

## ATTACHMENT 3 - ACTIVITIES CONDUCTED PURSUANT TO THE COOPERATIVE AGREEMENT

### A. Improving the Community's Health Status

Ballad Health has taken a number of concrete steps toward creating a comprehensive infrastructure to support our regional efforts to improve community health. This includes internal reorganization as well as standing up a region-wide Accountable Care Community, a collaborative impact model, where community organizations identify a small number of clearly articulated goals of common interest. This effort will be supported by the Ballad Health infrastructure and will provide the critical mass of resources necessary to achieve success. Details of just some of the activities taken since the closing of the merger include:

#### 1. Creating plans for population health improvement

##### *a. Developed and Submitted the Population Health Plan*

Ballad Health deployed a comprehensive process to gather input for and draft a population health plan, which was submitted to the Commonwealth of Virginia and State of Tennessee in June, 2018, for approval. We convened an executive steering team, which was aided in its analysis by national experts with experience in large-scale population health improvement. The steering team developed a “playbook” of evidence-based and promising practice interventions, which have the potential to be successfully implemented in our communities.

In addition, we gathered input from internal and external stakeholders to assess community health needs and refine the intervention playbook through approximately 150 interviews and 40 meetings with external groups, including the regional accountable care community steering committee, regional health departments, United Way agencies, chambers of commerce, schools and community organizations, as well as key internal groups such as the population health and social responsibility committee of the Ballad Health board of directors, the Ballad Health population health clinical committee, and hospital community boards.

Before drafting the initial population health plan, we worked with internal and external data experts and subject matter experts to ensure our approach to measuring and tracking population health and access metrics is reliable and in keeping with best practices. Meetings with both states continue to refine the data collection and reporting process which, we believe, is among the first of its kind in the country.

Through this intensive process, Ballad Health and its partner community organizations have determined that the overwhelming evidence from successful collaborative impact efforts elsewhere supports a focus on fewer measures that will have a definitive result in improving generational health. Ballad Health remains committed to investing in successful interventions that have a real opportunity for success.

- b. *Developed and Submitted Community Health Need Assessments and Implementation Plans*  
Ballad Health has implemented a new process for compiling robust and comprehensive Community Health Needs Assessments (CHNAs) that engage community stakeholders earlier and more often in the process. Eleven Ballad Health facilities were due for new CHNAs this year, based on a 3-year cycle required by the Internal Revenue Service for not-for-profit hospitals.

For the first time, COPA and cooperative agreement commitments were integrated into these assessments, as well as findings from key documents such as the health plans for Tennessee and Virginia, The Southwest Virginia Blueprint for Health Enabled Prosperity, historical CHNAs from Wellmont Health System and Mountain States Health Alliance, county health rankings, and the pre-merger workgroups report titled, “Key Priorities for Improving Health in Northeast Tennessee and Southwest Virginia: A Comprehensive Community Report.”

The strategic planning department of Ballad Health piloted a model in Smyth County that improved stakeholder involvement through a community advisory committee. This approach goes well beyond the traditional model of simply conducting limited stakeholder interviews. A collaborative group met multiple times to discuss and refine both the needs assessment and implementation plan. Local participants included law enforcement, health departments, community services boards, education representatives including grade schools and higher education centers, and other local community organizations.

Community feedback regarding the collaborative assessment process has been extraordinarily positive, and stakeholders have expressed an interest in continuing to meet to help ensure their community’s health needs are being met by playing an integral part of the implementation and monitoring efforts. Ballad Health will apply this model to all future CHNA activities moving forward. Importantly, Ballad Health is also represented on the Virginia Hospital and Healthcare Association’s and the Virginia Commissioner of Health’s *Partnering for a Healthier Virginia Advisory Committee* which seeks to increase collaboration between the health department and hospitals in the Community Health Needs Assessment and implementation planning process.

The Ballad Health Community Health Needs Assessments and Implementation Plans are available to the public and can be accessed at the Ballad Health website by clicking on the name of the hospital, and then clicking on the “Community Health Needs Assessment” link. An example of the Community Health Needs Assessment for Johnson City Medical Center may be found at:

[https://www.balladhealth.org/sites/balladhealth/files/documents/JCMC\\_Community\\_Health\\_Needs\\_Assessment\\_2018.pdf](https://www.balladhealth.org/sites/balladhealth/files/documents/JCMC_Community_Health_Needs_Assessment_2018.pdf)

## 2. Developing a Population Health Infrastructure within Ballad Health and the Community

- a. *Established the Department of Population Health within Ballad Health*  
Since our merger in February of 2018, Ballad Health has built, from the ground up, a department of population health staffed by professionals in both community health and

value-based healthcare. The department is dedicated to developing solutions to improve health in the community at large, among selected populations based on assessed risk and prioritization, populations where Ballad Health has contractual arrangements to improve specific outcomes and manage cost (such as Medicare Advantage), and within Ballad Health's own team member and dependent population. The department's strategies are guided based upon Ballad Health's and its community partners' assessment of need in the community, which is the priority driver for dedication of resources. The population health and access metrics in the COPA and Cooperative Agreement are broad, and where alignment may occur with community need, those issues will be prioritized.

Efforts are led by the Chief Population Health Officer, who reports directly to the Chairman and Chief Executive Officer of Ballad Health. Additional leadership includes the Senior Vice President for Community Health and System Advancement, the Senior Vice President for Value-Based Care and Strategic Planning, the Vice President for Health Programs, and the Directors of Community and Clinical Engagement.

The new leadership hired and trained a group of community engagement specialists who are embedded in multiple communities in Northeast Tennessee and Southwest Virginia served by Ballad Health. These individuals have strong community ties and a deep understanding of the cultural nuances that impact population health in this unique region. The team is supported by a data analyst dedicated to tracking the deployment and impact of population health efforts throughout the service area.

Ballad Health has organized its grant department and community foundation under population health to align goals with, and provide support to, these community health initiatives. Ballad Health's intent is to advance the application process for external grants and funding for the various initiatives it will deploy with its community partners.

*b. Established the Population Health Clinical Steering Committee*

Immediately after the close of the merger in February, 2018, Ballad Health established its clinical council, comprising approximately 30 physicians nominated from the elected leadership of all Ballad Health hospitals, the health system's medical group, and independently practicing community physicians. The council meets monthly and reports directly to the quality committee of the Ballad Health board of directors. The group's goal is to ensure excellence in clinical care through physician engagement and leadership. The council employs a dyad leadership model, with each subcommittee – as well as the council itself – led by co-chairs representing both physician executives and those in full-time practice.

The clinical council is comprised of several committees, including the population health clinical steering committee. This clinical committee is composed of Ballad Health and independent community clinical providers representing physicians, pharmacists, advanced practice providers, and nursing. The committee is charged with providing guidance for Ballad Health's transformation to a community health improvement system. The group has met twice to establish its structure and focus, review existing health improvement metrics, establish a charter, and review the population health plan. Work has begun on care transitions planning, including identification of best approaches to screening activities and follow up for cancer, high blood pressure, obesity risk, and diabetes. Work in these areas is

geared toward creating seamless transitions between clinical interventions and community interventions.

c. *Established a Regional Accountable Care Community*

Ballad Health funded and has taken a lead role in the governance of a regional, multi-stakeholder Accountable Care Community (ACC) to address population health needs across a wide geographic region. Accountable Care Communities are coalitions of stakeholders who align their organizations' efforts around a focused set of population health and community well-being goals. The regional ACC will support the formation of local community action teams and expand the work of existing action teams, such as health councils who wish to align with the ACC efforts.

After a process in which Ballad Health solicited requests for proposals, the United Way of Southwest Virginia and Healthy Kingsport were selected to serve alongside Ballad Health as lead organizations for the ACC. Both of these organizations have successful track records of collective action in Virginia and Tennessee respectively. The lead organizations and ACC steering team identified an initial list of prospective member organizations across the 21 county region, and have established a membership agreement that will govern ACC participation. Membership recruitment is ongoing, and has surpassed 60 organizations as of October.

These inaugural members met in a series of focus groups to review existing consensus documents on community health needs such as department of health plans for Tennessee and Virginia, the Southwest Virginia Blueprint for Health Enabled Prosperity, historical CHNAs from Wellmont Health System and Mountain States Health Alliance, county health rankings, and the pre-merger workgroups report titled, "Key Priorities for Improving Health in Northeast Tennessee and Southwest Virginia: A Comprehensive Community Report." The group identified four collective impact strategies on which the ACC will focus its time and resources:

- Building a grassroots group of community partners;
- Aligning the activities, services and resources of those partners toward population health outcomes;
- Managing partnerships to direct momentum toward population health; and
- Mobilizing communities through shared responsibility to achieve collective impact.

d. *Established the Community Benefit and Population Health Committee*

The Ballad Health board of directors established the Community Benefit and Population Health committee of the board. This committee includes the Chief Executive Officer, Chief Operating Officer, Chief Clinical Officer and Chief Population Health Officer of Ballad Health, as well as regional leaders and multi-sector community representation. It is responsible for oversight and compliance with all population health-related COPA and cooperative agreement commitments and reporting. It is also responsible for governing the alignment of the COPA/cooperative agreement, community benefit/Community Health Needs Assessment, and value-based contracting strategies and initiatives to produce health improvement in the community.

