

Health Related Research in WV Partnerships and Impact

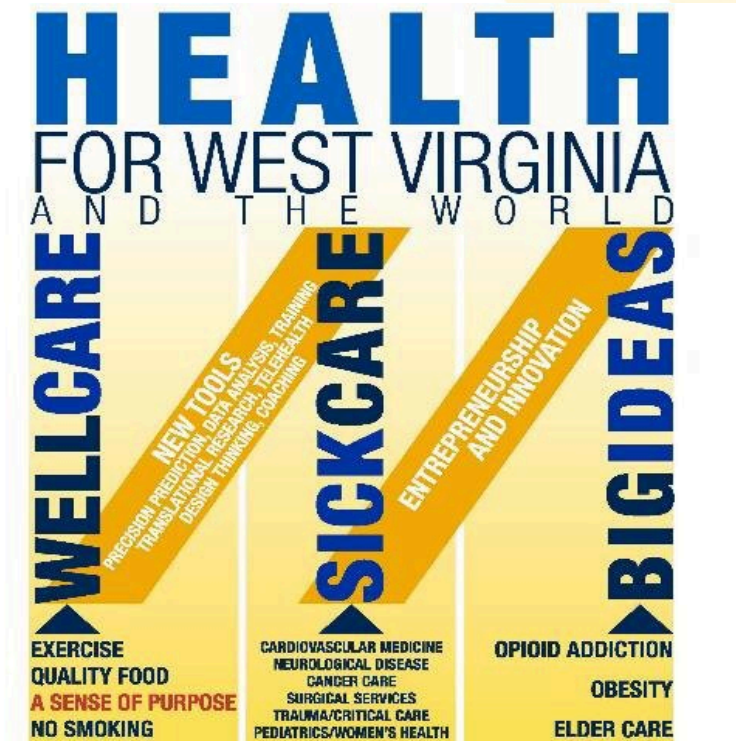
*Clay Marsh, MD
Executive Dean
and Vice President*

*WVU Robert C. Byrd Health
Sciences Center*

September 19, 2018



Alignment of Purpose

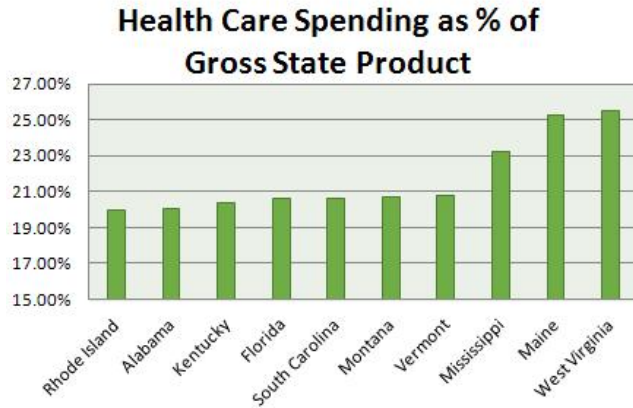


NIH: to seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce illness and disability.

<https://www.nih.gov/about-nih/what-we-do/mission-goals>



Focus on Real Problems



sources: Kaiser Family Foundation; Bureau of Economic Analysis

Identify solutions through collaborative TEAMS – bench scientists, community stakeholders and clinical and translational investigators

Secure funding to sustain inquiry, deliver innovative solutions and train the next generation

