.2%), Tennessee (74.6%), and

Maryland (73.0%).
(http://vaperforms.virginia.gov/indicators/healthfamily/immunization.php)

2. Suicide and Mental Health

   Suicide Death Rates are defined as age adjusted deaths due to suicide/intentional self-harm per 100,000 population (CDC, 2015). The major factors that influence the suicide rate is a history of mental disorder, particularly depression, history of alcohol and substance abuse, family history of suicide, family history of child maltreatment, impulsive or aggressive tendencies, barriers to accessing mental health treatment, and personal loss that can be relational, social work or financial in origin (Virginia Performs, 2014).

   From 2000 to 2011, there has been a significant increase in the suicide death rate in Virginia and across the nation. Virginia had a higher than national suicide death rate in 75% of those years. In 2011, Virginia had the 17th lowest (age-adjusted) suicide rate in the country: 12.5 deaths per 100,000 people. Males and White Non-Hispanics have both the highest suicide death rate in the nation and within the state of Virginia (CDC, 2011).

   Military veterans who served in Vietnam, Iraq, or Afghanistan are a group who are at risk for suicide. This higher risk from suicide results from an increased risk of developing post-traumatic stress disorder (PTSD). College students are another group at risk for suicide in Virginia. Data from the Virginia Violent Death Reporting system (VVDRS) suggests that college students who died from suicide were white, male, and aged 8 to 24 years old.

   Virginia Beach, VA and Norfolk, VA had the first and second highest rates of suicide in the South Hampton Roads area, 237 and 121 respectively. The huge presence of the military as well as the numerous academic institutions is believed to be a huge factor in the high suicide rates in these cities.

   Overall, suicide is ranked 11th for cause of death among all Virginia residents and is associated with $20 million in hospital costs (Virginia Performs, 2014). These cost estimates may actually be higher as there is a huge inaccuracy in reporting on suicides due to social stigma.

3. Chronic Diseases

   Chronic diseases, such as heart disease, cancer, stroke, and diabetes, are among the most costly and most preventable health problems in the United States. Today, these diseases cause nearly 70% of all deaths in the United States and account for approximately 75% of all healthcare costs (http://www.naccho.org/topics/workforce/upload/lphworkforce.pdf). In Virginia, cancer, stroke, asthma, diabetes and hypertension remain major chronic health problems for the population.

Cancer death rates are defined as age adjusted rate of cancer deaths per 100,000 population (CDC, 2015). With the exception of 2010, Virginia has had a higher than national cancer death rate, although the overall trend shows that the cancer death rate is slowly declining in Virginia and nationally. Additionally, Black non-Hispanics and males have the highest cancer death rate in Virginia and nationally (CDC, 2011).

Stroke death rates are defined as age adjusted rate of stroke deaths per 100,000 population (CDC, 2015). Since 2000, Virginia has had a higher than national annual stroke death rate. Although the overall stroke death rate for both the nation and Virginia has declined greatly, Virginia's stroke death rate still hovers above the national rate. Additionally, males, and Black non-Hispanics have the highest stroke death rates in the nation and in Virginia (CDC, 2011).

The prevalence of asthma is a concern nationwide, given that an estimated 8% of Americans have asthma (CDC, Morbidity and Mortality Weekly Report, 2011). However, the prevalence of asthma is a much greater concern in Virginia and, even more so, in Hampton Roads. The most recent data available indicate that over 9% of Virginians have asthma (Virginia Asthma Report, 2010), whereas prevalence rates in Norfolk, Chesapeake, and the Peninsula are much higher and range from 11% to 12%. Average hospitalizations for this condition extend for nearly 4 days at a cost of approximately $13,000. In 2004, costs for Virginia asthma hospitalizations were $96 million, an increase of more than 58% since 1999. The impact of asthma on the health, quality of life, and economy continue to persist. (VHD Report, Overview of Asthma in Virginia, 2007)

With an aging population, increasing demand for healthcare, and high health care expenditures, there is a growing health burden for the general population. According to CDC's eleven measures of health burden, Virginia ranked higher than the nation for diagnosed diabetes, diagnosed hypertension, and medicated hypertension.

Health promotion, accessible health care, prevention, and health education are essential to reduce and eliminate the threat of these burdensome diseases.

4. Resilience communities and Environmental Health

Environmental concerns have a significant effect on the health burden of a population and health outcomes. The current climate change and sea-level rise events around the world are impacting Virginia and the Hampton Roads area. There has been a 25% increase in extreme precipitation events in Virginia from 1948 to 2006 (Madsen and Figdor, 2007). Winter storms were 130% increased from 1984 to 2003 than during the previous 20 decades in Virginia (Changnon & Changnon, 2007). Experts are expecting an increase in sea-level rise of at least 1.5 feet over the next 20-50 years in Virginia (Flooding Study for Tidewater

Virginia, 2013). Flooding has increased in coastal Virginia from a few hours per year to sometimes more than 200 hours per year in the last 30 years, which impacts the built environment, indoor air quality, and health. Areas in Hampton Roads that are vulnerable to flooding are estimated to range from 9% in Portsmouth to 26% in Virginia Beach (Flooding Study for Tidewater Virginia, 2013). The planning and adaptation strategies related to climate change and sea-level rise do not currently include strategies related to public health, a serious omission.

One important environmental exposure is air pollution. Virginia's air pollution has steadily decreased since 2003 to its 2014 rank for micrograms of fine particles per cubic meter of 19th (United Health Foundation, 2014). Occupational fatalities are also a good environmental measure of health burden on the population, as it gives an idea of the impact of high-risk jobs or unsafe working conditions on the health of the population. Although there was a significant decrease in occupational fatalities for the past decade, there has been a rise in occupational fatalities in Virginia since 2012. Virginia is ranked 25 nationally for occupational fatalities. (United Health Foundation, 2014)

In many instances, basic data to monitor incidence, prevalence, morbidity, and mortality for communities across the nation poses a major challenge. VCPHPHS will play a key role in generating sustainable data to assess and monitor the public health status of the Commonwealth. Using existing and newly generated data, and through community involvement, VCPHPHS will identify public health needs and priorities to determine a research agenda. Infant mortality, immunization, mental health, chronic diseases, health disparity, environmental and occupational health concerns, and the public health impact of climate change are significant public health priorities for Virginia. A critical component to successfully address Virginia's four public health challenge areas is the ability to use health informatics. VCPHPHS's capacity to manage large data sets will allow it to pull data from different sources to explore particular public health issues, to drill down and analyze where and how the public health issue is being manifested, and to identify target communities for intervention. Certain populations, such as urban communities, military communities, and minorities, will receive special attention in the research agenda. For example, identifying infant mortality rates by county and for sub-groups within a county is critical when determining intervention strategies.

Due to its unique location, VCPHPHS will have a global perspective in producing sustainable solutions to public health issues. Norfolk houses one of the largest US Navy Bases and is the third largest international port on the Atlantic Coast, with an annual 45,444,276 metric tons (2009, US DOT, rita.dot.gov). Using health informatics, VCPHPHS will serve as the center of excellence to provide evidence-based best practices and solutions for public health challenges for the region, and will serve as a media to translate research into a practice. In addition to providing inputs for community-based implementation strategies to address public health issues, VCPHPHS will be well-positioned to inform health policy in the Commonwealth and to longitudinally

track the outcomes.

Mission and Vision

Mission
VCPHPHS's mission is to improve the public health of Virginians by addressing the most important health and healthcare challenges, using collaboration and interdisciplinary approaches in the areas of health services research and health data analytics.

Vision
VCPHPHS's vision is to enhance the physical, mental, and social well-being of people living in the Commonwealth of Virginia through broader and more rigorous analysis of health and healthcare.

