



# Investing in the Cardiovascular Health of All Virginians

Pauley Heart Center Workforce Development,  
Education & Research Programs



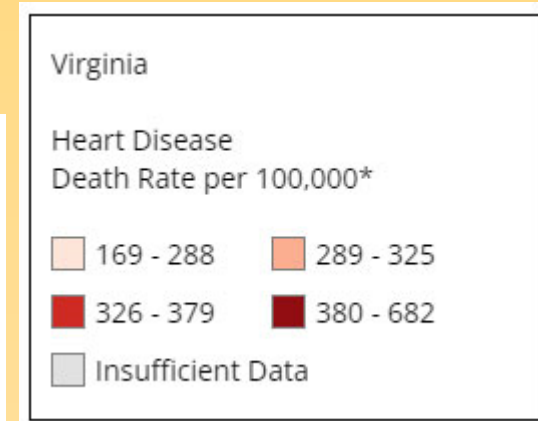
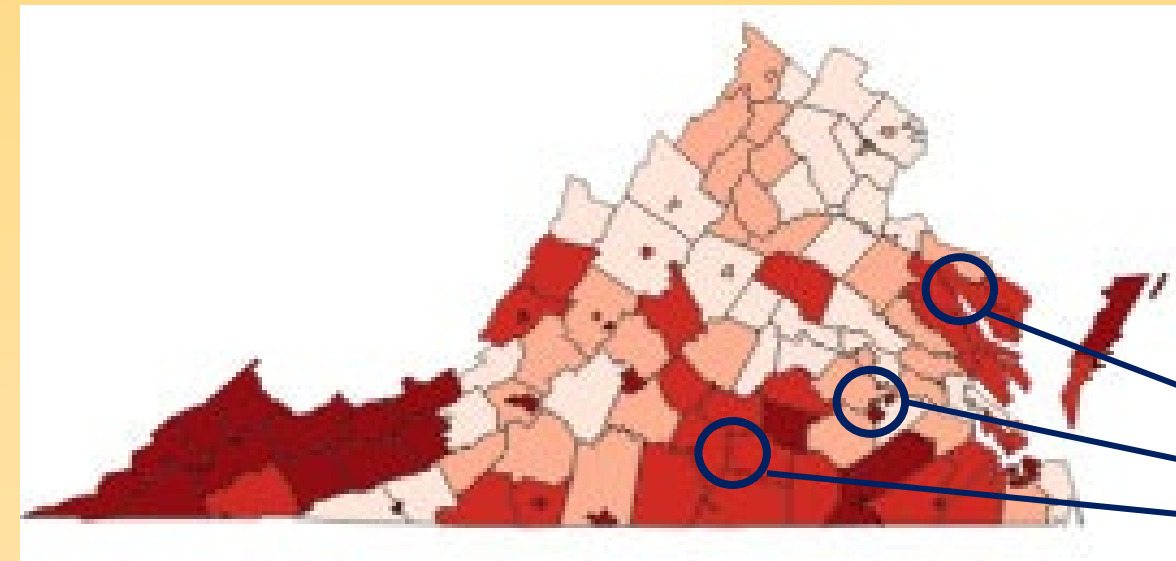
**VCU** Health™

Pauley Heart Center

# Cardiovascular Disease Facts

- CVD is the #1 cause of death & disease burden nationwide and in Virginia
- Cardiovascular workforce (clinical and research) has shrunk; in 2022, of the 487 cardiologists in Virginia, 38% are age 65 and older, while 17% are under the age of 40
- CVD disproportionately affects people with poor social determinants of health:
  - Rural Americans are 40% more likely to develop heart disease than those in suburban areas
  - >20-year gap in life expectancy between East and West Richmond residents
- However, most CVD events can be prevented with the right support and interventions

## CVD Death Rates by VA



Source: Virginia Department of Health

**Pauley Locations**

## Life Expectancy by RVA Neighborhood



Source: VCU Center on Society & Health

# Pauley Heart Center Facts

- #1 heart center in Virginia, per *US News & World Reports*
- Of 2M patient encounters at VCU Health in 2022, one-third were for CVD symptoms
- Pauley's mission reduces health disparities through:
  - **education** across lifespan
  - interdisciplinary, community-based **research** focused on prevention initiatives within our state
  - innovative cardiovascular **clinical care** while also building Virginia's healthcare workforce



## Workforce Development Pilot

# Cardiac Sonographer Training Program

- National & state-wide shortage of cardiac sonographers
- Two-year associates' degree program, administered in collaboration w/ Rappahannock Community College begun in fall 2023 thanks to budget support from General Assembly in 2022
- Median sonographer starting annual salary is \$81K
- Goal to expand to other VA community colleges



## Workforce Development Pilot

# Medical Assistant Training Program

- National shortage of medical assistants - at VCUHS, there are currently 294 unfilled vacancies
- Undergraduates at William & Mary work as part-time medical assistants, and receive college credit & clinical service hours for graduate medical education admissions
- Goal is to expand program to other locations in VA

# Partner Institutions:

CHRISTOPHER NEWPORT UNIVERSITY



## Research Workforce Development Undergraduate Research Fellowship

- Undergraduates at Virginia colleges & universities conduct cardiovascular research and participate in clinical rotations at Pauley/VCU Health:
  - 68 total students have enrolled over four years
  - 29 of these have graduated from their college/university; of these, 25 are pursuing a graduate degree in health, or medicine, or a STEM-related field
  - More than a third of fellows are underrepresented minorities in biomedical research
- Seeking funding to expand this program; partial co-funding by NIH and the AHA



## Workforce Development Critical Care Training

- Management of cardiogenic shock across the Commonwealth requires a coordinated approach
- Post-pandemic, critical care hospitals are inadequately staffed and resource-limited
- Funding needed to expand critical care coverage and support coordination and personnel training