To date, the group has established a charter and has conducted a number of education sessions on population health best practices, the Ballad Health population health plan, a revamped community health needs assessments (CHNAs) process, and value-based contracting. This committee has also reviewed, and recommended for adoption by the Ballad Health Board of directors, the population health plan and the most recent round of community health needs assessment and implementation plans.

*e. Aligned Ballad Health's Business Health and population health infrastructure*

Ballad Health is evolving the role of our business health services to support not only traditional business health support services (i.e., work site clinics, etc.) but to also incorporate employer-based community health programming. Our new strategy recognizes that while Ballad Health can bring value to employers through a number of our traditional business health services, employers can also bring value to Ballad Health by providing it access to their workforce to deliver health education, perform screenings, vaccinations, and provide other services in support of Ballad Health's COPA and cooperative agreement goals.

Now organized under the Senior Vice President for Value-Based Care and Strategic Planning, the business health services department is in the process of developing offerings with the Department of Health Programs, Integrated Solutions Health Network (which houses the Ballad Health Accountable Care Organization and team member wellness program), and our Health Resources Center, which focuses on community outreach and programming for health-related topics such as healthy eating, diabetes management and cardiovascular disease prevention. Business Health has outreached to individual employers and local chambers to further refine the opportunities for new services and partnerships

*f. Growing the parish nurse program*

Ballad Health's service region culturally is connected by faith, and Ballad Health believes connectivity to the faith community is critical for success. Parish (or faith-community) nursing combines professional nursing with health ministry, emphasizing health and healing in a faith community. Ballad Health's parish nursing program already consists of about 50 parish nurses serving approximately 30,000 parishioners in the region. Ballad Health is in the process of hiring its first full-time leader of the parish nurse program in preparation for expanding the number of parish nurses in the community, and to strengthen their connection to the health system and its population health and access goals. Ballad Health is aligning the efforts of the current program with the goals of the COPA and cooperative agreement, expanding access to other community health programming available within Ballad Health, and evaluating new technology that will provide parish nurses with more health information from Ballad Health about their parishioners.

*g. Expanding Health Resources Center capabilities to other communities*

The Health Resources Center (HRC) provides health education, screening and support groups based primarily in Johnson City and Kingsport. Since the merger, the HRC has been reorganized under the Senior Vice President of Value Based Care and Strategic Planning in order to work more closely with Ballad Health's care coordinators, navigators, health coaches, parish nurses the Department of Population Health; and business health services. These resources will focus more on the preventative and wellness of the community through various populations (i.e., employers, faith-based, general community, etc.). The Health Resources Center is expanding its

presence throughout the region to provide services in non-traditional settings such as mobile food distribution sites where it is easier to connect to individuals in need rather than requiring them to travel to our two current locations. Recently, Ballad Health cut the ribbon on a new, expanded, Health Resources Center (<https://www.johnsoncitypress.com/Health-Care/2018/10/01/Ballad-Health-cuts-ribbon-on-new-Health-Resources-Center> ).

### 3. Establishing Ballad Health as an Example for Community Health Improvement

We believe it is important for Ballad Health to set an example for how employers, community leaders, and individuals can make choices that lead to better health. We are adopting policies and practices to ensure that Ballad Health can serve as a positive example in our community.

First, Ballad Health has adopted a socially responsible investment policy for its cash reserves. Ballad Health's board of directors will steer investment portfolios away from companies that provide products or services that lead to poor health, for example, tobacco.

Also, Ballad Health is investing in new programs and technologies that enable patients to better manage their health and prevent disease. We are launching and piloting a number of these initiatives with our own team members and dependents – over 20,000 individuals who live within the Ballad Health service area and have the potential to act as influencers in their personal communities.

#### *a. Established the Ballad Health as an Example Steering Committee*

We have established an internal steering team and workgroups to identify target areas for intervention and improvement. These targets will impact the design of our health plan, our food and vending policies, our health promotion and wellness offerings, our team member communication and engagement activities, and our community outreach. This team is made up of multidisciplinary team members from across the organization.

#### *b. Expanded Employee Health Risk Assessments and Health Coaching*

We have expanded a comprehensive approach to screening and assessing health risks across our employee population using Applied Health Analytics to compile and analyze health risk assessments and biometrics. Ballad Health adopted a policy whereby team members and dependents who participate receive discounts on their health insurance premium. More than 11,000 team members and dependents have participated this year.

Results were shared with team members in a confidential, personalized format accessible online. Health coaches are reviewing health risks with team members who have or are at high risk for chronic disease. Ballad Health will use the aggregate data to inform programming and future benefit design to help address broad areas of opportunity for health improvement. For instance, if a significant number of team members are overweight or obese, Ballad Health may seek to provide incentives for participation in initiatives designed to mitigate the potential for a chronic condition and improve the health and well-being of those team members.

c. *Piloting an employee stress reduction intervention*

Ballad Health has developed a formal working relationship with a leading national research institution and health system to improve employee and community wellness. A mini-fellowship for a Ballad Health cardiologist was sponsored at this institution, and Ballad Health is in the process of piloting the first of a series of employee interventions designed to improve results on a number of key health risk factors such as blood sugar levels, blood pressure, body mass index and stress. A stress reduction intervention is the first of these pilots. If successful, additional pilots will be rolled out, the program will be scaled up to all Ballad Health employees and dependents, and will eventually be made available to employers throughout the region.

d. *Piloting a primary cardiovascular protection program*

Ballad Health has a strong relationship with the Pritikin Longevity Center and was selected as one of the first 10 sites in the United States to implement a Medicare-approved intensive cardiac rehab program. We are currently researching a new primary prevention program with Pritikin, which may demonstrate clear application and translation of Pritikin concepts to the reduction of disease development risk in at-risk individuals. This program is being piloted within the Ballad Health team member population.

4. Enabling Community Based Health Improvement & Sound Health Policy

a. *Strengthening Community Action and Partnerships*

Ballad Health is helping to fund and manage community efforts to implement evidence-based and promising public health programs and practices throughout the region. Outreach in several key areas has begun. The community engagement team is partnering with the Accountable Care Community, health councils, anti-drug coalitions, healthy community teams, and other grassroots groups to collectively identify those programs that contain best or promising practices to evaluate for resourcing and support. Once identified, programs will be selected for piloting resources and evaluation of impact and further assessment for scaling and replication.

i. *Employer sector activities*

- We have met with the chamber of commerce leaders from Bristol, Kingsport, and Johnson City along with large regional employers to begin a collaborative approach that will scale to the entire region. Initial areas for further pursuit include reducing opioid abuse in the workforce and benefit design that promotes high-value care.

ii. *Maternal / child health activities*

- We are working with a large local children's charity to assess the potential to align our funding and support of maternal and child health organizations in the region in support of COPA and cooperative agreement goals.
- With support from a grant by Mike and Nancy Christian, Niswonger Children's Hospital launched the Families Thrive program, which offers special support to families who are caring for a baby born with neonatal abstinence syndrome (NAS). <https://www.BalladHealth.org/news/niswonger-childrens-hospital-launches-families-thrive>
- Ballad Health Hospice hosted Camp Caterpillar, a free camp for children who have lost a loved one, with a goal of giving children and families coping tools to help them through the trauma associated with loss.

<https://www.BalladHealth.org/news/camp-caterpillar-helps-grieving-children-and-families-find-solace-companionship-and-healing>

- In response to a series of tragic child drownings in the region, Niswonger Children's Hospital partnered with Levi's Legacy to help raise awareness of water safety.