Core Values
VCPHPHS's core values are:

Health Equity
Human Rights
Inclusiveness
Teamwork
Innovation
Integrity

Rationale, Goal, and Objectives

Rationale
Four main points of rationale emerged from feasibility assessments:

1. *The health of Virginians needs improving*
   - Public/population health concerns have been and remain a challenge for Virginia.

2. *Health services research and data analytics can be applied to these health concerns*
   - Innovative solutions are needed to address Virginia's public/population health concerns.
   - Health analytics is a powerful tool that will be used by faculty to explore these health concerns and identify best practices, via comparative outcomes research.
   - Research findings will be disseminated to stakeholders via seminars, workshops, meetings, webinars, and other non-academic activities.
   - Research findings may be used by stakeholders to influence development of intervention programs, identify opportunities for more efficient/effective service delivery, and inform public policy.

3. *Health concerns that VCPHPHS can target*
   - Maternal and child health
     - Infant mortality

    - Pre-term and low-weight birth
    - Childhood immunization
- Suicide and mental health
- Chronic diseases
    - Heart disease
    - Cancer
    - Stroke
    - Diabetes
    - Asthma
- Resilience communities and environmental health

4. Outcomes expected from VCPHPHS activities

- Long-term health improvement in the Commonwealth.
- A model for best practices and dissemination of research findings.
- Service to private and public stakeholders relative to the health concerns in their populations.
- Findings that can inform health policy (e.g., workforce development).

Goal: Develop solutions for persistent and emerging public health challenges in Virginia.

Objective 1.1 To identify, using health analytics, Virginia's top public health challenges, best practices used to address those challenges, and gaps between knowledge and practice during the first 3 years of VCPHPHS operations.

Objective 1.2 To develop and disseminate, via collaborative partnerships, knowledge-based best practices for each identified public health challenge during the first 4 years of VCPHPHS operations.

VCPHPHS Strengths and Gaps

Strengths

Seven existing core programs and centers provide the foundation for VCPHPHS:

The joint MPH Program

The joint MPH Program offers four instructional tracks – Epidemiology, Global Environmental Health, Health Management & Policy, and Health Promotion. Program students initially matriculated from the healthcare workforce, with many working for one of the local hospital systems or Department of Public Health, and attended classes on campus. The Program currently attracts students from both recent undergraduates and established workforce professionals, and offers most of the courses in on-campus and online formats. While the Program is not currently available 100% online, the goal is to offer a fully distant option within the next few years.

As part of the feasibility study for a School of Public Health, the consultant interviewed various stakeholders (students, graduates, faculty, administration, and employers) to assess the strengths and weaknesses of the MPH Program. In summary, these

stakeholders felt that the program is competitive with other MPH programs offered in Virginia, has a solid and well-rounded core curriculum, offers students broad exposure to the field of public health through a faculty with academic and practice experience, and provides an enhanced learning environment due to student diversity.

The MPH Program initiated several quality improvement processes during 2014, resulting in a faculty-led change to the curriculum, a new Program evaluation matrix, and participatory decision-making spearheaded by the new EVMS Director and existing ODU Co-Director. In spring 2015, a new Memorandum of Agreement was signed between EVMS and ODU, continuing the effort to build a collegial team of MPH faculty and combine the strengths of both institutions to improve the public's health.

The Ph.D. in Health Services Research
The Doctor of Philosophy in Health Services Research degree is administered by the College of Health Sciences at ODU. Stakeholders interviewed by the consultant consider the program to be competitive with other Ph.D. programs offered in Virginia, value the broad exposure afforded students through a diverse faculty and student body, and appreciate the distinctive modeling and simulation expertise within ODU.

The Center for Global Health
An interdisciplinary approach to addressing global health issues at home and abroad is the focus of the ODU Center for Global Health. Among the Center for Global Health's goals are to identify communities' needs and priority areas in public health, to create research collaborations with academia and community partners, and to increase faculty and student engagement – all in local and global settings. Beginning in fall 2014, the Center instituted a new 15-credit hour online graduate Certificate in Global Health, which provides comprehensive training in the global health field for graduate students and professionals who are practicing or plan to practice in a worldwide setting.

The Center for Health Analytics and Discovery
The Center for Health Analytics and Discovery (CHAD) coordinates and centralizes services for health analytics and data analysis at EVMS. Doctoral-prepared staff in CHAD have faculty appointments in the Graduate Program in Public Health, which houses the MPH Program.

The M. Foscue Brock Institute for Community and Global Health
Founded in 2012, the M. Foscue Brock Institute for Community and Global Health (Brock Institute) is envisioned as an interdisciplinary institute that will allow EVMS to focus on educational, clinical, public health, and research enterprises; to coordinate existing and proposed community outreach programs; and to improve the health of communities. The Brock Institute seeks to integrate EVMS' clinical, educational, and research programs to support EVMS in becoming the most community-oriented school of medicine and health professions in the nation. Building robust training programs that offer students meaningful service learning, research, and scholarship experiences is a major emphasis toward the goal of training the next generation of community-minded

physicians and healthcare professionals. Community integration is at the heart of all Brock Institute activities.

The Schroeder Center for Health Policy at the College of William and Mary
The Schroeder Center for Health Policy houses considerable faculty expertise in health policy, health economics, and quantitative analysis of large datasets. The Center also maintains support staff, including research associates with expertise in health policy, econometric analysis of large datasets, and geospatial analysis of healthcare and healthcare provider data. Additional support is available from graduate students trained in public policy analysis and evaluation in William & Mary's Master's program in Public Policy, and from undergraduates majoring in economics and public policy.

The Ethelyn R. Strong School of Social Work at Norfolk State University
The mission of the Ethelyn R. Strong School of Social Work is to provide social work education programs which prepare students with competence to develop and deliver services that strengthen and/or empower individuals, families, groups, organizations, and communities. The School and its programs emphasize the values of social justice, social responsibility, and respect for human rights, dignity, and diversity. The School is especially committed to address the strengths and challenges for an ethnically and culturally diverse client population in an evolving global community.

Gaps
The seven programs and centers share common threads of community (local and global) integration, provision of education/training, and public/population health focus. These overlapping areas of interest will provide VCPHPHS with powerful opportunities for synergistic efforts such as: educational programs and training, community-based participatory research, partnerships with public and private healthcare organizations to help improve their capacity to manage population health, assisting with the design and implementation of public health programs and policies, and providing suggestions for addressing public health functions.

The Hampton Roads region presents a wide range of health care needs and environmental factors that VCPHPHS can address. In addition, the region provides a broad set of strengths that make it an ideal location:

- Large and diverse population (57% white, 32% black, 4% Asian, 5% Hispanic, 3% other) with significant public health needs
- Established health organizations with a global reach (e.g., Abukloi, American Cancer Society, American Red Cross, Friends of Barnabas, LifeNet Health, Operation Blessing International, Operation Smile, Physicians for Peace)
- Strong integrated healthcare systems (e.g., Bon Secours Health System, Chesapeake Regional Medical Center, CHKD, Riverside Health System, Sentara Healthcare)
- Large Departments of Defense and Veterans Affairs
- Headquarters of WellPoint's large Government Business Division (Medicaid/Medicare)

- Sentara Quality Care Network (SQCN), a large network of 2400 providers working collaboratively to improve health care quality and cost, with a focus on population management

Opportunities for collaborative improvements in the Hampton Roads region can be leveraged as new cooperative opportunities are identified across the Commonwealth, with the goal of improving the health of citizens within the borders of Virginia and beyond.

Organizational Structure for VCPHPHS

VCPHPHS will leverage resources through collaboration with existing related entities within the four institutions.

