To address the unique challenges faced by cancer patients in rural areas, communities and organizations throughout Appalachia and Southwest Virginia are partnering with the University of Virginia Cancer Center to advance a virtual hospital — *UVa’s Cancer Center Without Walls*. This effort is designed to better provide patients with advanced cancer care and clinical trials close to home.

Funding for the center comes from an 18-month, $965,000 grant awarded by the Virginia Tobacco Indemnification and Community Revitalization Commission. Funding began Jan. 1, 2013.

Because of the rural nature of Virginia’s tobacco regions, many citizens do not have access to clinical trials and specialists available at NCI-designated cancer centers, such as the UVa Cancer Center. In this effort, the virtual cancer center takes full advantage of the extensive broadband network in Southwest Virginia to expand telemedicine initiatives and increase access. While the region has excellent cancer physicians and centers, this partnership with UVa facilitates two key objectives:

- **Increase access to advanced care and clinical research**: UVa is collaborating with local healthcare providers, health systems and organizations to increase the number of patients with access to screening, education, and advanced cancer care (including genetic evaluation). One example: UVa is collaborating with local health systems to offer telemedicine opportunities for breast and cervical cancer screenings.

- **Bring advanced cancer care and clinical research close to home**: UVa is working with the region’s medical centers to train healthcare providers and develop a structure that improves access to advanced care and clinical trials.

A National Cancer Institute study identified five geographical clusters in the United States with elevated levels of cervical cancer morbidity and mortality; one cluster is in far Southwest Virginia. The UVa Health System, the Healthy Appalachia Institute, and the Virginia Department of Health have continued their partnership championing cervical cancer screenings in the region. A video-colposcopy program has already provided
over 200 women with a telemedicine connection to specialty care. It has also resulted in colposcopy training for five nurse practitioners in the area, increasing the number of local health care providers qualified to perform this procedure by a factor of five. Expansion efforts have begun within the video-colposcopy pilot to two more sites as an avenue to developing a robust, nurse practitioner-guided network throughout Southwest Virginia.

- In addition to cervical cancer screening, UVa continues to be active in helping to reduce mortality from breast cancer by providing over 2,000 mammograms to women in Southwest Virginia over the last four years. UVa’s mobile mammography van is able to serve women even in the most remote areas of the Coalfields which have extremely limited access to specialty care.

- The University of Virginia Office of Telemedicine continues to provide specialty clinical services and health education throughout Southwest Virginia using an extensive network of telemedicine sites. There are now more than 30 active telemedicine sites in the region, with a substantial growth in mental health services. In 2015, the Office of Telemedicine continued their partnership with the Virginia Center for Diabetes Education to offer certified patient education in the region.

- With support from the Tobacco Commission, UVa has updated the aging technology at three sites to establish what is emerging as a secure, state-of-the-art, high definition network. Clinics offered in Southwest Virginia in FY15 include cystic fibrosis follow-up in Saltville, or wound and ostomy care in Wise and Bland, and screening for diabetic retinopathy in Wise and Laurel Forks. Additionally, as sites for mental health services continue to expand with robust clinics in child and family psychiatry. Other new clinics in 2015 include surgical follow-up care and the expansion of employees assistance services through video-conferencing. The program’s active pediatric telemedicine program including services in child neurology and pediatric orthopedics continued in the partnership with Care Connection for Children.

- Through Tobacco Commission support and the commitment of the UVa Health System, a new mobile mammography van has been purchased that will bring digital tomosynthesis to the women of the Coalfields by creating a state of the art, 3-
dimensional image of the breast to further enhance early detection of disease. The van begins work in the region in July and will be used in a research initiative through Dr. Jennifer Harvey to explore the impact of expedited review of mammograms in securing diagnostic follow-up.