<https://www.BalladHealth.org/news/Niswonger-Childrens-Hospital-partners-Levis-Legacy-to-promote-water-safety>

### iii. School-based activities

- Since 2014, Niswonger Children's Hospital has reached outside the hospital walls and into the community to improve child literacy through the B.E.A.R. Buddies reading program, which pairs volunteer mentors with elementary school students who need a boost in their reading skills. When five new schools recently requested to join the program, it became apparent more volunteers would be needed to help fill the gap and Ballad Health Chairman and CEO Alan Levine issued a call to Ballad Health team members for help. To date, 100 volunteers for the 2020 school year have signed up. <https://www.BalladHealth.org/news/Ballad-health-bear-buddies-child-literacy>
- Ballad Health Foundation and Prevention Connection partnered to bring Project Fit America to Norton Elementary School. Project Fit provides the school a grant for fitness education that includes new gymnasium and playground equipment. <https://www.BalladHealth.org/news/Ballad-health-project-fit-america-norton-elementary>
- In partnership with the Bristol Tennessee and Virginia Public Schools, Ballad Health hosted a community wellness expo to promote good health involving physical activity and free health screenings. <https://www.BalladHealth.org/news/power-health-expo-and-power-play-5k-set-april-28>
- A key area of concern for the region is children in schools who are in mental health or behavioral health crisis. In meetings with school superintendents hosted by Congressman Phil Roe, the superintendents shared stories of children who are at risk, in crisis, or even potentially demonstrating suicidal thoughts. The gaps in services available often leave teachers and school leaders with the burden of navigating what to do for the child. Ballad Health has offered to create a telehealth assessment program in partnership with the school districts whereby Niswonger Children's Hospital mental health counselors will be available to assess the child, and if necessary, refer them for immediate services. Ballad Health will hire additional counselors to be deployed to the school districts for follow-up with these children so that intervention may occur, or proper hand-off can be done for the needed services by the most appropriate support organization.

### iv. Collaborative opioid intervention activities

- Ballad Health is working with three other broad regional coalitions in Tennessee and Virginia that each received \$200,000 planning grants from HRSA to coordinate efforts to fight the opioid crisis in our region. Fewer than 100 organizations nationwide were awarded the grants, which are geared toward helping communities collaborate to address the opioid crisis. Through the grant, Ballad Health will engage with a consortium of regional organizations to work collaboratively on a multi-sector approach to addressing the problem of opioid addiction in Northeast Tennessee and Southwest Virginia. The grant will support Ballad Health team members who will be deployed into local communities to work

with key stakeholders. Ballard Health will spearhead the initiative's lead consortium, which will establish other locally-governed consortia in rural communities throughout the region. Lead consortium members are the Bristol Chamber of Commerce, the Virginia Department of Health (VDH) Cumberland Plateau Health District, East Tennessee State University's Center for Prescription Drug Abuse Prevention and Treatment, Healthy Kingsport, the Johnson City Chamber of Commerce, the Kingsport Chamber of Commerce, VDH LENOWISCO Health District, VDH Mount Rogers Health District, the Northeast Tennessee Regional Health Office, Dr. Thomas Renfro of Norton Community Physician Services, Smyth County School District, Sullivan County Regional Health Department, and United Way of Southwest Virginia.

- Ballard Health joined forces with local chambers of commerce and Leadership Tennessee to rally our community at an opioid summit which featured author Sam Quinones, author of *Dreamland – A True Tale of America's Opioid Epidemic*.
- Ballard Health is the lead organization in a Smyth County Virginia community collation grant of \$737,000 from the Rural Health Opioid Program, part of the U.S. Department of Health & Human Services.

<https://www.BalladHealth.org/news/smyth-county-address-national-opioid-crisis>.

The three-year grant will be used to form a multi-disciplinary opioid consortium focused on reducing morbidity and mortality from opioid use disorder by:

- Educating the community on overcoming the stigma of opioid addiction
- Educating people battling addiction on available services in the community and help to guide them into treatment
- Providing enhanced counseling for hands-on opioid addiction treatment
- Providing expanded peer support opportunities
- Providing care coordination to support people battling opioid addiction to help them get treatment, make appointments, and remove barriers to treatment (i.e. transportation issues, etc.).

v. [Joined nationally recognized health systems to participate in the National Medicaid Transformation Project](#)

- Through participation in the Medicaid Transformation Project, Ballard Health has joined 16 leading health systems nation-wide in addressing social determinants of health for the nearly 75 million Americans who rely on Medicaid. Co-led by AVIA and former CMS Acting Administrator Andy Slavitt, the Medicaid Transformation Project will develop actionable solutions that address the health and social needs of our nation's most vulnerable patients. The work will focus on five key areas of opportunity, four of which have already been identified: behavioral health, child and maternal health, substance use disorder and avoidable emergency department visits. Medicaid Transformation Project participants believe that the solutions that help address these key areas of need for Medicaid subscribers will have the added effect of improving care for all vulnerable populations, including the uninsured.

<https://www.balladhealth.org/news/17-health-system-project-vulnerable-populations>

vi. [Piloted the Accountable Health Communities Project](#)

- Prior to Ballard Health, the two legacy systems and select community partners (Community Service Boards in Southwest Virginia, Virginia DMAS) were one of only

32 recipients nationwide of a \$2.5 million CMMI Accountable Health Communities grant. Ballard Health has continued to move forward with this work, which involves screening 75,000 Virginia Medicaid and Medicare patients annually at hospitals and physician practices for five social determinants of health risks (transportation, food, housing, interpersonal violence, and utilities). Ballard Health has expanded this screening to include substance abuse.

When at least one of these risks is identified, the patient is provided a listing of available community resources that can help address those specific needs. For a randomly selected population with at least one risk factor and with two or more emergency room visits in the past 12 months, a navigator will follow up personally to provide further support in connecting these patients to the available community resources.

This program initiated with two separate pilot projects screening a total of 8,776 Medicaid, Medicare and uninsured patients between September 1, 2017, and July 31, 2018, preceding the projected go-live by fall/winter of 2018.

This award from the federal government could not have been possible without the support of commonwealth leaders in Virginia, which Ballard Health applauds. The Accountable Health Community will assist in bridging gaps in services needed between hospitalization and home and community-based services which are necessary for addressing social determinants of care. Ballard Health remains hopeful that a similar partnership can be established in Tennessee.

*b. Building Healthy Public Policy*

Ballad Health is engaging in research and advocacy at the local, state and federal level to promote the population health and access goals included in the COPA and cooperative agreement. To date, we have provided education sessions to local leadership groups including chambers of commerce, government officials, business leaders and policy makers to better inform them on the requirements of the COPA and cooperative agreement and to solicit input for legislative interest and advocacy development.

Ballad Health is in the process of cataloging and assessing best practice public policies that have been shown to improve population health metrics in other parts of the country. This effort is scheduled to be completed by the end of 2018 and will assist in prioritizing legislative education and advocacy.

Ballad Health continues to advocate for rural health on the national stage. Alan Levine, chairman and chief executive officer of Ballard Health, on September 25<sup>th</sup> testified to a subcommittee of the U.S. Senate Committee on Health, Education, Labor and Pensions (HELP). Mr. Levine presented an oral and written summary outlining some of the most critical issues facing rural hospitals in the United States as well as legislative and regulatory strategies (i.e.: 340b Drug Discount Program, Medicare Area Wage Index, etc.) that can help communities address the health issues that disproportionately affect rural and non-urban residents throughout the country. His testimony highlighted steps Ballard Health is taking to transform rural hospitals, and to sustain services in a region of the nation heavily impacted

by the factors which are harming rural health care. Mr. Levine's written testimony is available here: <https://www.help.senate.gov/imo/media/doc/Levine1.pdf> and video testimony is available here: <https://www.c-span.org/video/?c4751429/alan-levine-testimony>

## B. Improving Access to Healthcare Services

### 1. Virginia Medicaid expansion

A priority during the 2018 legislative session in Virginia was the passage of Medicaid expansion. Expansion was included in Virginia's biennial budget passed on June 7, 2018. Ballad Health worked closely with legislators in Virginia to educate them on the impact on health outcomes, access and economic development of providing approximately 400,000 uninsured, low-income Virginians (approximately 21,000 in Ballad Health's Virginia service area) with access to insurance.

Expansion takes effect January 1, 2019 with enrollment beginning November 1, 2018. Ballad Health is helping to raise awareness in the community about new options for coverage by deploying messaging in its hospitals and clinics in conjunction with the Virginia Department of Medical Assistance Services. We are also working with our enrollment services vendor to identify patients who will now qualify for Virginia Medicaid and encourage enrollment and are hosting 10 community events in November to meet face to face with patients and assist them in enrolling.

### 2. Hospital sponsored dental residency program will increase care for low-income individuals

One of the key gaps in health care rural regions, including the region served by Ballad Health, is access to dental care. Evidence shows that poor dental health can lead to diabetes, heart disease and other serious health conditions, in addition to harming the quality of life for each individual without access. Ballad Health has worked with a not-for-profit dental program to establish a hospital-based dental residency program at Johnston Memorial Hospital in Abingdon, Virginia. Dentists who enter dental residency are fully licensed dentists who wish to obtain advanced training in areas such as prosthodontics. This program would not only increase access to dental care for the underserved, but could also increase the supply of dentists locating in the area after their training. The application for a hospital-based dental residency has been submitted for review by the dental residency accrediting organization. This program has not been formally announced, as Ballad Health is awaiting approval first.