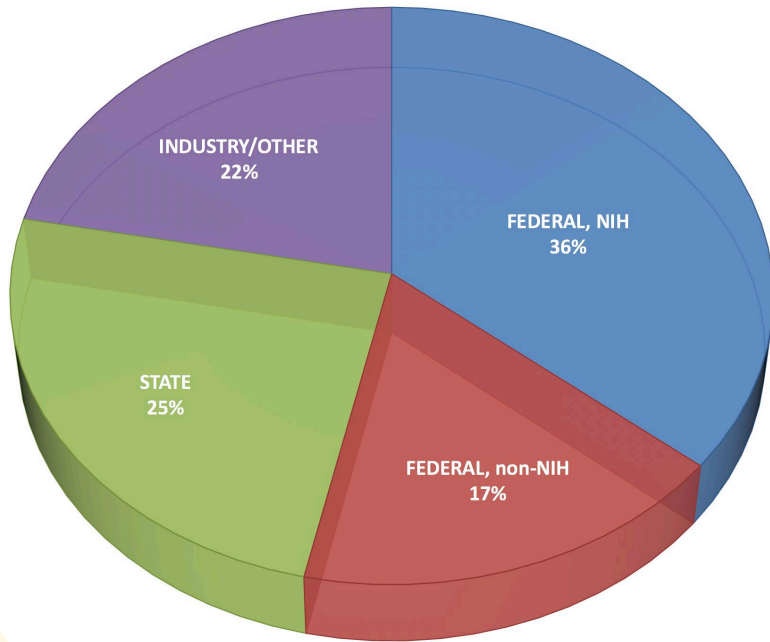
NIH will be increased by another \$2 billion to \$39 billion in FY 2019 NIH IDeA received a \$12 million increase to \$362 million

Support entrepreneurship, innovation and talent

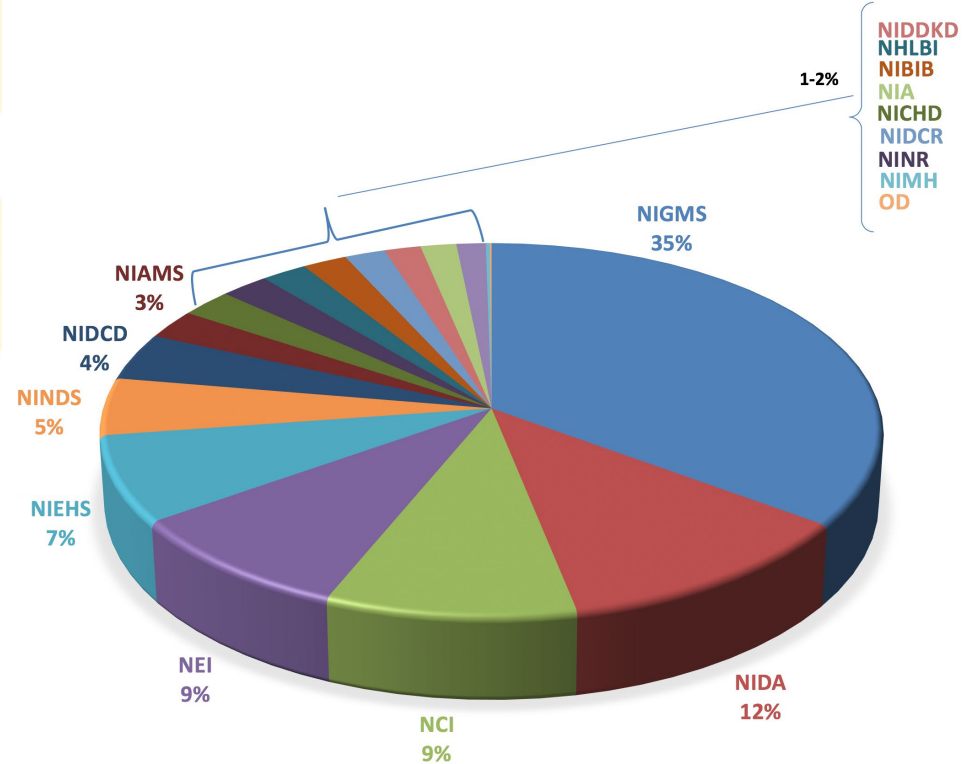
HVI – 1st in WV to perform robotic heart surgery to repair valves and perform coronary bypass grafting and 1st in WV to implant life saving artificial heart assist pump



FY '18 Health Related Research Funding



\$55.6M total



\$20.0M NIH

FY '19 to date ~\$19.1M (all federal agencies); (\$12.9M NIH)



The NIGMS/IDeA Program in West Virginia

Sensory Neuroscience CoBRE

Principal Investigator George Spirou, Ph.D., WVU
Phase I, II, and III September 30, 2000-September 15, 2016
Total award \$24.0 M

COBRE for Signal Transduction and Cancer

Principal Investigator Laura F. Gibson, Ph.D., WVU
Phase I,II, and III September 1, 2001 - June 30, 2018
Total award \$28.7 M