- The UVa Center for Telehealth, Office of Telemedicine and HAI partnered also with the New College Institute to offer the first telehealth certification program in the Commonwealth of Virginia. The **Southside Telehealth Training and Resource (STAR) Center** is a premier training program that provides basic competencies in state-of-the-art technologies and clinical protocols. Topics include an overview of videoconferencing technology and medical devices used in the clinical setting, installation and operation of remote patient monitoring equipment in the home setting, and the roles and responsibilities of telehealth staff. Successful completion of the program results in a certificate from the National School of Applied Telehealth as either a Telemedicine Clinical Presenter/Technology Professional or Telehealth Coordinator/Technology Professional. Over 350 health professionals were trained in 2014 and 2015 with new modules in mental health and stroke coming on-line in the fall of 2015.

- The **Blueprint for Health Improvement and Health-Enabled Prosperity**, developed in 2009 in partnership with the Southwest Virginia Health Authority, outlined 20 goals and objectives, with timeframes divided into three timeline categories: Near (0-2 years), Intermediate (3-9 years), and Long-term (10+ years). The Blueprint also outlined strategic goal categories (e.g., overall health, health-related economic developments, etc.) and organizational goal categories, including development funding, advocacy and operations. The Blueprint has galvanized the region into action, increasing awareness and progress toward improving population health.

- Beginning in 2015, the Southwest Virginia Health Authority is supporting an update of the 2009 Blueprint for Health Improvement and Health-Enabled Prosperity. Healthy Appalachia Institute is working with the Virginia Department of Health and regional partners to develop the process for updating the regional health blueprint.

- To leverage the work of the Healthy Appalachia Institute, as well as expand fitness opportunities for both UVa-Wise and surrounding communities, a new 11,000 square
foot addition to the C. Bascom Slemp Student Center’s existing fitness center and renovation of the 5,833 square foot Fred B. Greear Gymnasium were funded by a generous gift from the Richard and Leslie Gilliam Foundation. The Winston Ely Health and Wellness Center was opened in August 2014. The Winston Ely Health & Wellness Center prioritizes Health and Wellness on campus and in the community by creating a new exercise area, a multipurpose room for yoga, dance, a conference room with telehealth capabilities for individual and group health advising and education, new locker rooms, and a dining outlet with healthy food options. The center houses offices of HAI and allows for community-based outreach focusing on prevention, education, fitness and wellness opportunities.

- The University of Virginia’s Faculty and Employee Assistance Program (FEAP), in partnership with the UVa Center for Telehealth, is creating a national model for the use of telehealth in a non-traditional setting, expanding FEAP services to increase access, convenience, and continuity of care for employees and their families. Tele-FEAP is built on a robust Cisco infrastructure, allowing for multi-point connections between users and endpoints. The standards-based system allows for multiple vendor platforms. The system is fully encrypted and compliant with HIPAA requirements for clinical encounters and high-definition technology allows a quality, seamless connection for all participants.

- The University of Virginia’s College at Wise, located in far Southwest Virginia, contracts with FEAP to provide employees and their families access to individual and group encounters. Located in a region with widespread disparities, both in health outcomes and infrastructure, access to mental health providers and counseling services are characterized by a lack of availability, acceptability and accessibility. Using a workplace-based system increases access, and reduces barriers to care including concerns about stigma, confidentiality, and lack of transportation, limited payment options and facility choices. In partnership with the Healthy Appalachia Institute and the University of Virginia’s Center for Telehealth, Tele-FEAP at UVa-Wise is a growing program. Success has been found in group workshops and widely advertising the availability and confidentiality of individual counseling sessions. Progress and success of this program was presented at the 2015 Mid Atlantic Telehealth Annual Summit. In the first year of FEAP programming at UVa-Wise, there were five group workshops, including Psychological Readiness for Retirement, Strategies for Customer Service (two sessions...
were offered to accommodate interest), Balanced Living, and Stress Management with participation ranging from five to fourteen for each session.