### 3. Addiction medicine fellowship partnership announced

Ballad Health and East Tennessee State University announced a partnership in June, 2018, to create a fellowship program in addiction medicine. Through the partnership, ETSU will apply to the Accreditation Council for Graduate Medical Education to create a new fellowship program in addiction medicine. As part of its commitment to expand education and training in the region, Ballad Health will fund any un-reimbursed costs of the fellowship program, which, over a 10-year period could cost more than \$2.5 million. [https://www.etsu.edu/news/2018/06-jun/nr\\_addiction\\_medicine\\_fellowship\\_program\\_application.aspx](https://www.etsu.edu/news/2018/06-jun/nr_addiction_medicine_fellowship_program_application.aspx)

4. Access to low/no cost pharmaceuticals increased for low income individuals

Hawkins County Memorial Hospital and Hancock County Hospital achieved 340B status designation from the U.S. Department of Health and Human Services, reflecting their important role in the community as a provider of essential healthcare services to individuals who cannot afford to pay for their care. This program will assist Ballad Health in ensuring patients can access needed medication.

5. JMH graduates first class of family medicine residents

Johnston Memorial Hospital graduated its first class of six family and internal medicine residents in June of 2018. Of these graduates, three are planning on staying in the community to provide primary care. Currently there are 31 residents in years one through three of their residency program at JMH.

6. Greene County Hospitals remain open by specializing and adding new 12-bed progressive care unit

While 80 rural hospitals throughout the nation, led in part by Tennessee, have closed or been forced to significantly curtail services since 2010, Ballad Health has implemented one of the core benefits of the merger through its vision of eliminating unnecessary and costly duplication that threatened the viability of these rural hospitals, and instead is sustaining the hospitals and adding services. In the fiscal year that just ended, the two hospitals in Greene County, Laughlin Memorial and Takoma Regional, saw combined operating losses of \$11 million, with cumulative two-year losses totaling nearly \$31 million. Under each hospital's previous ownership, in 2014 and 2015, deteriorating financial results led to discussions between the incumbent boards and management for a consolidation of the two hospitals. A mutual agreement could not be reached, which resulted in Takoma being acquired by Wellmont Health System, and Laughlin being acquired by Mountain States Health Alliance. The merger creating Ballad Health paved the way, with state approval, for this partnership to finally happen. Had the hospitals remained independent during the last two years as cash reserves declined, the evidence shows that at least one would likely have closed.

In its approval of the merger creating Ballad Health, the state of Tennessee agreed with Ballad Health officials that "significant duplication of services exists in Greene County, Tennessee as a result of the two rural hospitals located therein." Further, the state said Ballad Health, "may consolidate services into one of such rural hospitals and repurpose the other rural hospital ... without prior approval from the department" under certain circumstances.

On August 1, Ballad Health announced plans to keep both community hospitals in Greene County open, allowing them to work together as one hospital with two campuses and enabling specialization of services that has been shown to lead to better outcomes for patients. Beginning in early 2019, Takoma Regional Hospital will focus its services on advanced outpatient and non-acute inpatient care, while Laughlin Memorial Hospital will focus on providing acute inpatient services. Services to be offered at Takoma will include inpatient rehabilitation, inpatient geriatric-psychiatric care, occupational medicine, sleep medicine, emergency medicine and advanced diagnostic imaging. Services to be offered at Laughlin will include inpatient surgery, inpatient medical/surgical care, same-day surgery, endoscopy, emergency medicine, ICU and obstetrics, including labor and delivery.

The hospitals will also work together to provide a combination of observation and short-stay care for pediatrics. In addition, a new 12-bed progressive care unit will be added at Laughlin.

*The plans announced in Greene County illustrate how two rural hospitals that were previously competitors in an environment where both were financially struggling are now able collaborate in a manner that will preserve acute care services in Greeneville in accordance with the state's primary goal of preserving access, and will enhance the viability of the hospitals going forward.*  
<https://www.balladhealth.org/news/plans-sustainability-and-enhancement-greene-county-healthcare>

#### 7. Opened a new rural hospital in Unicoi County

Again, with 80 rural hospital closures or reductions in services throughout the nation, led in part by Tennessee, Ballad Health implemented its vision for a new kind of rural health access. In October 2018, Ballad Health opened a new rural hospital in Unicoi County, replacing an aging facility that was originally constructed in 1953. While the hospital is not financially feasible as a stand-alone entity, Ballad Health made good on a promise to the people of Unicoi County and has not only kept the community's hospital open, but has provided a new state-of-the-art facility that houses some of the most advanced technology within the health system and is introducing new services to the community.

The new hospital features limited, low-acuity inpatient acute care services, a 24-hour emergency department, physician office space, a chest pain center and standard and advanced diagnostics. Among the outpatient diagnostic offerings is CT Scanning, 3D mammography and a virtual theater MRI, which features a built-in movie screen and music to create a relaxing virtual experience for patients undergoing scans. The better patient experience allows patients to remain still longer, which results in more efficient, high-quality imaging. The virtual theater MRI is the first of its kind in the Ballad Health system.

In addition to these services, the new hospital introduced nuclear medicine services, allowing patients to receive cardiac stress tests close to home. The hospital also offers inpatient cardiology coverage seven days a week.

The hospital also is in a unique partnership with the International Storytelling Center (ISC) with the goal of being designated by summer 2019 as the world's first storytelling hospital and receiving only the second ISC Seal of Excellence to be awarded to an organization. The goal is to embed a storytelling culture for staff, patients, visitors and the community to help accomplish hospital goals of improved patient and staff satisfaction and wellbeing, better patient education, and more meaningful community engagement. Storytelling projects already accomplished or in the works include storytelling training for every staff member, a heritage wall that shares community history stories, community and staff stories collected at opening events, and signups for story circles beginning soon. A junior board from the local middle school has been selected and is in the planning stages of a storytelling legacy project to benefit the hospital and the community.

#### 8. Recruitment of new physicians to the region

A key responsibility of Ballad Health is the recruitment and retention of physicians in the community. Failure to do so inhibits access to care, and requires the utilization of temporary

doctors, who are not residents locally. Because Ballad Health’s service area receives among the lowest reimbursement in the nation from Medicare, and because many commercial payers base their reimbursement on Medicare rates and policies, it is extremely difficult for independently practicing doctors to generate the resources they could receive elsewhere, thereby undermining the region’s competitiveness for doctors. Thus, particularly for specialists, if Ballad Health were not recruiting doctors – and in many cases subsidizing or employing them – the physicians simply would not be available to the residents of our region. The COPA contains limitations on Ballad Health’s ability to employ needed physicians and to provide for those services timely. Ballad Health has complied with such limitations, which has created cost concerns and increased concerns related to coverage needs. Notwithstanding these limitations, Ballad Health’s ultimate objective is to ensure access to needed services, and the board of directors of Ballad Health has directed management to ensure access always remains a priority. This remains an important issue for Ballad Health and the region, and Ballad Health will seek ongoing dialogue with the State of Tennessee to ensure any well-intended provisions or limitations do not create impairment to access.

Ballad Health has recruited new physicians and advanced practitioners to the region to improve access to primary care and specialty care. Areas of specialty include anesthesiology, cardiology, cardiothoracic surgery, endocrinology, family practice, general surgery, gynecology, hematology, hospitalist, intensivist, maternal-fetal medicine, nephrology, neurology, neurosurgery, OB/GYN, oncology, orthopedics, pain management, pediatrics, pulmonology, psychiatry, radiology, urology, wound care, and vascular medicine. Of the 79 providers recruited, 64 are employed by Ballad Health, and the remaining 15 were recruited to independent practices with assistance from Ballad Health through various means including recruitment incentives and income supplementation for doctors who join practices in the community. Eleven of the providers recruited in 2018 are in the area of family medicine.