West Virginia Stroke COBRE

Principal Investigator James W. Simpkins, Ph.D., WVU
Phase I September 8, 2014 - May 31, 2019
Total Award \$10.6 M

West Virginia IDeA-CTR

Principal Investigator Sally L. Hodder, M.D.
Phase I-II August 15, 2012-June 30, 2022
Total award \$39.6 M

Tumor Microenvironment COBRE

Principal Investigator Paul R. Lockman, Ph.D., West Virginia University
Phase I December 1, 2018 - November 30, 2023
Total Award \$9.2 M

**Additional NIGMS/IDeA Marshall University led initiatives*



NIH supported T32s – Training a Creative Workforce

Pre-doctoral Training in Stroke and Its Co-Morbidities

(NIH/NIA 2017-2022; Jim Simpkins PI) -11 students supported to date > \$1.34M

Ashley Russell (Simpkins): Studying the role of extracellular vesicles (EVs) in stroke outcome, and has made the discovery that EVs carry microRNAs from damaged neurons to healthy cells that compromise mitochondrial function and may contribute to neuronal damage from stroke. Five publications and she has received 5 recognitions for the quality of her research at local, national and international meetings.

Savannah Sims (Meares): She is studying the molecular mechanism(s) of glial-derived neuroinflammation, which may be vital in stroke, Alzheimer's disease and multiple sclerosis. Two published papers and has received 3 awards for the quality of her research at local, national and international meetings.

Research Training Program in Behavioral and Biomedical Sciences

(NIH/NIGMS 2008-2019; Al Berrebbi PI) – 32 trainees supported to date > \$2.0M

~ 15 Associate Scholars received support for clinical immersion, travel, etc. in addition to the 32 trainees

97% completion/continuation rate, and 5.0 years average time to completion of PhD

Douglas Thornton moved directly to a tenure track faculty appointment at the Univ of Houston

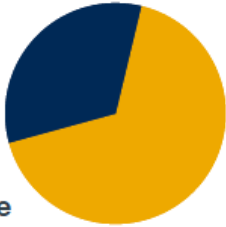


HEALTH SCIENCES GRADUATE STUDENTS

Dentistry / Medicine / Nursing / Pharmacy / Public Health

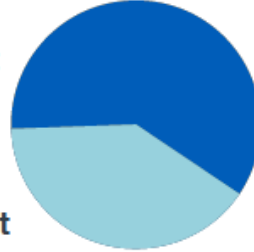
552 STUDENTS

27%
male



73%
female

67%
WV resident



39%
non-resident

- 1.3% American Indian/Alaskan Native
- 0.7% Hawaiian/Pacific Islander
- 5.2% Black/African American
- 81.9% White/Caucasian
- 1.9% Hispanic
- 9% Asian

Students from

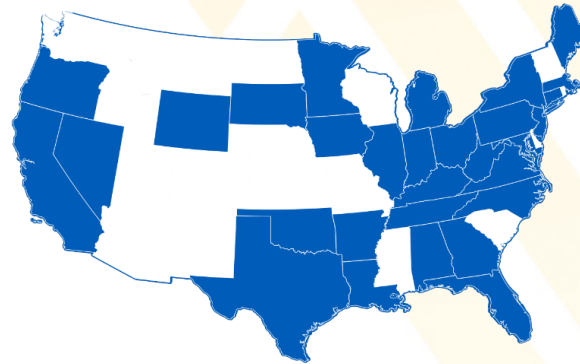
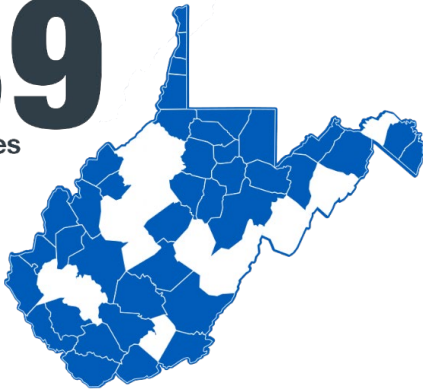
23