- Since 2008, The University of Virginia’s Diabetes Tele-Education Program has served over 2,000 participants at 57 sites across the state. The program offers a series of four classes, Basics of Diabetes and Medications, Nutrition Basics, Eat Smart, Change Your Lifestyle, and Glucose Control, Activity and Stress through a video conferencing platform. The University of Virginia’s College at Wise, through its Healthy Appalachia Institute, is now piloting this program for employees in the Winston Ely Health & Wellness Center.

- The **Spring 2015 Regional Coalition Training, Restoring Health Through Community: From Data to Action**, worked to strengthen local health coalitions through increased collaboration, and capacity around the County Health Rankings & Roadmaps tools, resources and data. In addition to the Healthy Appalachia Institute at the University of Virginia’s College at Wise, the Cumberland Plateau and Lenowisco Health Districts, the collaborative planning team and regional training event also included a partnership with the Center for Appalachian Philanthropy and Kim Brown of TurnKey Associates who facilitated the afternoon session.

  - The Regional Coalition Training was held on Wednesday April 29, 2015 at the Inn at Wise, in Wise, Virginia. The event included a morning session, led by Community Coach Mary Bennett, focused on the County Health Rankings & Roadmaps, and an afternoon session focused on coalition development and strategic planning. Sixty participants, representing many counties, sectors, and coalitions gained a working understanding of the County Health Rankings & Roadmaps, including the Model of Health, Action Center, and What Works for Health. The morning session allowed participants to engage in interactive discussion on why and how to engage multi sectors in their coalitions, and a hands on demonstration of using the CHR&R website to find evidence based practices to inform their work. During the afternoon session, participants were engaged in discussion about coalition development and sustainability.
• The Appalachian Prosperity Project’s **Small Town Design Institute “Heart of the Town” Series** took place on April 22, 2015 at The University of Virginia’s College at Wise. The Healthy Appalachia Institute presented on health in all policies, including an overview of the County Health Rankings & Roadmaps Model of Health, Action Center, and local data for Lenowisco and Cumberland Plateau Health Districts.

• Since 2006, the **Healthy Appalachia Institute Fellows Program** has mentored 32 students who have a strong interest in solving health care challenges in the region. More than 80% of the students are now in graduate school, medical school, graduate nursing education, or are practicing health care professionals. Several are still completing their undergraduate education.

  o In 2014 - 2015, two undergraduate students were selected to each complete a research fellowship in Southwest Virginia. One student focused on “Drinking Water Sources and the Importance of Water Treatment in Central Appalachia” and the other explored “Physical Activity and Depressive Symptoms Among Children in Central Appalachia.” Both presented at regional research conferences.

  o In the fall of 2014, Practice Fellow Madison Ray, worked with HAI to develop a communications plan, update the website and develop a presence on several social media sites, including Facebook.

  o The 2015 – 2016 HAI Research Fellow, Isaac Holyfield, was selected by faculty to complete a summer research project on cancer, “Biochemical Characterization of the XPA-XPC Complex”, with faculty mentor, Steven Mike Shell.

  o In summer 2015, Practice Fellow Cassie Chadwell is taking the lead on and working with several current HAI projects, including, Diabetes Tele-Education Program, Southwest Virginia Tobacco Free Campuses Initiative, and the Faculty Employee Assistance Program, as well as assisting with grant writing and proposal development. Practice Fellow Samantha Smith, a UVa-Wise alumna and a student at the U.Va. School of Medicine, is working to improve and expand the Med-Match Program by developing an online resource center for
UVa-Wise medical school applicants, recruiting both medical students, and undergraduate students, and organizing medical students led workshops for the fall semester.

- In collaboration with the U.Va. Center for Global Health, Healthy Appalachia Institute funded UVa-Wise student Maurice Nathan McGlone in the summer of 2015 as a Global Health Scholar in South Africa. His research group, made up of current U.Va. graduate students, and University of Venda students were in South Africa for five weeks. Their research focused on ‘Community Health in Limpopo: Exploring Management of Diabetes and Hypertension in a Nurse-Led Community Based Health Center in Limpopo Province’.