- The joint EVMS-ODU Graduate Program in Public Health (MPH Program)
- The Ph.D. in Health Services Research Program at ODU
- The Center for Health Analytics and Discovery at EVMS
- The M. Foscue Brock Institute for Community and Global Health at EVMS
- The Center for Global Health at ODU
- The Schroeder Center for Health Policy at William and Mary
- The School of Social Work at Norfolk State University

VCPHPHS will be governed by a Board of Directors, made up of 3 representatives from EVMS, 3 representatives from ODU, 1 representative from the College of William and Mary, and 1 representative from Norfolk State University. Operations will be directed by a Council of Directors, which will be assisted by an Advisory Committee (see Appendix D for the governance structure).

Timeline

The projected timeline for start-up and operationalization of VCPHPHS for the first five years is as follows:

		Year 1		Year 2		Year 3		Year 4		Year 5	
ACTIVITIES	TASKS	Jan-Jun	July-Dec	Jan-Jun	July-Dec	Jan-Jun	July-Dec	Jan-Jun	July-Dec	Jan-Jun	July-Dec
Establishing the consortium	Resource allocation										
	Hiring faculty										
	Create Advisory Board										
GOAL	Objective 1										
	Objective 2										
Monitoring and Evaluation	Create and implement the plan										

Budget and Resources

The estimated ongoing annual cost of this proposal is $6.5 million dollars, phased in over the first two years.

The 16 new faculty lines will be distributed across the academic partners as follows:

- 6 to be appointed at EVMS in the Graduate Program in Public Health and other EVMS departments, as appropriate
- 6 to be appointed at ODU in the College of Health Sciences
- 2 to be appointed at the College of William and Mary in the Schroeder Center for Health Policy
- 2 to be appointed at Norfolk State University in the Strong School of Social Work

The six EVMS faculty lines will have a primary appointment in the Graduate Program in Public Health (MPH Program), unless a primary appointment in another Department (e.g., Internal Medicine) with a secondary appointment in the MPH Program is appropriate based on the background/interest of the faculty. The primary responsibility of EVMS faculty would be to bolster strategic efforts in health data analytics and outcomes research. Toward that end, and in addition to collaborative activities within VCPHPHS, faculty would work closely with the Center for Health Analytics and Discovery (CHAD) and the M. Foscue Brock Institute for Community and Global Health. Faculty would also contribute up to one-third effort to teaching, curriculum/track development efforts, and other activities within the MPH Program.

The six ODU faculty lines will have a primary appointment in the College of Health Sciences. These faculty will work with the MPH Program, the Ph.D. in Health Services Program, and the Center for Global Health.

The two William and Mary faculty lines will expand on established quantitative and economic analysis of health policy in the Schroeder Center for Health Policy. Faculty will be appointed in the Thomas Jefferson Program in Public Policy (the academic unit in which the Schroeder Center in housed), in contrast to existing Center faculty who have tenured lines within the economics department. This structure ensures that the new faculty will work on multidisciplinary research, will conduct health policy and public health issues of particular relevance to the Commonwealth of Virginia, and will disseminate research findings to Virginia policy makers and stakeholders.

The two NSU faculty lines will be used to expand work related to social justice and equality in healthcare delivery and wellness. Faculty will be appointed in the Ethelyn R. Strong School of Social Work and will conduct collaborative research to address health disparities and the social determinants that impact the health of the diverse populations of the Commonwealth of Virginia.

Appendix A

Consultant's Report
June 5, 2014

New School of Public Health

(ODU Contract No. RFP #14-221-0002-HRS for Consulting Services – School of Public Health Study)

I. Introduction

Old Dominion University (ODU) and Eastern Virginia Medical School (EVMS) desire to launch a new joint School of Public Health (SPH), the first in Virginia, and have undertaken a study to assess this opportunity. A new SPH would fill a vital need in Virginia for innovative public health practice in a rapidly changing environment, where population-based health care is taking on an increasingly important role.

According to the World Health Organization, public health refers to all organized measures (whether public or private) to prevent disease, promote health, and prolong life among the population as a whole. Its activities aim to provide conditions in which people can be healthy and focus on entire populations, not on individual patients or diseases. Thus, public health is concerned with the total system and not only the eradication of a particular disease. The three main public health functions are:

- The assessment and monitoring of the health of communities and populations at risk to identify health problems and priorities.
- The formulation of public policies designed to solve identified local and national health problems and priorities.
- The development of collaborative programs that assure that all populations have access to appropriate and cost-effective care, including health promotion and disease prevention services.

SPHs typically have instructional, research and service components to their mission. In so doing, they develop leaders for professional and research careers, provide continuing education to enhance knowledge and skills of the public health workforce, contribute to new approaches for improving health, and help apply knowledge to promote health in their communities and beyond. An SPH is required to offer instructional programs in at least five core areas: biostatistics, epidemiology, environmental health sciences, health services administration and social and behavioral sciences.

EVMS and ODU developed a joint Master of Public Health (MPH) program in 1999, and both universities have developed two core tracks for which they have primary responsibility. EVMS is responsible for the health management and policy and epidemiology tracks, and ODU is responsible for the environmental health and health promotion tracks. Both institutions equally share responsibility for the core curriculum. The program provides a strong foundation for expansion to an SPH.

This business plan overview is meant to summarize the existing foundation for and opportunities, benefits and positioning of a new SPH; and the general resource requirements for its establishment. The work to date has included:

- Course and program assessments (MPH, ODU's PhD in Health Services Research, other ODU courses that could be incorporated into a proposed SPH, the M. Foscue Brock Institute for Community and Global Health at EVMS and the Center for Global Health at ODU)
- Workforce needs in Virginia and elsewhere including the impact of Affordable Care Act and proposed changes in health care delivery and reimbursement
- An analysis of strengths, weaknesses, opportunities and threats of a new SPH
- Estimates of resource requirements for a new SPH
- Research including interviews with over fifty stakeholders and profiles of two newer SPHs

In summary, there exists a good foundation on which to build a new SPH, there is strong support among stakeholders for a new SPH, and there is a significant need for an SPH due to changes to the health care system as a result of health care reform. The resource requirements are significant and, as is the case with other SPHs at state-funded institutions, a sizable ongoing financial commitment will be required of the Commonwealth.

II. Foundation for a New SPH and Key Opportunities

Existing Programs and Courses at ODU and EVMS

The EVMS/ODU Joint MPH Program is accredited by the Council on Education for Public Health (CEPH) and has been in existence for almost 15 years. It offers four of the minimum five instructional tracks that are required for an SPH. It has a strong on-line capability and attracts both recent undergrads and established workforce professionals. Stakeholders (students, graduates, faculty, administration, and employers) feel that the program is competitive with other MPH programs offered in Virginia: there is a solid, well-rounded core curriculum, students obtain broad exposure to the field of public health through the diverse faculty – some who have studied at SPHs and some who have worked in public health, and the student diversity provides a rich environment in which to learn – younger students that have recently graduated from a four-year undergraduate program, military students, adult students already working in public health and M.D. students. In FY14, there are 96 full-time and part-time students enrolled in the Program, representing about 83 full-time equivalent students.

ODU's PhD in Health Services Research is administered by the College of Health Sciences and represents a program that could meet one of the doctoral program requirements of an SPH. (An SPH must offer at least three doctoral programs that are relevant to three of the five areas of basic public health knowledge.) Stakeholders feel that the program is competitive with other PhD programs offered in Virginia, and students obtain broad exposure through a diverse faculty – the student diversity provides a rich environment in which to learn. Stakeholders stated that the modeling and simulation expertise within ODU is a true distinctive for the PhD program. In FY14, there are 27 students enrolled in the Program, representing about 14 full-time equivalent students.