Specialty	Hospital	Group (Red denotes private group)	Name
Anesthesiology	IPMC	Anesthesia and Pain	Helen Wilson, MD
Cardiology	SCCH	WMA	Dr. Villoch
Cardiology NP	JCMC	MSMG	Spencer Maden, NP
Cardiology NP	JMH	MSMG	Shannon Tally Nelms, NP
Cardiology NP	JMH	MSMG	Ashley Winegar, NP
Cardiology NP (structural heart)	JCMC	MSMG	McGahey
Cardiothoracic Surgery NP	HVMC	WMA - WCHI	Jordan Smith, PA
Endocrinology	HVMC	WMA	Rashid Mahboob, MD
Family Practice	HCMC	WMA	Crystal Stiltner, DO
Family Practice	IPMC	Mountain Region Family Medicine	Zachary Sumpter, DO
Family Practice	IPMC	Mountain Region Family Medicine	Brent Baker, MD
Family Practice	IPMC	Holston Medical Group	Mary Axelrad, MD
Family Practice	IPMC	MSMG	Teanna Moore, DO
Family Practice	JMH	MSMG	Elizabeth Dockery, DO
Family Practice Residency Director	JMH	MSMG - JMH	Jennifer Hanke, DO
Family Practice - NP	BRMC	WMA	Ashley Lindholm, NP
Family Practice - NP	JMH	MSMG	Rebecca Mabry, NP
Family Practice - NP	IPMC	MSMG	Deronna Moore, PA
Family Practice - NP	SSH	MSMG	Prabha Long, NP
General Surgery	BRMC	Bristol Surgical Assoc.	John Vance, MD
General Surgery	SSH	MSMG	Jeremy Meyer, MD
Gynecology - NP	SCCH	MSMG	Norah Nutter, NP
Hem/Oncology	MVRMC	WMA	Harish Madala, MD

Hospitalist	BRMC	WMA	Mark Sah, DO
Hospitalist	IPMC	MSMG	Jamie Bartley, DO
Hospitalist	IPMC	MSMG	Mark McCommons, MD
Hospitalist	HVMH	WMA	Alissa Hinkle, MD
Hospitalist	HCMH	WMA	Venkata Vedantam, MD
Hospitalist	HVMC	WMA	Aaron Towe, MD
Hospitalist	JCMC	MSMG	Brock (TJ) Mitchell, MD
Hospitalist	JMH	MSMG	Jeffrey Manfredonia, DO
Hospitalist	JMH	MSMG	Trent Keel, DO
Hospitalist	JMH	MSMG	Tambi
Hospitalist	TRH	WMA	Alexandra Bowling, DO
Hospitalist - NP	HVMC	WMA	Lucy Xayathone, NP
Hospitalist - NP	HVMC	WMA	Linda Moore, NP
Hospitalist - NP	SCCH	MSMG	Jenny Pruitt, NP
Hospitalist - NP	SCCH	MSMG	Amanda Daugherty, NP
Hospitalist - NP	SCCH	MSMG	Emily Fields, NP
Hospitalist - NP	JMH	MSMG	Justin Day, NP
Hospitalist, NP	IPMC	MSMG	Brad Moore, NP
Intensivist - NP	JCMC	MSMG	Brooklyn Beaupre, NP
Intensivist - NP	JCMC	MSMG	Leisa Morris, NP
Maternal Fetal	JCMC	ETSU OB	Willis
Nephrologist	JMH	MSMG	Pavan Annamaraju, MD
Neurology (clinic)	JCMC	MSMG	Marivi Neibauer, MD
Neurology - NP	JCMC	MSMG	Hannah Audia, NP
Neurology - NP	JCMC	MSMG	Jan Summer Osborne, NP
Neurology - NP	JMH	MSMG	Rachel Anderson, NP
Neurosurgeon	HVMC	WMA	Jon Traeau, MD
Neurosurgery - NP	JCMC	MSMG	Abbie Harris, NP
Neurosurgery - NP	IPMC	MSMG	Nina Tarlton, NP
OB/Gyn	IPMC	MSMG	Whitney Rich, MD
OB/GYN	LPH	WMA	Tara Moore, DO
OB/Gyn - NP	LPH	WMA	Jennifer Harrell, NP
OB/Gyn - NP	SCCH	MSMG	Nora Nutter, NP
Oncology - NP	JCMC	MSMG	Jamie Loveday, NP
Orthopedic	HVMC	Watauga Ortho	Scott MacDonald, MD
Orthopedic	HVMC	Watauga Ortho	Dustin Price, MD
Orthopedic	HVMC	Watauga Ortho	Tyler Duncan, MD
Orthopaedic	BRMC	Watauga Ortho	John Martino
Orthopaedic	BRMC	Watauga Ortho	Jason Fogleman, DO
Orthopedic	BRMC	Watauga Ortho	David Carver, MD
Orthopedic - PA	NCH	MSMG	Jay Bush, PA
Orthopedic Trauma	HVMC	WMA	Paul Hinkel, DO
Orthopedic Trauma- PA	HVMC	WMA	Kevin Hudson, PA
Pain Management – NP	HVMC	WMA - PM (Jett)	Serena Blevins, NP
Pain Management – NP	IPMC	MSMG - ETBS	Allison Raettig, NP
Pediatrics	LPH	WMA	Smita Akkinpally, MD
Pulmonary – NP	BRMC	WMA	Ashley Davis
Psychiatry - NP	TRH	WMA	Jessica McAfee, NP
Psychiatry - NP	RCMC	MSMG	Amanda Loughlin, NP
Psychiatry - NP	WOOD	MSMG	Blankenship
Radiology	HVMC	Blue Ridge Rad.	Laura Slusher, MD
Radiology	HVMC	Blue Ridge Rad.	Jonathan Suther, MD
Radiology	BRMC	Blue Ridge Radiology	Joseph Harpole, MD
Urology	JMH	MSMG	Brad Bauer, MD
Wound Care - NP	JCMC	MSMG	Kara Hill, NP
Vascular - NP	JCMC	MSMG	Hagerman, NP

9. Increased patients' choice by reducing restrictions on where physicians may practice  
Prior to the merger, Mountain States and Wellmont had restrictions on certain specialty physicians such that they could not freely practice at the hospitals affiliated with the competing

system. While serving the competitive needs of the hospitals, this also limited access to the hospitals for the patients. Since the merger closed, Ballad Health has taken several steps to eliminate these restrictions, including standardizing hospital contracts so hospitalists may provide cross-coverage; allowing legacy Wellmont cardiovascular services surgeons to provide vascular coverage at Johnson City Medical Center and allowing legacy Mountain States cardiovascular services surgeons to provide call coverage for Bristol Regional Medical Center during provider absences. While the competitive restrictions have been removed, certain limitations in the Terms of Certification have impacted the ability of cardiologists to practice at the hospitals of their choice. To date, this issue remains unresolved.

#### 10. Improved access to cardiovascular services for veterans

Ballad Health and the Mountain Home Veterans Administration Medical Center in Johnson City have established a national model for public-private partnership in cardiovascular service. Ballad Health provides physicians to help operate the VA's cardiovascular service line. This reduces wait times for veterans in our region in need of these services and reduces the necessity for them to travel elsewhere.

#### 11. Expanded access to transitional care services in Kingsport

The transitional care unit at Indian Path Community Hospital in Kingsport has expanded to accept more patients, providing a customized setting for patients who need long-term treatment and helping to reduce length of stay in the acute hospital setting.

#### 12. Expanded access to nursing and allied health care through support of new and expanded education and training programs

Nursing and other allied health professions are in short supply in rural areas nationwide, and our region is no different. Shortages in clinical staff can increase wait times for services, shut down nursing floors, and limit the availability of services. Ballad Health is committed to supporting training and education of nursing and allied health either directly or through partnerships with each college and university in the region. In particular, Ballad Health has:

- a. Formed a steering committee to develop and deploy a system-wide nurse residency program.
- b. Created a standardized certified nursing assistant (CNA) program and identified a schedule for increased frequency of CNA courses to be provided.
- c. Standardized the nurse intern II program for the system, including job descriptions, application process, program components and curriculum.
- d. Defined sexual assault nurse examiner (SANE) and forensic nursing course requirements, and the course to be provided, for team members in the system necessary to sit for nursing certification examination.
- e. Increased collaboration with regional nursing programs to support additional capacity for nursing student admission in academic programs currently at capacity to produce additional new graduate nurses year round.
- f. Contracted with Northeast State Community College (NESCC) for admission of 20 additional associate degree nursing students each spring semester starting January 2019, which will provide December graduates annually starting December 2020. The program did not previously graduate a December class, and this provides an additional 20 new graduate nurses annually above current capacity at NESCC program.

- g. The first two classes of the ETSU/Holston Valley accelerated BSN program graduated in May and August, 2018, producing a net gain of 34 additional nurse graduates above previous program capacity.

### 13. Established the department of virtual health

A department of virtual health has been established at Ballad Health under the leadership of the Chief Clinical Officer. The new director of virtual health has over 20 years of experience establishing robust telemedicine capabilities in rural communities, academic medical centers and healthcare systems in Texas, Colorado, and Tennessee. Working with the support of the Chief Information Officer, this department will focus on initiatives to increase access to services in underserved communities, as well as identifying opportunities to leverage the data at our disposal to empower patients with their own health information. A number of virtual health goals are included in the behavioral health, pediatrics health and rural health plans submitted to the state, including linking all Ballad Health emergency departments to Niswonger Children's Hospital, expanding access to behavioral health consults for rural primary care practices, and expanding the telestroke program.