- The **Med-Match Program**, launched in FY2014, pairs UVa School of Medicine (SOM) students with UVa-Wise pre-med students in a yearlong mentorship program. UVa SOM students assist undergraduates in navigating the medical school application process, including MCAT preparation, personal statements and interview skills. Six UVa-Wise students participated in FY2014. In FY2015, six students also participated, ranging from freshman to seniors. In addition to working with a mentor, students participated in video conferencing workshops, led by UVa SOM mentors, faculty and administration. Workshops were held on the application process, making your application stand out, deciding between allopathic and osteopathic medical schools, and interview skills. Four UVa-Wise students were accepted into UVa School of Medicine, three of which were Healthy Appalachia Institute Research Fellows, and participated in the Med Match Program.
Introduction to Public Health: Appalachian Perspectives was offered for the first time in Spring 2015, and was designed to introduce students to the field of public health, including historical development, foundational principles, and contemporary issues focusing on the challenges of rural public health and health disparities in central Appalachia. The course presented a broad understanding of the many factors which influence health, including behavior, history, culture, geography, society, environment, and policy, and the relationship of these to disease, prevention, health promotion and successful public health interventions.

- Lectures focused on the core components of public health including Social Determinants of Health, Models and Theories of Behavior Change, Health Systems, Epidemiology, Biostatistics, Environmental Health and Community Based Participatory Research. Lectures also include those focused on the health disparities prevalent in central Appalachia, addressing the scientific, social, and epidemiologic background of the region. Students developed the critical thinking skills required to identify and examine a health issue, and the associated risk factors specific to a target population in the region. Students proposed an intervention using current data, literature, evidence-based best practices, an
understanding of the levels of influence and the importance of change and intervention at the individual, interpersonal, community and societal levels.

- A member and leader of the **Southwest Virginia Tobacco Free Campuses Initiative**, The University of Virginia’s College at Wise, through its Healthy Appalachia Institute, is working to address the need for reduction of tobacco use on college campuses, leading Southwest Virginia in developing and supporting tobacco-free environments, policies and programs for students, faculty, staff and community members who are learning, living, working and playing on campus grounds. The Southwest Virginia Tobacco Free Campuses Initiative includes representatives from all schools of higher education in far Southwest Virginia. The group meets regularly to discuss and support policy change, and increased programming working towards tobacco-free campuses. In August 2014, and supported by research and work of HAI 2014 Summer Practice Fellow Cassie Chadwell, The University of Virginia’s College at Wise adopted a new tobacco policy, eliminating the use of all tobacco products, including smokeless tobacco and e-cigarettes from all campus buildings and facilities, expanding on a policy that banned smoking within 25 feet from any building.

- The Appalachian Tele-Mental Health Network (ATMHN) envisions a multi-state consortium of hospitals, clinics, and education institutions working to create and implement a region-wide tele-mental health network. Through a variety of access points the ATMHN will advance the innovative use of telehealth as a solution for improved mental health, behavioral health and substance abuse outcomes, and increased access to providers, removing barriers of time, distance, and provider scarcities.

  o A broad regional network, the ATMHN will establish a virtual community with the capability to engage rural providers, clinicians, professionals and organizations across state lines in training, education, network development, case conferences and the sharing of evidence-based practice models in the delivery of mental health services. ATMHN will be a resource for telehealth expertise throughout the region and support policy change for telehealth coverage throughout Appalachia.

  o The ATMHN seeks to expand and enhance access to quality affordable mental health services in Appalachia, reducing disparities, efficient, early and accurate
diagnoses and reducing travel time, and costs. Among the network’s objectives are:

- Establish current telehealth infrastructure and capacity
- Support and develop regional partnerships and pilot projects
- Provide evidence for telehealth policy change
- Develop a readiness assessment tool for mental health providers and professional
- Support telehealth and mental telehealth training opportunities for providers
- Assess market dynamics by state, including reimbursement rates, and payer source
- Create online referral network and resource center for providers and professionals