EVMS' The M. Foscue Brock Institute for Community and Global Health (BI) and ODU's Center for Global Health (CGH) could be significant assets for a new SPH. BI's goals

are to train the next generation of community-minded physicians and health-care professionals; to build a robust training program that will offer students meaningful service learning, research and scholarship experiences; and to become a model for other medical schools throughout the country. Among CGH's goals are to identify communities' needs and priority areas in public health locally and globally, to create research collaborations with academia and community partners locally and globally, and to increase faculty and student engagement in global health. Based on these goals, both of these organizations could provide resources and opportunities for a new SPH. Both ODU and EVMS have faculty with considerable expertise in public health and related areas, as well as courses relevant to programs that could benefit a new SPH. An evaluation of ODU's courses indicated that 60 courses are highly relevant to the SPH, which represent a significant asset and will help the SPH ramp up more quickly. These highly relevant include courses in statistics, informatics, infectious disease epidemiology, health care planning, sociology of health, financial management and leadership. Some of these existing courses could serve as core courses for the SPH programs or as electives to complement the new SPH programs' core curriculum. Importantly, the highly relevant courses are taught by 35 faculty who represent a significant pool of public health expertise and potential faculty for the new SPH. Additionally, a broad array of biomedical science and clinical graduate education courses offered at EVMS can provide some of the specialized education that will be required in the new global health and health informatics tracks and doctoral level programs that will be offered in the SPH.

Implications on the Workforce of Health Care Reform

(Information for this section came from many sources, including publications by the US Department of Health and Human Services, the Centers for Disease Control and Prevention (CDC), the University of Michigan/Center of Excellence in Public Health Workforce Studies, the Association of Schools of Public Health, the National Association of County and City Health Officials, the Association of State and Territorial Health Organizations, and others.)

The public health workforce can be defined as those responsible for providing the essential services of public health in their organization. The field of public health is vast and the organizations that comprise the field span federal, state and local governments as well as the private sector.

One thing on which most public health professionals can agree is that there has been and continues to be a shortage of trained public health professionals in the US. At present, the majority of workers in federal and state public health agencies do not have formal training in public health and the majority of MPH graduates are choosing not to pursue careers in public health departments. Shortages are likely to worsen in the future due to retirements among the baby boomers and significant cuts in the federal and state budgets that fund public health. The public health professionals where the greatest shortages exist include Public Health Physicians, Public Health Nurses, Epidemiologists, Health Educators, Laboratory Workers, and Administrators.

There are five provisions of the Affordable Care Act (ACA) that may impact the public health workforce:

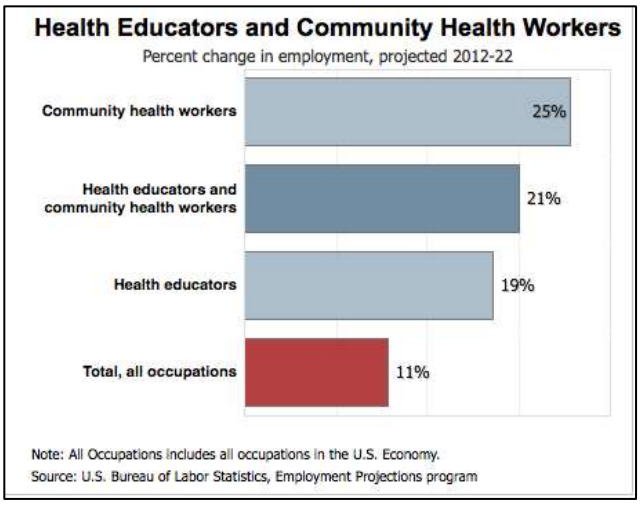
- The Prevention Fund – The ACA created a new mandatory funding stream to expand and maintain investments in prevention and public health programs. The provisions most likely to affect the public health workforce positively include new jobs for epidemiologists and laboratory workers, additional opportunities for infectious disease specialists in preventing hospital-associated infections, as well as additional HRSA funding for public health training centers and other workforce development initiatives.
- Health Workforce Training - The ACA reauthorized existing public health training programs and created several new programs. Two of the five programs designed to support public health workforce training under the ACA have been funded – the Preventive Medicine and Public Health Training Grants, and Fellowships in Public Health epidemiology, lab science, and informatics.
- Public Health Infrastructure - The ACA made changes to existing public health programs and authorized new support for infrastructure development. The law eliminated the cap on the number of Public Health Service Corps Commissioned members. It also provided funding for four new programs, one of which has received funding – to enhance epidemiology and laboratory capacity.
- Health Workforce Analysis and Planning - The ACA created an independent National Health Care Workforce Commission to review the composition of and gaps in the present health workforce (but it has not yet met or been funded).
- Extending Insurance Coverage and Benefits - The percentage of the US population under 65 without health insurance coverage is expected to fall from approximately 21% in 2009 to fewer than 9% in 2016, when the Act is fully implemented. It is expected that public health agencies' role in providing primary and preventive care for the uninsured population will diminish as more Americans are covered, and opportunities for increasing population-based services and collaboration with the private health sector will increase.

Employment Opportunities in Public Health

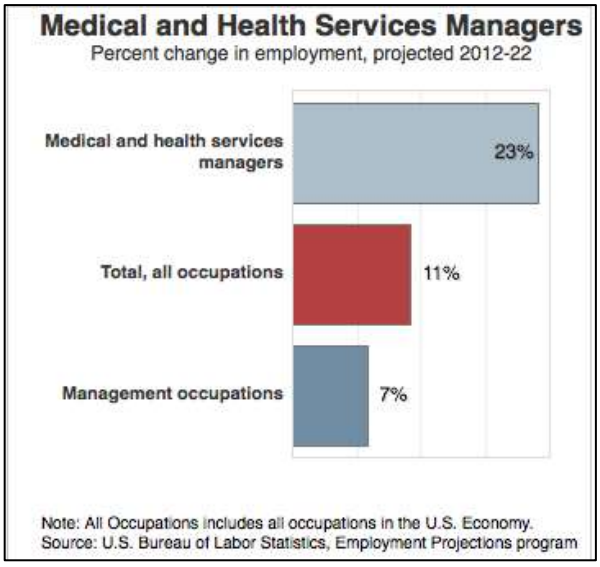
Shortages in the public health workforce continue to rise along with the nation's public health needs. Most public health professionals concur that these shortages will only continue to increase annually unless a concerted effort is made toward public health higher education initiatives.

The Bureau of Labor Statistics (BLS) projects that health care support occupations and health care practitioners will grow by 35% and 26%, respectively, over the ten years 2012-22. This will only exacerbate the already growing shortages in the public health workforce.

The U.S. Department of Labor (DOL) published the following three projections of the employment outlook related to public health professions:

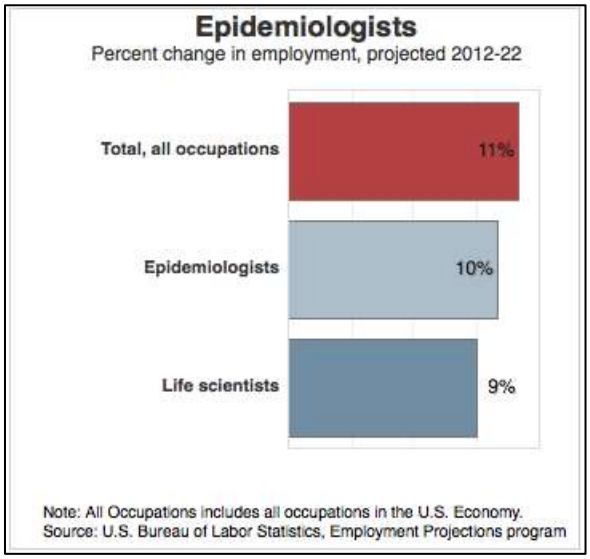


According to DOL, the total Health Educators and Community Health Workers employed in the workforce in 2012 was 99,400. The projected increase of 21% by 2022 will equate to a need of an additional 21,400 workers. Community Health Workers who have completed a formal education program and those who have experience working with a specific population may enjoy favorable job prospects. In addition, opportunities may be better for candidates who speak a foreign language.



