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Building Collaborative Research to Drive Improvement of West Virginia Health Outcomes

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Building Collaborative Research to Drive Improvement of West Virginia Health Outcomes

Mortality rates in Appalachia have not declined in recent years as they have for the remainder of the US¹ (Figure 1); Appalachian mortality rates have actually increased. Most counties of southern West Virginia have mortality rates well in excess of the US average.¹ West Virginia ranks at or near the bottom in most U.S. chronic disease categories, with the highest rate of drug overdose deaths² and near the highest rates of cancer³ and cardiovascular mortality.⁴ And yet, West Virginia has many dedicated health care providers, committed to the care of their patients. The West Virginia Clinical and Translational Science Institute (WVCTSI) seeks to facilitate finding solutions for vexing health problems in West Virginia, working with the many committed healthcare providers to collaboratively improve health outcomes in our state.

WVCTSI was created in 2012 through the initial Clinical and Translational Research (CTR) award from the National Institutes of Health (NIH). Though located on the West Virginia University

campus in Morgantown, WVCTSI has over the past 5 years formed a well-connected, statewide health research network, creating infrastructure to address the substantial health issues of WV. The importance of this mission has recently been reaffirmed. This summer the WVCTSI successfully competed for a five-year, \$20 million grant renewal from the NIH. Reaffirming their dedication to this mission, partners from across the state (Figure 2) have contributed an additional \$35.5 million to create a healthier state through biomedical research.

WVCTSI structure includes 8 cores (Figure 3) providing a broad range of services that include funding for pilot projects, establishment of a statewide specimen bank, and research design, epidemiology and biostatistical expertise. An electronic data warehouse comprised of 2.3 million lives has been established, providing a rich resource for outcomes research and predictive modeling.

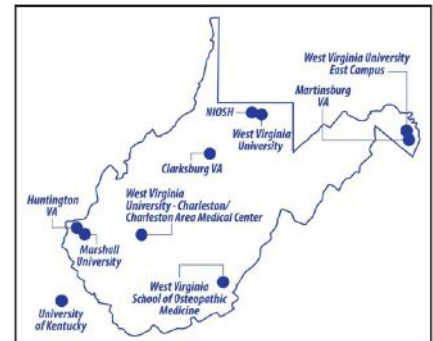


Figure 2. Geographic distribution of WVCTSI partners

Critically important to the success of the WVCTSI are three important cross-cutting themes:

- 1. The Clinician Scientist** – Clinician scientists are an endangered species,⁵ yet have never been more important to improving human health. WVCTSI is training and supporting the clinician scientists of tomorrow – able to frame the right questions and work in teams to find answers. Our professional development and pilot funding initiatives seek to not only address investigators in academic medical centers but to facilitate partnerships with healthcare providers on the frontlines of patient care.
- 2. Sustainability** – Future sustainability of research infrastructure demands effective development of commercialization strategies. Innovative approaches to maximize external investment and successful commercialization are woven throughout WVCTSI programs. Working with the WVU Innovation Center, guidance is available to investigators seeking to protect intellectual property and pilot funding is available to projects seeking to reach important commercial development milestones.
- 3. Rural populations** – Rural populations have historically

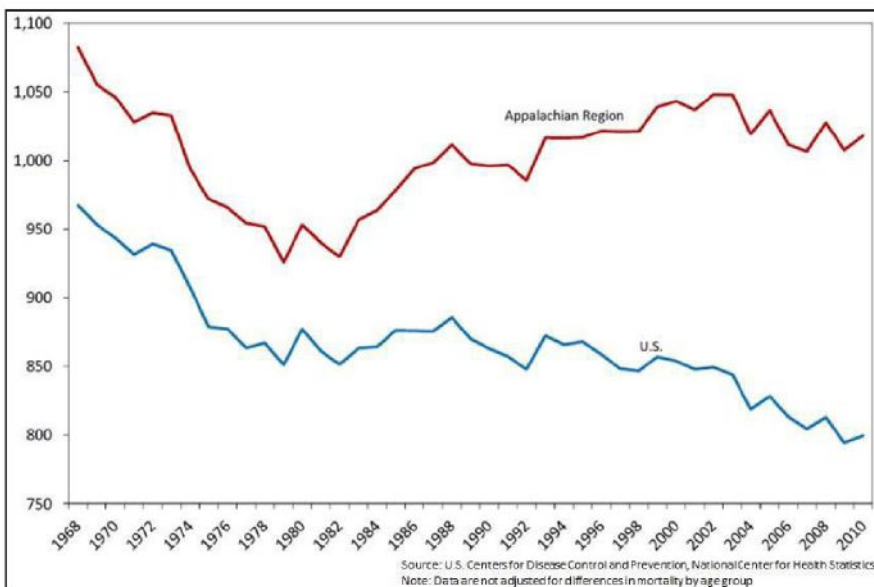


Figure 1. Mortality rates (per 100,000)



Figure 3. Cores comprising WVCTSI

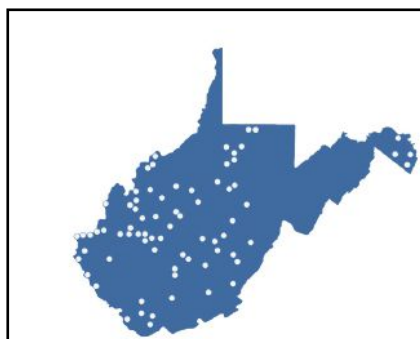


Figure 4. WPVBRN site locations

been underrepresented in clinical research. Health concerns of individuals residing in rural communities are the theme around which WVCTSI research agendas are built. Critically important to the implementation of relevant research in rural West Virginia has been the creation of the West Virginia Practice-Based Research Network (WVPBRN), led by two prominent primary care providers, Dr. William Lewis and Jennifer Boyd. The WVPBRN is a 74-site (Figure 4) formal network for conducting studies that address important health issues in West Virginia. This highly productive network has already conducted 34 projects with most sites participating in one or more projects. These projects have addressed a broad range of areas

including cardiovascular disease, addiction, emerging epidemics (e.g., hepatitis C), and chronic lung disease. To date, over 2600 patients and 274 providers have been involved in one or more projects that have resulted in nearly 50 health policy and practice changes. An important policy change to which PBRN research contributed was the decision by West Virginia Medicaid to reimburse diabetic eye scans in primary care offices.

Although much has been accomplished over the past five years, there is much left to do. Cultural and geographic conditions continue to be a challenge to improving the health of West Virginians. An aging population in a rural environment with prevalent poverty, and an emergent opioid addiction epidemic with its attendant complications directly contribute to the poor health status of West Virginians. Nonetheless, the established productive statewide collaborations, an impressive list of talented investigators, effective connections with rural communities, and 1,480 members all poise WVCTSI to be a driving force for improving health outcomes in West Virginia. If you would like further information or to become a WVCTSI member, visit wvctsi.org.

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