countries

Students from

39

counties



Students from

30

states



MD STUDENTS

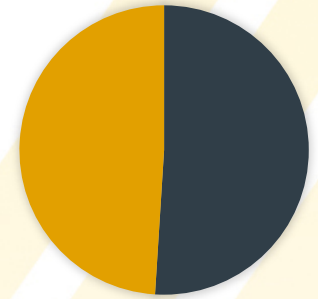
432 students



Students From
28
States

49% Female

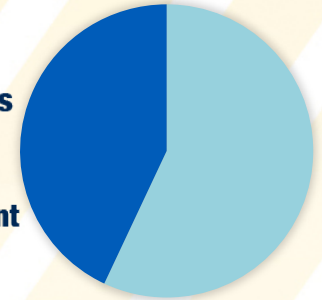
51% Male



Students From
25
Countries

57% Residents

43% Non-resident



- 3.7% Unknow
- .4 % American Indian/Alaskan Native/Hawaiian/Pacific Islander
- 2.1% Black/African American
- 71.5% White/Caucasian
- 7.6% Hispanic
- 14.5% Asian



CANCER INSTITUTE

Manage Cancer in West Virginia and Appalachia

State of the art clinical care for patients & their loved ones

Research, education, and service

Address health disparities

- Bonnie's Bus for Screening mammography and new Lung Cancer Screening bus travels statewide
- 74 active clinical trials with industry partners
- Epigenomics trial of a genome-based blood test for colorectal cancer done on Bonnie's Bus
- Caris Precision Oncology Alliance – Tumor genetic profiling for optimizing clinical outcomes and research
- UGI (NCI) Leading Academic Participating Site (PI: Goldberg) UM1 Cancer Moonshot Initiative (PI: Hazard Jenkins): Symptom Management in Rural Populations (Harvard collaboration)



Regional Impact

98,910	UNIQUE PATIENTS
10,403	SURGERIES PERFORMED
17,826	ADMISSIONS & OBSERVATIONS
5,850	BABIES BORN



WOMEN AND CHILDREN'S HEALTH

Enhance Child Health through Continued Focus on Research in Rural and Underserved Populations

- Funding from IDeA States Pediatric Clinical Trials Network
- Environmental Influences on Child Health Outcomes (ECHO)
- 456 Active Study Participants Across the State
- Areas of Research: Obesity, Perinatal issues, Neurodevelopment, Respiratory, and Child Health
- First Study Accessing Infant Exposure to Opioids and its Treatment – Fall 2018
- 77 Research Protocols

WVU HEART AND VASCULAR INSTITUTE

Provide the Most Advanced Possible Heart and Vascular Care for the People of WV and Beyond

- First in the nation device for innovative aortic valve repair technique
- First in the nation to enroll in innovative trial for catheter based mitral valve replacement device
- First in West Virginia to develop life saving extracorporeal life support program
- Leads West Virginia in treating atrial fibrillation with innovative therapies
- Over 300 peer-reviewed publications in internationally respected journals
- Named or primary in over 10 patent applications
- 10 national clinical trials brought to WVU



CRITICAL CARE/TRAUMA

Become a world leader in Critical Care/Trauma services to rural, distant and underserved areas through cutting edge patient care, innovation, education and community partnerships.

- **Stop the Bleed** - National Campaign to turn bystanders into first responders.
- **Military and Austere Medicine and Surgery** – to help train and make ready all those clinical personnel working in austere/rural environments to include the US Military.
- **Rapid Response Team** – Developed to catch patients before they decline through the use of technology and critical care training.
- **Comprehensive Critical Care Education Program** – to hone the skills of the experts and create great skills in younger generation.
- **Disaster and Emergency Preparedness** – to increase responsiveness to elevations in patient volume and to be prepared for natural disasters and mass casualties.
- **Safe Haven** – A resuscitation bed that is always on standby should a critically ill patient need emergent intervention.