Employment of Medical and Health Services Managers is projected to grow 23% from 2012 to 2022, much faster than the average for all occupations. The number of Medical and Health Services Managers in 2012 was 315,500 and the projected 2022 employment need will be for an additional 73,300 workers. As the large baby-boom population ages and people remain active later in life, the healthcare industry as a whole will see an increase in the demand for medical services. This demand will in turn result in an increase in the number of health professionals, patients, and procedures, as well as in the number of facilities. Managers will be needed to organize and manage

medical information and staffs in the healthcare industry. There will likely be increased demand for nursing care facility administrators as baby boomers age.



Employment of Epidemiologists is projected to grow 10% from 2012 to 2022, about equal to the average for all occupations. In 2012, there were 5,100 Epidemiologists and the need by 2022 will be for an additional 500. Continued improvements in medical record-keeping will further improve Epidemiologists' ability to track health outcomes, demographic data, and other useful data. Improvements in statistical and mapping software will improve analysis, make epidemiological data more useful, and increase demand for Epidemiologists. As defined by BLS, Epidemiologists need at least a master's degree from an accredited postsecondary institution. Most have a master's in public health (MPH) or a related field, and some have a doctoral training in epidemiology.

As illustrated, the public health industry is poised for significant growth and would offer graduates of a new SPH a promising future in the job market.

Key Opportunities, Benefits and Positioning for the School of Public Health

A new SPH would have a host of opportunities and benefits to the region, the Commonwealth, and beyond. These opportunities/benefits, which also suggest how a new SPH could be uniquely positioned in a way to address emerging needs in health care, include:

- Distinctive (not "me-too") programs to meet the needs of the regional and state-wide market
  - Programs/Certificates/individual courses for the workforce; there are a large number of health care workers who are prospective students (state-wide and beyond)
  - ACO-type skills such as data analytics/predictive analysis/modeling & simulation, etc.

    - Military health issues (e.g., PTSD and its effect on families)
    - Global health as it relates to unique international seaport environments, both in terms of the spread of diseases and environmental issues
    - Specific seaboard state issues such as climate change, sea level increase and storm activity
- Strong on-line programs that can reach students globally, state-wide and regionally; and that offer flexibility for those currently in the workforce
- Partnerships with regional health care / managed care organizations (e.g., the organization could provide resources and the SPH could offer programs tailored for its employees in return) to help improve their capability to manage population health, such as programs in health informatics to assist in avoiding readmissions, improving quality, reducing costs, etc.
- Partnerships and coordination with other higher education institutions and community health organizations throughout Virginia, and better health results for its citizens

In addition, a new SPH would have many important benefits to the Commonwealth:

- Increased opportunities for training of public health professionals
- A better trained public health workforce to design and implement public health programs and policies
- Increased pool of public health professionals to work as practitioners, leaders, teachers, policy -makers, researchers, and laboratory workers
- Increased capacity to:
    - Monitor health status in the state and identify areas in greatest need
    - Anticipate and detect problems and respond accordingly (such as infectious disease outbreaks, bioterrorism, climate change, natural disasters)
    - Conduct research to prevent disease, premature death and disability
    - Design and implement effective public health programs
    - Develop and advocate for healthy public policies
    - Promote healthy behaviors through education and counseling
    - Foster safe and healthy environments
    - Work with health care systems in implementing new health care laws
- Distance learning that allows students to remain working in their communities as they increase their knowledge and skills for the benefit of their local communities

Finally, the Hampton Roads region provides a broad set of strengths that make it an ideal location for an SPH:

- Large and diverse population (ethnic: white 57%, black 32%, Asian 4%, Hispanic 5%, other 3%)

- Established health organizations with a global reach (e.g., Abukloi, American Cancer Society, American Red Cross, Friends of Barnabas, LifeNet Health, Operation Blessing International, Operation Smile, Physicians for Peace, etc.)
- Strong health care systems (e.g., Bon Secours Health System, Chesapeake Regional Medical Center, CHKD, Riverside Health System, Sentara Healthcare)
- World's largest naval station and high concentration of military families (active and retired)
- Long history of collaboration with Department of Defense and Department of Veterans Affairs (in Hampton Roads and throughout the Commonwealth), and excellent relationships with all branches of the military
- Headquarters of WellPoint's large Government Business Division (Medicaid/Medicare)
- Sentara Quality Care Network (SQCN): large network (2400 providers) working collaboratively to improve health care quality and cost, focused on population management; prospective excellent SPH partner
- Diverse employment base with wide range of occupational health issues
- Major international seaport with current and potential impact from significant global health and environmental issues
- Wide range of health care needs and environmental factors in region that an SPH can address

III. Required Resources

Current Resources

The existing Joint MPH Program represents a strong foundation on which to build a new School of Public Health, especially when considering alongside ODU's and EVMS' other considerable assets in terms of relevant programs, courses and centers.

From a financial standpoint, the tables below indicate that there is significant tuition and research moneys that currently support the Joint MPH Program:

Chart 1: Operating Revenues and Expenses for EVMS MPH Tracks

($000)	**FY13**	**FY12**
Operating Revenues		
Tuition and Fees	$1,143	$1,285
Research Grants (total)	$2,629	$2,442
Total Operating Revenues*	$3,772	$3,727
Operating Expenses		
Salaries, Wages and Benefits	$1,395	$1,216
Research (total less PRT)	$2,100	2,000

Supplies, Services and General	$652	$600
Total Operating Expenses**	$4,147	$3,816
Operating Margin	-$375	-$89

*Excludes interdivisional, internally designated, and some state revenues for the institution that have been allocated to the program.
**Excludes institutional overhead.

Chart 2: Operating Revenues and Expenses for ODU MPH Tracks

($000)	**FY13**	**FY12**
Operating Revenues		
Tracks Tuition and Fees	$544	$210
Research Grants (total)	$492	$713
Total Operating Revenues	$1,036	$923
Operating Expenses*		
Salaries, Wages and Benefits	$879	$698
Research (total less PRT)	$353	$645
Supplies, Services and General	$24	$20
Total Operating Expenses	$1,256	$1,363
Operating Margin	-$220	-$440

*Allocated portion of the School of Community and Environmental Health's operating expenses based on proportionate faculty effort.

It is very important to note that <u>the Joint MPH Program, unlike virtually every public school MPH program in the U.S., does not receive line item state funding.</u> Expansion of the MPH program into a School of Public Health will require significant state funding as indicated below, which is the norm for these programs operated in public institutions.
In terms of faculty resources, the Joint MPH Program has a strong foundation. Based on a detailed analysis of CY2013, the full-time equivalent (FTE) faculty by track is as follows:

Chart 3: MPH Program Full-Time Equivalent Faculty CY13, All MPH Program Activities (Excludes Adjuncts)

Track	Spring 2013 FTE	Summer 2013 FTE	Fall 2013 FTE	Average 2013 FTE
Epidemiology	3.3	3.2	3.4	3.3
Health Mgmt.	2.3	2.3	2.3	2.3

Env. Health	4.1	1.6	3.8	3.0
Health Prom.	3.7	2.0	3.8	3.2
Unassigned	0.8	0.8	0.8	0.8
Total	14.2	9.9	13.6	12.6

For an MPH program to be accredited, the Council on Education for Public Health (CEPH) requires at least three full-time faculty who dedicate .50 full-time equivalence or greater effort to the public health program's teaching, research and service for each track, concentration or specialization in the unit of accreditation that offers master's-level education. For the Joint MPH Program and its four tracks, this translates to a requirement of at least 12 full-time faculty who dedicate at least 6 full-time equivalence in total. As the chart above shows, the Joint Program has over 12 FTEs compared to the CEPH requirement of 6 FTEs. In total, there were 31 faculty (17 full-time and 14 adjunct/community) who taught at least one course in any of the four MPH tracks in CY 2013, again above the CEPH standard. The fact that the number of faculty exceeds CEPH requirements is positive in the sense of representing a strong base on which to expand. It also indicates some of the complexity of a collaboration between two institutions, which requires more planning and coordination, and therefore more time. As the Program grows into an SPH, it will be important to streamline the collaboration and gain efficiencies associated with more students (e.g., larger course sizes).