### 14. Improved patient access to care through the Epic patient portal

The Epic patient portal (MyChart) features have been expanded with the latest 2018 upgrade. The features are currently available for patients of former Wellmont facilities and clinics, as well as the newly operational Unicoi County Hospital. Ballad Health is investing more than \$160 million to deploy a common health IT platform, which will result in all Ballad Health facilities being fully operational on this platform by March, 2020. Important new patient functionality includes:

- Patients can now share their health information with family members or with their providers, regardless of what information system the provider uses.
- Patients can now pull information into their Epic chart from other Epic locations.
- Patients can now complete e-visits with their providers through their mobile MyChart account.
- Patients can now schedule their mammography screenings through the patient portal.

## C. Improving Healthcare Quality

Two areas of concern are typically raised by anti-trust regulators when health systems merge. First, the use of increased market power to increase pricing. Second, there is a question about the effect of mergers on the sustainability of quality in the absence of competition.

Ballad Health has complied with the provisions of the COPA/Cooperative Agreement related to the pricing concerns. Proprietary evidence exists that costs have actually decreased in some cases, and as demonstrated elsewhere in this report, Ballad Health is structurally positioning itself to be a high-value, lower-cost provider. Thus, there is no reason to believe that Ballad Health will violate the pricing limits contained within the COPA/Cooperative Agreement.

With respect to quality, Ballad Health has maintained that due to national public reporting, value-based contractual arrangements and increased patient mobility for higher acuity elective services, the environment remains highly competitive for inpatient services. Further, the outpatient environment in the local region remains highly competitive. The majority of Ballad Health's revenue is outpatient, and this trend is increasing.

Because of these competitive trends and increased transparency, and most importantly, because it is locally governed and operated by people who, themselves, are deeply concerned about the quality of care in the region, the commitment to high quality remains stronger than ever. Ballad Health is engaged in a number of initiatives and efforts to sustain its already high quality, and is on a path to becoming a top decile performing health system.

What follows are merely examples of the results of our work, and the systems being put in place to institutionalize the results.

1. Ballad Health receives national recognition for quality

Ballad Health hospitals, facilities and services lines received numerous awards, certifications and quality designations since February of 2018. Among these are:

*a. Mountain States named in the top 20% of health systems by IBM/Watson*

Mountain States Health Alliance, a subsidiary of Ballad Health, was named among the top 20 percent of America's health systems by IBM/Watson, based on performance in key quality metrics such as mortality rates, readmission rates, average length of stay, rate of Medicare spending per beneficiary, emergency department throughput, hospital-acquired conditions, and others. Other systems listed among the top 20 percent include the Cleveland Clinic, the Mayo Foundation, Mercy Health, and Sentara Healthcare. Mountain States was the only health system in its size category in Tennessee or Virginia to be recognized in the top 20 percent.

<https://www.balladhealth.org/news/ballad-health-legacy-systems-recognized-nationally-excellence>

*b. Highly successful accreditation surveys by the Joint Commission, the national accreditation agency for the U.S. Centers for Medicare and Medicaid Services.*

The Joint Commission uses the most stringent criteria for accrediting hospitals, and hospitals are required to be resurveyed every three years. The hospitals do not know when the surveyors will come, and the surveys are designed to capture a real state of patient care in each hospital. Since the merger closed in February, nine Ballad Health hospitals have been surveyed by the Joint Commission. In those surveys, not one hospital was cited with a conditional level finding or threat to life. By comparison, year-to-date, the Joint Commission has cited 51.57% of hospitals surveyed nationally in 2018 with conditional level deficiencies, which requires another survey and additional expense to the facilities. **Ballad Health facilities are continuing to outperform most hospitals in the nation.**

*c. Niswonger Children's Hospital and the JCMC Family Birth Center recertified as the state-designated perinatal center*

Niswonger Children's Hospital and the Family Birth Center at Johnson City Medical Center received re-certification as the state-designated regional perinatal center. Funding is provided by the State of Tennessee to only five designated regional tertiary centers to ensure that the infrastructure for high-risk perinatal services is in place statewide. The system includes 24-hour telephone consultation with physicians and nurses, professional education within the region, transportation of high-risk pregnant

women and infants, and post-neonatal follow-up. Research indicates that ensuring high-risk pregnant women and newborns receive risk-appropriate care can reduce maternal and infant morbidity and mortality.

*d. Overmountain Recovery receives CARF accreditation.*

Overmountain Recovery achieved a three-year accreditation from the Commission on Accreditation of Rehabilitation Facilities (CARF), representing a tremendous achievement after one year of operation. Most newly operational addiction treatment facilities are awarded only a one-year certification.

Overmountain Recovery is a service of Ballad Health and East Tennessee State University in partnership with Frontier Health. It is the region's only medication-assisted therapy clinic offering comprehensive treatment of substance use disorder including methadone and buprenorphine therapy, intensive counseling services and wrap-around social services. During the two-day CARF survey, the commission evaluated the clinic's business and service practices to ensure they meet international standards of quality, and also assessed sustained organizational success and patient outcomes. As of September, the facility serves approximately 160 patients and has a 70 percent retention rate, which is higher than most national benchmarks.

*e. Holston Valley interventional carotid care ranked #1 in US by CareChex®*

For the third consecutive year, Holston Valley Medical Center was ranked as No. 1 in the country for medical excellence in interventional carotid care by CareChex®. Led by Dr. Chris Metzger, the carotid program at HVMC has developed a national reputation as a training and research leader. For the seventh year, Dr. Metzger hosted a team of Harvard endovascular fellows during a week-long training period that allowed the students to observe Dr. Metzger as he performed carotid artery stenting procedures. In addition to one-on-one training with the fellows, Metzger regularly performs carotid artery stenting procedures that are transmitted live to medical conferences in different locations in the country and across the globe. These include New Cardiovascular Horizons and Vascular Interventional Advances conference, which draws an attendance of more than 2,500 health care professionals, and TCT (Transcatheter Cardiovascular Therapeutics), which draws 12,000 attendees. <https://www.balladhealth.org/news/dr-chris-metzger-shares-expertise-helps-train-harvard-endovascular-fellows>

*f. Norton Community Hospital Inpatient Rehab recognized at top decile performance*

The Norton Community Hospital Inpatient Rehab Unit was recognized in 2018 for its twelfth consecutive year of top-decile performance – out of more than 800 facilities – for functional patient outcomes. The evaluation was based on the delivery of quality care that is effective, efficient, timely and patient-centered. To determine the rankings, Uniform Data System for Medical Rehabilitation (UDSMR) used a system that measures the efficiency and effectiveness of a hospital's rehabilitation programs by evaluating and tracking patient progress through the rehabilitation process. Patients' functional levels refer to their ability to return to their daily lives and activities without impairment. The unit first opened in 1998, and since that time, it has served nearly 4,000 patients recovering from a variety of injuries, illnesses and accidents.

- g. Lonesome Pine Hospital Family Medicine Residency program accredited*  
The Lonesome Pine Hospital family medicine residency program achieved initial accreditation from the Accreditation Council for Graduate Medical Education (ACGME). The family medicine program can now accept medical school graduates with osteopathic medicine (DO) and medical doctor (MD) degrees, which means it can select residents from a larger number of quality applicants. To earn the accreditation, the residency program demonstrated its ability to operate with a well-developed educational curriculum, qualified faculty, supervision and graduated responsibility and ongoing evaluations of resident competence. The accreditation process also focused multiple criteria on safety and quality measures, requiring full participation from residents, faculty, medical staff and team members alike.
- h. Hawkins County Memorial Hospital recognized as Top 100 Hospital*  
Hawkins County Memorial Hospital received national recognition from multiple agencies in 2018. The hospital was recently chosen as one of the Watson Health 100 Top Hospitals® 2018 winners. Previously known as the Truven Health Analytics® 100 Top Hospitals, Hawkins County Memorial also earned that honor in 2016 and 2017. Hawkins County Memorial was also named one of the Top 100 Rural & Community Hospitals by the Charter Center for Rural Health for 2018. The hospital also received that same recognition in 2016 and 2017, when iVantage Health Analytics issued the award. In addition, for the sixth straight years, the hospital has been ranked in the top 10 percent in the nation for patient satisfaction in overall hospital care by CareChex®, an information service of Quantros Inc.
- i. Franklin Woods Community Hospital recognized as Top 100 Hospital*  
For the second year in a row, Franklin Woods Community Hospital was named one of the nation's "100 Top Hospitals" by Truven Health Analytics. The honor recognizes Franklin Woods for meeting the highest national standards in 11 key areas, including patient care, operational efficiency and financial stability. Making the list indicates hospitals deliver effective care at a reasonable cost, have systems in place that safeguard patients from medical errors, provide evidence-based treatments and produce superior outcomes. Other measurable areas include readmission rate, length of stay, mortality rate, patient throughput in the emergency department, cost per patient and patient satisfaction.
- j. Hancock County Hospital recognized by Becker's Healthcare*  
Hancock County Hospital was named among 66 Critical Access Hospitals to Know by Becker's Healthcare in 2018. Hospitals on this list are recognized for clinical quality and excellence in care delivery based on awards and rankings from respected organizations including iVantage Health Analytics, The Chartis Group, the National Rural Health Association, CareChex, Healthgrades and Medicare star ratings.
- k. Bristol Regional Medical Center certified by Novalis for stereotactic radiosurgery*  
Bristol Regional achieved certification from Novalis for stereotactic radiosurgery, demonstrating the hospital's ongoing commitment to radiotherapy patient safety and treatment quality. Novalis Certified is an independent accreditation program that promotes high standards of care in the delivery of cranial and body radiosurgery and

includes a review of organizational, personnel, technological and quality assurance practices.