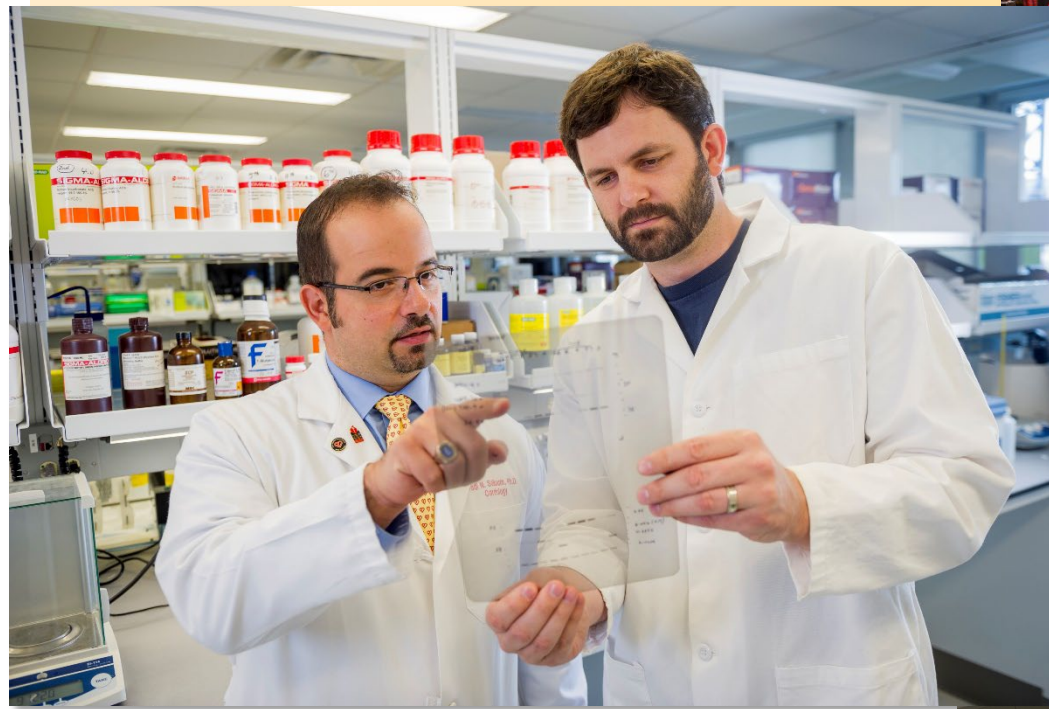
## Workforce Development Training Programs for Surgical Services Personnel

- Virginia's operating rooms are understaffed—at VCU 40% shortages in surgical tech, surgical PAs, and perfusionists
- Pauley's goals:
  - Surgical tech training program in partnership with CCs
  - Perfusionist graduate program w/in VCU School of Health Professions—no perfusionist school between Philadelphia, PA & Charleston, SC

## Research Workforce Development

# Clinical & Translational Research

- Recruit internationally recognized research teams to Virginia to enhance the state's CVD research infrastructure and workforce
- Particular focus on recruitment of:
  - Cardiothoracic surgeon with expertise in diseases of the aorta
  - Cardiovascular medicine expert in HFpEF (heart failure with preserved ejection fraction)



## Education & Outreach

# Community Advisory Boards (CABs)

- Seeking funding to create CABs across the state to facilitate bi-directional communications between citizens, clinicians, and researchers, with a goal of developing and implementing practical heart health interventions in communities

“Good science, impactful science is not done in a bubble; it takes the voices and contributions of everyone. My work is stronger when backed by the voices of the women who live the experiences I study. This is why I am a strong proponent for utilizing community advisory boards within research.”

**-Dr. Arnethea Sutton, Pauley researcher**



## Education & Outreach/Workforce Development

# Preventing Heart Failure Hospital Admissions & Readmissions

- Provide intensive HF outpatient case management training & tools across the state, including:
  - Transportation to clinics for appointments
  - Case managers to provide extensive patient support
  - Resources to address challenging social determinants of health
  - Assistance with forms and scheduling
- This program projects to save \$12 million in Medicaid expenditures annually



## Education & Outreach

# Continuing Education for Rural & Urban Providers & Citizens

- Expand our cardiovascular education programs for:
  - Primary and elementary school children
  - High school students
  - Family practice & internal medicine primary doctors
  - Nurse practitioners & physician assistants
- Programs deployed across the state, with a focus on rural and urban schools, hospitals, clinics, and offices





## Conclusions

- Cardiovascular disease (CVD) is the primary cause of morbidity and mortality in Virginia and disproportionately impacts many citizens in low-income and rural settings
- Virginia has both a shortage of CVD workers, and of educational/research programs or community-based interventions that facilitate understanding and treatment of CVD
- The Pauley Heart Center has developed, piloted and quantified metrics of programs that address these workforce shortfalls and gaps in CV understanding
- We thus seek General Assembly support for state funding to grow these programs across the Commonwealth, with the ultimate goal of reducing both health disparities and the burden of CVD in Virginia

### **Pauley Heart Center Faculty:**

Greg Hundley, MD, *Director & Chair*

Hem Bhardwaj, MD, *Vice Chair of Operations and Quality*

Vigneshwar Kasirajan, MD, *Chair, Department of Surgery*

Amy Ladd, PhD, *Associate Director*

Carrie Miller, MS, *Chief Development Officer*

Fadi Salloum, PhD, *Associate Director of Research, Mentoring, and Preclinical Science*

Arnethea Sutton, PhD, *Assistant Professor, Department of Kinesiology & Health Sciences*