Enrollment and Faculty Resources for a New SPH

Moving from the existing Joint MPH Program to a fully accredited SPH will likely involve a timeframe of approximately eight years once funding sources are identified. During this period, funding will be increased, faculty and programs will be added, and enrollment will grow. The addition of faculty will include both newer and more seasoned individuals, who will come from outside the institutions as well as from inside, given the expertise that exists in other programs at both institutions.

The following chart indicates a reasonable progression in the growth of enrollment and faculty from FY2017-2021. It is assumed that commitments for required funding will take two years (FY15 and FY16) to gain, after which faculty, enrollment and programs will begin to grow. Based on SCHEV guidelines, student to faculty ratios of 7:1 for master's programs and 5:1 for doctoral programs were used in these projections. The projections assume that faculty will spend half time on teaching and one-quarter of their time on each of research and service. Beyond the benefit of producing skilled graduates, the faculty's research and service activities will provide great benefits to communities in the Commonwealth, building service capabilities and new approaches to addressing public health issues.

Chart 4: Projected Enrollment and Faculty (FTE)

	FY 17	FY 18	FY 19	FY 20	FY 21
Students					
MPH Students-IS	83	95	107	119	143
MPH Students-OS	11	13	15	16	19
Doctoral Students-IS	14	16	18	20	24
Doctoral Students-OS	2	2	2	3	3
Total	110	126	142	158	189
Faculty					
Core Faculty - Existing	12	19	21	24	26
Less: Faculty Attrition	-2	-2	-2	-3	-3
Add: New Faculty	9	5	5	5	8
Total Core Faculty	19	21	24	26	31

Financial Resources for a New SPH

Based on enrollment and faculty increases along with other revenues and expenses, financial projections were developed. Key assumptions in the projections include:

- Average faculty salary of $135,000 based on data from the Association of Schools of Public Health
- Non-faculty instructional cost of 44% of faculty salaries based on SCHEV guidelines (40%) plus 4% for additional expense of on-line programs
- 36.3% fringe rate that represents ODU's current rate
- 40% indirect cost rate based on SCHEV guidelines (applied to total instructional cost)
- A stipend of $25,000 per year for all doctoral students
- Tuition equal to other state institutions (separate in-state and out-of-state rates)
- 100% tuition relief for doctoral students
- All faculty extramural research funding assumed to be offset by required additional expenses

The resulting financial projections are shown below for the FY17-21 time period.

Chart 5: Preliminary Financial Projections for New Joint School of Public Health ($000)

	FY 17	FY 18	FY 19	FY 20	FY 21
Revenue					
Tuition-MPH-IS	$ 964	$ 1,124	$ 1,290	$ 1,462	$ 1,789
Tuition-MPH-OS	$ 258	$ 301	$ 346	$ 392	$ 480
Total Revenue	$ 1,223	$ 1,425	$ 1,635	$ 1,853	$ 2,269
Expenses					
Core Faculty	$ 2,673	$ 3,067	$ 3,476	$ 3,900	$ 4,701
Non-Faculty Instructional Cost	$ 1,176	$ 1,349	$ 1,529	$ 1,716	$ 2,068
Fringe Cost	$ 1,397	$ 1,603	$ 1,817	$ 2,039	$ 2,457
Total Instructional Cost	$ 5,246	$ 6,019	$ 6,822	$ 7,654	$ 9,227
Indirect Cost	$ 2,098	$ 2,408	$ 2,729	$ 3,062	$ 3,691
Doctoral Student Stipend	$ 410	$ 478	$ 548	$ 621	$ 760
MPH Scholarships	$ -	$ -	$ -	$ -	$ -
Faculty Start-Up Packages	$ 372	$ 192	$ 206	$ 221	$ 354
Total Expenses	$ 8,125	$ 9,097	$ 10,305	$ 11,558	$ 14,031
Annual Required Funding	$ 6,903	$ 7,671	$ 8,669	$ 9,704	$ 11,763

Note that this study has not included estimates for capital spending such as space and IT infrastructure.

While these projections represent a preliminary estimate that is subject to much refinement, it indicates the magnitude of additional funding (beyond tuition, fees and extramural research) that will be required for a new SPH. This level of additional funding is not uncommon among SPHs at publicly funded institutions. For example, two SPHs that are recently or currently ramping up to full accreditation, Georgia State University and West Virginia University, receive 100% of faculty funding (GSU) and the majority of all funding (WVU) from their respective state legislatures. In the projections above, over half of the required funding will need to come from the Commonwealth and other philanthropic sources.

Immediate next steps include an internal (the two institutions) review of the work to date and meetings with deans of several other SPHs. The business plan will be refined through these reviews, after which meetings with key stakeholders (Commonwealth officials, CEPH, SCHEV, potential partners/employers and other prospective funders) can occur.

The consultant on this project was Straight Path Management, Inc.

Appendix B

Strengths, Weaknesses, Opportunities, and Threats Analysis for a New EVMS-ODU School of Public Health January 2014

Strengths

Strengths of Existing MPH Program
1. CEPH accredited 2. Alignment with institutions' community focus mission 3. Online delivery capacity and expertise (2011-2012 internet delivery: 19,409 students) 4. Caters to people in the workforce (4th quarter 2012: 84,530 jobs in Health Care and social Assistance sector)
Strengths of EVMS and ODU
1. Combined strengths of EVMS' medical school and ODU's research enterprise 2. Modeling and simulation capabilities 3. EVMS Brock Institute and ODU Center for Global Health address critical community health issues locally and nationally through "clinical, public health, and research enterprises" 4. Faculty, courses, and programs outside of MPH Program that can accelerate growth of other programs for SPH (School of Nursing received No. 2 and No. 10 spots in the first-ever compilation of Top Online Programs by U.S. News & World Report. The ODU program ranked second among the nation's nursing schools for admissions selectivity and 10th for student services and technology) 5. Relationships and proximity with regional hospital systems (Sentara, Riverside, Bon Secours, CHKD, Chesapeake – ODU Board of Visitors membership includes Mr. Bernd, Chief Executive Officer of Sentara Healthcare) 6. ODU international student body, global marketing and outreach 7. Large enrollment of ODU and EVMS combined (2012: 25,190 enrolled) 8. President of EVMS and ODU's Dean of Health Sciences have experience in Schools of Public Health) 9. Strong local philanthropy of ODU and EVMS; relationships with key donors 10. Ph.D. Program in Health Services Research at ODU
Strengths of Region
1. Large and diverse population (2011: Weldon Cooper Center for Public Service, University of Virginia, published REGIONAL PROFILE: HAMPTON ROADS: White 57%, Black 32%, Asian 4%, Hispanic 5%, Other 3%) 2. Established public health organizations with a global reach (Operation

Blessing, Operation Smile, Physicians for Peace, American Red Cross, American Cancer Society, LifeNet, etc.)
3. Large health systems with excellent financial resources
4. Large military presence with significant financial resources
5. Headquarters of WellPoint's government division
6. Sentara Quality Care Network (SQCN) that is working collaboratively to improve quality healthcare (2400 providers)