2. *Ballad Health Clinical Council established and providing clinical leadership*

Early in the year, Ballad Health established its clinical council, comprising approximately 30 physicians from Ballad Health hospitals, the health system's medical group and community physicians. The council meets monthly and reports directly to the quality committee of the Ballad Health board of directors. The group's goal is to ensure excellence in clinical care through physician engagement and leadership.

A number of sub-committees have been formed to focus on specific priorities, each of which networks with other physicians both inside and outside the health system to advance common clinical goals. The subcommittees are:

- Evidence based medicine – high value care subcommittee
- Medical staff services subcommittee
- Surgical services/perioperative subcommittee
- P&T subcommittee
- Patient, family, physician experience subcommittee
- Opioid task force subcommittee
- Health information exchange subcommittee
- Population health subcommittee

The council employs a dyad leadership model, with each subcommittee – as well as the council itself – led by co-chairs representing both physician executives and those in full-time practice. Select activities and achievements of the Clinical Council include:

*a. Reduced hospital-acquired C. diff infections by 45%*

One of the first quality improvement initiatives of the clinical council was an ambitious campaign to reduce hospital-acquired clostridium difficile (C. diff) infections by 30% in 90 days. By coordinating clinical practices across the system, not only did the program succeed, but it surpassed its goal of 30% reduction and cut C. diff infections by 45%, with sustained results. Ballad Health data indicated a baseline of 22 cases per month when the program started. By the end of the program, the average dropped to 13 cases per month. Results are now at the top quartile based on Hospital Compare benchmarks.

*b. Encouraging appropriate use of radiation in inpatient testing*

In addition to the C. diff initiative, the clinical council has also designed and is preparing to implement initiatives tied to evidence based testing for the purpose of ensuring appropriateness of testing. This is a national initiative sponsored by the Choosing Wisely Campaign.

*c. Development and deployment of best practices to reduce catheter-associated urinary tract infections*

Holston Valley developed an interdisciplinary approach to the reduction of catheter-associated urinary tract infection (CAUTI) that included nurse-driven protocol for

catheter removal, implementation of accountability protocol for education and daily catheter assessment, and an updated catheter kit that includes bladder scanners and a new type of Foley catheter. The result was a significant reduction in CAUTI in this tertiary care environment, with zero CAUTIs in medical/surgical units for 26 months. The Holston Valley practice was rolled out to other hospitals throughout Ballad Health in October and has been presented as a best practice to the Tennessee Hospital Association and the American Organization of Nurse Executives.

*d. Physician led alignment of physician preference items produces supply chain savings*

The clinical council has established a formal, collaborative supply chain project between physician leadership and supply chain leadership to help align group purchasing and physician choice. Savings of \$16-20 million are projected over the next 2 years based on work in cardiovascular services, ortho/trauma, and neuro services, and additional savings are expected in multiple other disciplines. While such initiatives reduce cost, they also improve quality by eliminating variation. Physician input in this process is critical, and the clinical council provides such a venue for physician input.

*e. Promoting High Value Care*

In August, Ballad Health was chosen for a national initiative that has the potential to improve the value of care patients receive while reducing healthcare spending nationwide. The High-Value Care Collaborative, a partnership of the American Hospital Association, the American Board of Internal Medicine Foundation's Choosing Wisely campaign, and the Costs of Care organization, brings together participants to improve efficiency in health care, decrease cost and improve quality. During the next year, Ballad Health, along with other selected health systems and medical groups, will seek to adopt strategies that reduce unnecessary cost and deliver evidence-based care that has been demonstrated to reduce the burden on patients. In deploying evidence-based practices, Ballad Health will share guidance with other leading health systems, while also learning from successful initiatives utilized in those systems.

<https://www.balladhealth.org/news/ballad-health-national-initiative-enhance-care-value>

The group is also participating in the Virginia Center for Health Innovation's Virginia Choosing Wisely efforts promote high value care. More than 40 insurers, health systems, community organizations, professional societies, employer groups and the Virginia state government have aligned to pursue the aims outlined in the 2018 Virginia Health Value Dashboard. <http://www.vahealthinnovation.org/virginia-health-value-dashboard/>

*f. Clinician Experience Project to reduce physician burnout*

Ballad Health is committed to improving physician leadership and addressing physician burnout through a national program – The Clinician Experience Project. Led by Dr. Steve Beeson, this effort is a clinician skill-building community with over 70 partner health systems, 15,000 clinician members, and 500 clinician leaders. The goal is to equip clinicians with the skill and support to effectively manager burnout, leadership, team-based care and the patient experience and is support by more than 600 physician-designed video learning resources.

### 3. Quality Department Activities

Ballad Health combined the functions of the quality departments operating in the two legacy health systems and immediately began to standardize quality operations and achieve improved performance. The quality function now reports to the chief nursing officer and works closely with the newly established Ballad Health clinical council.

#### *a. System-wide quality plan developed*

The Inaugural FY 2018-2019 Ballad Health quality plan was developed to include the Quality, Service and Safety Committee Charter, the organizational structure, key relationships, the use and sharing of data both external and internal, Quality Assurance and Performance Improvement (QAPI), and priority metrics. These priorities were selected considering risk, volume, propensity for problems, impact on health outcomes, patient safety, and quality of care.

#### *b. Sepsis teams established*

Ballad Health multi-disciplinary performance improvement teams have been established to address the care of the patient with sepsis and the reduction in hospital-acquired pressure ulcers.

#### *c. Quality scorecard developed*

The quality department developed a system scorecard for the target measures, monitoring measures, and identified priorities established by the quality, service and safety committee and the clinical council. The scorecard guides improvement at the facility, market, state and system levels.

#### *d. Quality policy, process and infrastructure unified across Ballad Health*

Ballad Health has selected one policy repository for use system-wide. Two committees, administrative and clinical, have been established to achieve consolidation of policies and procedures to align system practices. As of October, 2018, 132 policies/procedures have been consolidated, and 893 out of date or unnecessary policies have been retired.

Examples of steps taken to institutionalize improvements in quality include:

#### o Infection prevention efforts standardized

The facility infection prevention departments have been centralized into a unified team, led by the system director of infection prevention. This allows for system standardization, streamlining of work and system-wide implementation of best practices. The team meets on a monthly basis to share successes and struggles so that lessons learned and successful initiatives can be replicated across the system.

#### o Antibiotic stewardship committee established

Legacy antibiotic stewardship teams were consolidated to create the Ballad Health antibiotic stewardship committee. This allows for standardization and system-wide implementation of best practices. The committee developed a process for pharmacy to review all C. diff orders for appropriateness,

contributing to system-wide improvements in C. diff rates. The committee also implemented clinical guidelines for pharmacy-led penicillin allergy testing.

- Isolation policies standardized

Ballad Health standardized isolation policies and signage were developed, allowing team members, independent practitioners or contractors working in any facility to immediately recognize and comply with isolation guidelines.

- Influenza vaccination policy adopted

The medical staff service subcommittee of the clinical council standardized and implemented the Ballad Health mandatory influenza vaccination policy.

- Joint Commission readiness standardized

The approach for Joint Commission accreditation and continuous survey readiness program has been consolidated and standardized.

#### 4. Nursing and Clinical Education Activities

##### *a. General nursing and clinical education activities*

- Nursing leadership

The Ballad Health Nursing Institute Chief Nursing Officer Council (NICNOC) was created in February 2018 to help standardize professional practices and evidence based care across the health system. The council meets monthly, with other activities occurring in between meeting dates. The first Ballad Health nursing leadership conference was held in May, 2018.