ROCKEFELLER NEUROSCIENCE INSTITUTE

Transform the Lives of People through
Innovation in Patient Care, Research, and
Education

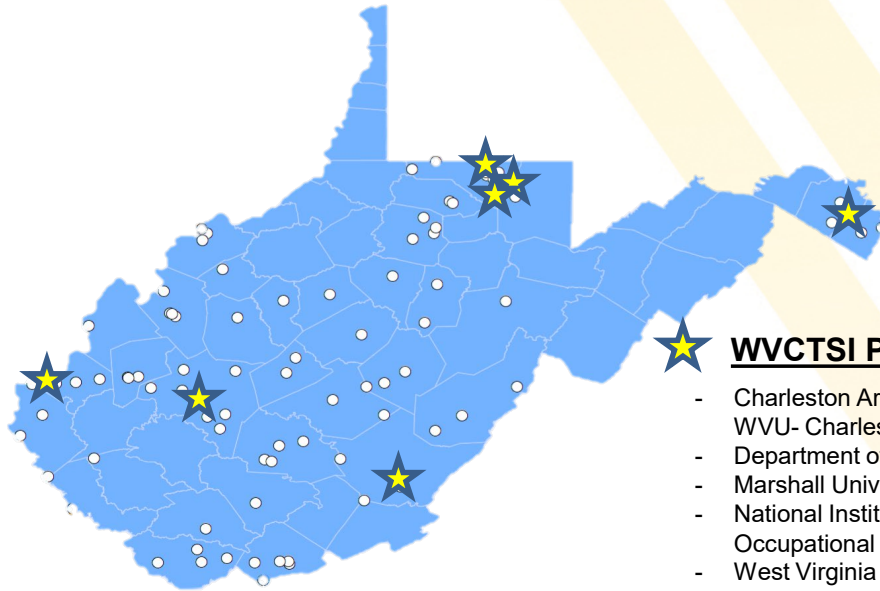


FUNDING AGENCY	TITLE	TOTAL AWARD
NIH-NIDA	Feasibility of Deep Brain Stimulation as a Novel Treatment for Refractory Opioid Use Disorder	\$6,143,084
NIH-NIGMS	Application of Transcranial Magnetic Stimulation Coupled with Virtual Reality for Slowing the Rate of Cognitive Decline in Patients with Alzheimer's Disease	\$362,550
NIH-NIGMS	Opioid Addiction Recovery Augmentation: Physiologically-Based Interventions	\$300,000



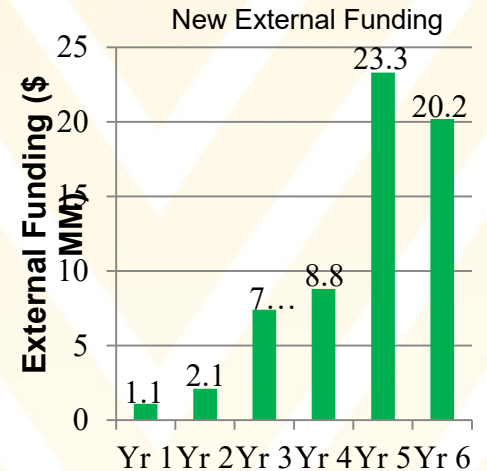
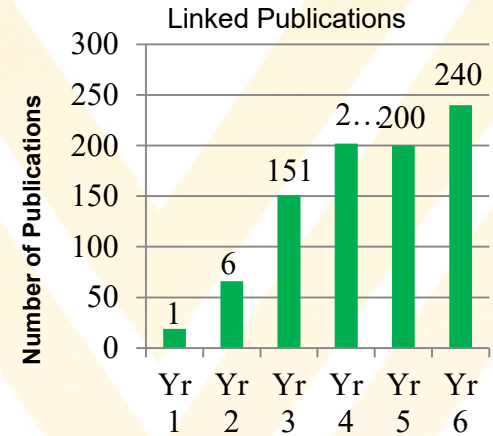
WV Clinical & Translational Science Institute

Total NIGMS-CTR funding: **\$39.6 MM**; Total WV institutional investment: **\$69 MM**



WVCTSI Partner Sites

- Charleston Area Medical Center/ WVU- Charleston
 - Department of Veterans Affairs
 - Marshall University
 - National Institute for Occupational Safety & Health
 - West Virginia School of Osteopathic Medicine
 - WVU & WVU Medicine
- WV Practice-Based Research Network Sites



In it together.....