Weaknesses

Weaknesses of Existing MPH Program
1. Not well known; little marketing 2. Limited career placement program 3. Lack of practical business management skill development applicable to healthcare 4. Two separate Information Technology systems and platforms for course delivery and administrative functions 5. Lack of continuity of Program leadership 6. Faculty teaching load lower than typical MPH Programs 7. Uneven quality of the student body 8. Too few faculty in Health Management & Policy track
Weaknesses of EVMS and ODU
1. Statutory and regulatory requirement differences between private and public schools creating different policies and procedures 2. Relationship with Sentara
Weaknesses of Region
1. Historically weak in attracting state funding compared to Northern Virginia

Opportunities

Opportunities for a SPH
1. New program that can be specifically designed to meet the needs of the regional and state-wide market a. Programs/Certificates for the workforce; there is a large number of healthcare workers who are prospective students b. ACO-type skills such as data analytics/predictive analysis/modeling & simulation, etc. c. Military health issues (e.g., PTSD) d. Global health as it relates to the port and the spread of diseases

e. Seaboard issues such as global warming, sea level increase, and storm activity
2. Strong online capability that can reach students globally as well as regionally
3. Partnerships with regional healthcare organizations
    a. E.g., WellPoint funds a chair, contributes faculty; SPH offers programs tailored for employees
4. Large local market of healthcare professionals needing public health training
5. Partnerships with other higher education institutes in Virginia
6. Potential employment opportunities in region (market this to attract prospective students)
7. Attract stronger MPH candidates for a potential Ph.D. pool
8. Develop two other Ph.D. programs or consider a Dr.PH (Doctorate in Public Health), which is a professional degree of interest to mid-career professionals
9. Combine the two research centers in Global Health
10. Become a resource for the State Health Department and Legislature on public health policy and program implementation

Opportunities for EVMS and ODU

1. Improves academic reputation of EMVS and ODU (halo effect) including national rankings
2. Bring undergraduate students to ODU who also want a degree from the SPH
3. Attracts world class faculty
4. Increase in growth of EVMS and ODU students and faculty (need for more professionals having public health skills)
5. Provides growth opportunity for current faculty

Opportunities for Region

1. Improved health as faculty and graduate help the region (especially regional challenges, such as metabolic disease/diabetes, etc.)
2. Improved ability to manage environmental risks, such as hurricanes and effects of global warming (e.g., sea level changes)
3. Increase jobs; attract healthcare organizations that would benefit from proximity to a SPH
4. Contributes to vision for a planned regional health center
5. First SPH in Virginia
6. Healthcare related start-ups by SPH graduates (data analytics/predictive analysis/modeling & simulation)
7. Increased tax revenues
8. Pipeline of public health leadership for region and state
9. Attracts research resources to help solve regional and state health issues
10. Facilitates health promotion in a diverse population and cooperation among

healthcare providers and advocates
11. Destination/national center for specific public health issues
12. Capitalize on the reprogramming of military investments into modeling and simulation
13. Research enterprise can enhance reputation of regional hospital systems

Threats

Competitors
1. Proximity to Johns Hopkins and UNC Chapel Hill SPHs 2. Inability to define niche attractive to enough prospective students 3. Other institutions' interest in developing SPH
Financial Resources
1. Inability to secure funding from Commonwealth 2. Inability to secure resources from regional healthcare organizations and private donors 3. Inability to secure grant funding
Internal Factors
1. Fragile foundation: existing program is underfunded and "borrows" a large number of faculty from other programs; difference in two institutions 2. Lack of leadership continuity at Program level 3. Inability to attract quality SPH faculty 4. Different tuition, salaries, cultures, and contracts across institutions
Accreditation
1. CEPH's requirement that in a joint Program/School at least one of the institutions must have all required capabilities 2. Time requirement for CEPH accreditation
Federal Regulation
1. Roll-out of ACA and other health related regulations; uncertain direction and impact

Appendix C

Deans' Report – School of Public Health

Memorandum

To: David Harage, Shelley C. Mishoe, Ph.D., Richard V. Homan, M.D.
C. Donald Combs, Ph.D., Brian C. Martin, Ph.D., M.B.A.,
Deanne Shuman, Ph.D.

From: Michael P. Erksen, Sc.D., Phillip L. Williams, Ph.D.,
Edwin Trevathan, M.D., M.P.H.

RE: Opportunities for EVMS-ODU Public Health: Report of Consultation visit June 11-13, 2014

Date: June 30, 2014

After a successful collaboration in public health education with a Master of Public Health (M.P.H.) degree, accredited by the Council on Education in Public Health (CEPH), Old Dominion University (ODU) and Eastern Virginia Medical School (EVMS) seek to extend their collaborative efforts. As a partnership, EVMS and ODU are considering a multi-year endeavor to develop a CEPH-accredited school of public health – the first accredited school of public health in Virginia.

Drs. Phillip L. Williams, Michael P. Eriksen, and Edwin Trevathan, who are deans and professors at established schools or colleges of public health, were consulted by ODU and EVMS regarding the feasibility of an EVMS-ODU School of Public Health. The feasibility of an EVMS-ODU School of Public Health and other options were considered during a site visit on June 11-13, 2014. This memo is a report of that consultative visit.

I. EVMS-ODU Current Status

<u>M.P.H. Program</u>

The EVMS-ODU partnership has a record of a shared, now accredited, M.P.H. program for almost 15 years. Although the M.P.H. program now offers four of the minimum five instructional tracks required for an accredited school of public health (SPH),

investments would be required for a SPH to have the required minimum of five (5) full-time faculty members in each of the core disciplines.

Number and Availability of Current Faculty to form a SPH

Accredited schools of public health are required to have a minimum of five full-time faculty members in each of the five core components of public health. The current number of full-time faculty members, across both the EVMS and ODU, potentially available to be contributed to a new SPH are estimated below.

- Zero of the minimum five Biostatistics full-time faculty members.
- Three of the minimum five Epidemiology full-time faculty members (all of whom are at EVMS).
- Three of the minimum five Health Policy and Management full-time faculty members (at EVMS).
    - In addition to the three HPM faculty members at EVMS, there is approximately 1 full-time equivalent (FTE) distributed among a few faculty members at ODU in the PhD program in Health Services Research. However, the requirement for five full-time faculty members does not include additional FTE equivalents.
- Approximately four of the minimum of five full-time faculty members in Behavioral Science, Health Promotion and Behavior (all four at ODU).
- Three of the minimum five full-time Environmental Health faculty members at ODU.

Two global health entities, one at EVMS and one at ODU, are not directly related to the M.P.H. program, and are not clearly integrated or actively engaged in collaboration at this time in their development. The Center for Global Health (CGH) at ODU emphasizes service learning, outreach, and study abroad. CGH seems to emphasize community-based research and service collaborations between ODU and community partners “locally and globally”. Independently, the M. Foscue Brock Institute for Community and Global Health (BI) at EVMS emphasizing education and training of the next generation of physicians and health care professionals, with some emphasize on research. The BI (apparently one faculty line) and the CGH (two faculty lines) have not directly collaborated. It is not clear as to whether these global health faculty lines would be available for a new school of public health. There is potential to merge these two existing global health units into a single, stronger entity under the school of public health.

Assuming that movement of all potential faculty members from their current units to a new school of public health would be accomplished, we estimate that a minimum of twelve new full-time faculty positions would be required to meet minimum requirements for accreditation as a school of public health.

Organizational Scope and Governance

Accredited schools of public health are required to have a minimum of twenty-five full-time faculty members (five in each of the core disciplines), with a dean who reports to a provost (or a VP level executive to whom all of the other deans report). Furthermore, accredited schools of public are expected to house or lead the public health (including global health) programs within their university. Competitive public health units within a university that house an accredited school of public health is viewed negatively.

Accredited schools of public health must have a Ph.D. program(s). The ODU Ph.D. program in health services research is a key program within the College of Health Sciences at ODU. However, as with the global health faculty (within the BI and the CGH), the Ph.D. program has its own identity at ODU and in the College; the College appears to be reluctant to give up its Ph.D. program to launch an accredited school of public health.

The School of Community and Environmental Health at ODU houses a B.S. in Health Sciences with a concentration in Public Health and a B.S. in Environmental Health, as well as an accelerated program from the B.S. in Environmental Health to the M.P.H. Undergraduate public health programs are not required for accreditation for schools of public health. Yet accredited schools of public health consider housing undergraduate public health programs within the school of public health as essential. Any perceived competition from public health majors (including environmental health) within the university outside of the school of public health would not be viewed favorably by CEPH, and may make financial viability and recruitment of a new dean challenging.

The units currently housing the required faculty core disciplines of public health, the units housing the independent global health programs (BI and CGH) and the Ph.D. program in health services research, and the unit housing the undergraduate public health majors may resist the loss of some of these key programs and faculty members, which serve a key role within their respective schools and colleges.

II. Program Niche and Long Term Focus Areas of Excellence

In considering next steps in the growth of the CEPH-accredited public health program at Eastern Virginia Medical School and Old Dominion University (EVMS-ODU), it is important to articulate a vision for the future that will differentiate EVMS-ODU from other schools and programs of public health and best meet the needs of the communities that the universities serve. This program niche or area of focus should build upon the current strengths of the institutions, address the needs of the community, as well as provide distinction and differentiation for public health at EVMS-ODU.

Following review of existing materials and discussion with leadership at the two institutions, the following recommendations are made for your consideration as strategic areas of focus for the evolution of public health at EVMS-ODU:

- **Advancing Coastal Health Locally and Globally:** In many ways, Norfolk is defined by the challenges and opportunities associated with its coastal location. Its desirable location for living and relocation brings with it the opportunity for recruitment of outstanding faculty and students, as well as those seeking an enjoyable retirement. Similarly however, the coastal location brings with it the threats and challenges associated with climate change and the subsequent health disruptions that will be most dramatically experienced in coastal regions. The EVMS-ODU public health effort could focus its research in this area, building on the existing expertise at ODU on climate change and coastal conditions, and serve as a model for similar research and collaborations globally.

- **Promoting the Health of the Military Community**: Similarly related to its coastal location, the Norfolk area benefits greatly from its close relationship with its military population, retirees and dependents. Promoting the health of this group has never been more important, given the increasing mental health concerns associated with military service, as well as the increasing concern about the availability and quality of care provided. The EVMS-ODU public health effort has the opportunity to focus on military health by integrating medical and public health services so as not to only benefit the individual but to advance the health of this special and honored population.

- **Bridging Health Care and the Community:** Similar to the focus on military health, he EVMS-ODU public health effort could extend its expertise to the larger Norfolk community to build strong bridges in the community where medical practice is combined with prevention programs to meet the expectation of Accountable Care Organizations in terms of population health.

III. Options for the Future

The current relationship between EVMS-ODU is long-standing and offers a CEPH-accredited MPH program with concentrations in four of the five core public health areas. The program is established but principally limited to a master's level educational mission. In order to build a more robust research and service mission, consideration has been given to organizing the activities within a unit that would allow for greater recognition and synergism between the two universities. There are two obvious entities that would accommodate a change of this type – a CEPH-accredited school classification or a standalone institute. Either of these organizations would enhance the expansion of the current mission and the pros and cons of both are discussed below.

CEPH-accredited School of Public Health. The gold standard for public health academic units is the School (or College) of Public Health. The accreditation requirements are rigorous, inflexible, and resource intensive. An added challenge for EVMS-ODU is obtaining accreditation as a school reporting to two universities.

To achieve accreditation, many things would need to be done, including:

- Move existing public health units from their current reporting unit and place them within the new school. This change would be disruptive and weaken the units where they currently report.

- The new school would require a dean that answers to the same senior university executive (e.g., Provost) to whom other deans report.

- One of the two universities would need to have the capability to function as a standalone School of Public Health (i.e., independent of the resources of the other university) in the event that the arrangement between the two universities failed.

- A significant number of faculty would be need to be hired to meet the faculty requirements of the five core public health areas.

- New degree programs would need to be established including two additional doctoral degrees in public health and an MPH concentration in biostatistics.

In the past there were tangible reasons for making these changes that were based on the availability of external funding and professional recognition. Before only accredited-schools could be members of the Association of Schools of Public Health (ASPH) and many sources of external funding were limited solely to ASPH members. Within the last year, a new organization encompassing both accredited schools and programs has been created and is called the Association of Accredited Schools and Programs of Public Health (ASPPH). This association has folded into it both accredited-schools and accredited-programs. Many of the dedicated sources of external funding have been reduced by budget cuts and, the remaining ones, are available to all ASPPH members. The EVMS-ODU accredited MPH program is a member of ASPPH. As a result, the principal remaining advantage of being a “School” is recognition within the academic public health community and to a lesser extent within the general public.

Institute of Public Health. The formation of an “institute” allows EVMS-ODU to expand its current public health mission without the imposition of additional accreditation requirements. This organizational entity would provide additional recognition and an enhanced identity with the more efficient use of added resources. It also will move the current program towards the creation of a “school” if there is such a desire in the future.

The primary advantages of the forming of a public health institute as opposed to a “school” are:

- It allows for EVMS-ODU to continue their CEPH-accredited MPH program and membership in ASPPH.

- Although not the same as “school” or “college”, it does provide a recognized entity to build and expand public health capacity.

- It is much less disruptive to the current academic units where the programs now report while allowing for greater synergism between the two universities.

- It does not prevent the future consideration of creating a “school”.

- It allows greater control in the use of resources by not requiring degrees and prescribed numbers of faculty in areas of less demand (e.g., biostatistics).

The principal disadvantages of forming a public health institute are:

- It limits your public health degree accreditation to the MPH (i.e., the BS/PhD degrees within public health are not CEPH accredited).

- You will not be allowed to use the term “school” or “college” of public health in your name and the current void will continue in Commonwealth of Virginia.

IV. Summary/Recommendations

- An Institute of Public Health that coordinates faculty from both universities, and houses support staff for the Institute, is recommended as the next step in the successful collaboration between ODU and EVMS public health.
    - The Institute will be less disruptive to existing units within each of the universities, as the Institute model does not require that faculty members and programs (e.g., CGH, BI, Ph.D. program, and undergraduate public health programs) administratively move from their current units to a new school.
    - The Institute allows more flexibility in investing in new faculty lines, facilitating the development of areas of excellence rather than simply accommodating the minimum accreditation standards for a new school.
- The formation of an Institute of Public Health with a commitment to developing focused areas of excellence that serve the health of the people of Coastal Virginia, allows the joint EVMS-ODU to more rapidly develop national recognition in a very competitive market-place.
- The costs of the formation of an Institute (or a school) may be under-estimated. The costs of start-up funds for new faculty members, costs for support staff, and other costs are probably substantial, especially if pursuing an accredited school.
- The opportunity to expand the undergraduate public health (environmental health and public health) programs is significant, and may be a potential source of additional funding for the Institute (or school).
- An emphasis on building infrastructure to support public health research will be essential for a successful Institute, or in the future a successful accredited school of public health.

- Once an Institute is firmly established with strong programs within focused areas of excellence, then establishment of an accredited school of public health could then be considered.

Michael P. Eriksen, Sc.D.
Dean and Professor
School of Public Health
Georgia State University

Phillip L. Williams, Ph.D.
Dean and Professor
College of Public Health
University of Georgia

Edwin Trevathan, M.D., M.P.H.
Dean and Professor
College for Public Health and Social Justice
Saint Louis University

Appendix D

Governance Structure