- Servant's Heart Award

Adopting a best practice from one of its legacy systems, Ballad Health developed its own Servant's Heart award process, recognizing team members across the system who go above and beyond the call of duty to care for patients, community members, and their fellow team members. Servant's Heart winners have an outstanding commitment to patient-centered care, setting a strong example for others to follow. The winners are nominated by fellow team members, leaders, physicians, volunteers, patients and family members. For the 2018 awards, there were 129 unique nominees coming from a total of 172 nomination submissions. Fourteen honorees were recognized with Servant's Heart awards at the annual Ballad Health service awards banquet on June 14.

##### *b. Nursing policies and processes unified across Ballad Health*

- Established nursing policy and procedure committees

Ballad Health policy and procedure committees formalized and implemented for policy standardization and management, including administrative policy and procedure committee and clinical policy and procedure committee.

- Standardized policy and procedure on use of restraints  
Identified “Handle with Care” as the system educational approach for de-escalation and appropriate use of restraint techniques. This training is now provided in clinical team member orientation.
- Standardized medical professional screening and competency in Obstetrics  
Nursing standardized the Ballad Health Qualified Medical Professional Screening criteria and competency requirements for registered nurses performing obstetric patient screening for obstetric patients presenting to the obstetric department for evaluation consistent with the TN State Board of Nursing Registered Nurse Scope of Practice.

c. Education Activities

- Deployed the Ballad Health clinical education department.  
Ongoing education and development of team members is an important commitment of Ballad Health. Through direct efforts and the use of technology, Ballad Health seeks to sustain professional competencies, and ensure ongoing learning related to policies, best practices, and professional advancement. Work has been completed to align team member educational courses in the two current learning management systems. The use of technology in reaching our team members is an important component of sustaining competencies and ensuring ongoing learning related to policies, best practices and professional advancement.
- Unified educational assistance policies across Ballad Health  
One organizational policy for continuing education and tuition support for all team members was deployed. A Ballad Health scholarship plan for healthcare program students in critical healthcare roles of increased shortage/vacancy (not current team members) was deployed to support completion of education and future employment opportunity in multiple disciplines throughout the health system.
- Standardized the process for academic student affiliation  
Nursing standardized the process for academic student affiliation for clinical educational practicum experience at Ballad Health. Student processes were centralized under the clinical education department. For example:
  - A new orientation process for students was developed and deployed across Ballad Health
  - A new website and student orientation handbook was deployed
  - Student affiliation contract process has been approved and is in development for Ballad Health
  - Aligned the ACNEP scheduling process for Ballad Health
  - Created one point of contact for academic programs for student processing and contract negotiation

- o Standardized orientation for clinical team members

Ballad Health has standardized general human resource and clinical orientation for new team members alternating delivery of the program with the standardized content in rotating locations (JCMC, HVMC, BRMC and NCH) weekly.

#### D. Improving Financial Stability and Performance

##### 1. Bond ratings upgraded and affirmed as a result of the merger

In April, Ballad Health's credit ratings were upgraded by S&P Global Ratings and Fitch Ratings, and affirmed by Moody's. Fitch increased the credit rating by two categories to a solid "A" rating with a stable outlook. S&P issued an "A-" rating with a stable outlook, and Moody's affirmed its existing ratings and outlook at BBB+.

Together, the three rating agencies cited a variety of strengths of Ballad Health that led to the upgrades and affirmation. Citing the strength and experience of the management team, historical disciplined financial management, a strong strategic vision and a solid plan for refinancing that will lead to immediate reductions in debt service, the nation's three leading rating agencies applauded the potential for the merger between Wellmont Health System and Mountain States Health Alliance to produce outstanding results.

<https://www.balladhealth.org/news/credit-ratings-significantly-upgraded-affirmed>

##### 2. Debt refinancing and restructuring lowers interest payments and increases availability of cash for reinvestment

In May, 2018, Ballad Health refinanced \$540 million of debt through issuance of a new series of bonds. Due in part to the merged health system's improved credit ratings, the market reacted very favorably to the issuance, and Ballad Health's bonds were oversubscribed by more than 10 times, with the health system receiving orders for more than \$5.6 billion. Due to the extraordinarily high demand for its bonds, Ballad Health was able to obtain favorable interest rates, saving the health system \$20 million per year in debt service payments and increasing the amount of cash available to reinvest in critical services for the community.

##### 3. Value-based contracting to improve quality and service and reduce the total cost of care

Ballad Health has increasingly entered into "value-based contracts" with government and commercial payers. In contrast with typical "fee-for-service" contracts, which pay a flat fee for a specific service regardless of the outcome, value-based contracts tie payment to achieving certain levels of quality and service as well as managing the total cost of care. One of the objectives of Ballad Health is to reduce the growth in the total cost of care, while sustaining high quality. Value-based arrangements align those goals with the third-party payors who share these objectives.

Ballad Health has continued to perform well on value-based contracts in the most recent reporting period while expanding the number of value-based contracts we have with payors and strengthening our capacity to manage these contracts.

a. *Medicare Accountable Care Organization one of only 21 in the nation to achieve shared savings with the federal government for the five years the program has existed.*

Ballad Health's accountable care organization (ACO), AnewCare Collaborative, was one of only 21 ACOs in the country to achieve savings for the fifth year in a row through the Medicare Shared Savings Program (MSSP) administered by the U.S. Centers for Medicare and Medicaid Services (CMS). By delivering high-quality care and reducing the cost of care, Ballad Health saved CMS \$3.2 million in spending, and the health system was awarded a \$1.6 million shared savings distribution. While achieving these savings, AnewCare also achieved high marks on the quality scores within the program, with a quality score of 87.8 percent. Ballad Health has become a model for successful implementation of shared savings arrangements, and seeks to continue its collaboration with the federal government. Ballad Health believes this model is appropriate for other government-funded populations, like Medicaid and TennCare, and will seek such opportunities to reduce cost and improve outcomes with our state partners.

b. *Achieved Medicare Advantage performance goals and expanded value based contracts*

Ballad Health also has value-based contracts with a number of Medicare Advantage programs, which provide incentive payments to Ballad Health if certain quality, service and medical cost savings targets are achieved. This year, Ballad Health actually reduced the costs for a Medicare Advantage population, while achieving excellent outcomes on incentive-based payment and improving the accuracy of risk-adjusting the population. Ballad Health was rewarded for this effort through several million dollars of incentive payments for improvement of quality and service, with reduction in cost. Importantly, in addition to benefitting the patient, government and payors, this approach will benefit independently practicing physician groups that rely on their own risk-based contracting, since reduced overall costs will reduce their exposure.

While many hospital systems have expanded and merged with an eye toward leveraging higher pricing, Ballad Health's business model remains focused on reducing costs, improving outcomes and sharing in the resulting savings.

c. *Value-based contract dashboard expanded across Ballad Health*

Because the movement toward value-based purchasing is a new phenomenon, little has been invested nationally in the creation of data platforms and information that assists in the monitoring of such arrangements. Ballad Health has developed and deployed a proprietary, comprehensive tool that includes a dashboard highlighting performance on the various value-based contracts across the system. This includes full-risk contracts, shared savings contracts, pay for gaps/care coordination, hospital-based contracts, and other contracts across both legacy systems. The dashboard denotes the number of covered lives, maximum upside and downside potential, estimates of current performance overall as well as specific contract components and status. This information is reviewed on a regular basis by management and the community benefit and population health and finance committees of the Ballad Health board of directors, and assists in prioritization of efforts where opportunity exists.

4. [First annual Ballard Health Management Action Plan completed; Five-Year Financial Plan completed](#)

Ballad Health completed its first strategic plan cycle as a health system, resulting in the FY19 management action plan, five market plans, five service line plans, and over 20 corporate plans. Ballad Health has invested in, and utilizes, the MedeAnalytics Enterprise Performance Management tool to create visibility throughout the system on the progress with the plans, timelines, deliverables, and metrics. The COPA /Cooperative Agreement plans for behavioral health, children's health, rural services and population health will also be tracked by the MedeAnalytics tool. Ballad Health also expanded its project management department to assist management and staff in priority integration, efficiencies, and COPA cooperative plan development and implementation work.

The board of directors and management have begun a longer-term strategic planning process to map the direction of Ballad Health for the next 10 years. This plan will provide a roadmap for Ballad Health's evolution, and for each year's management action plan. Each year, as the management action plan is updated, performance targets and goals will be tied to the longer-term strategy.

5. [Five-Year Financial Plan, Capital and Debt](#)

As part of the planning process, Ballad Health maintains a disciplined, rolling five-year financial plan. Each year, the plan is updated based on current payment policy, projected volumes, strategic initiatives and projected expense and capital needs. The five-year plan currently projects that Ballad Health will make significant reductions in debt by year five, with such projections being influenced heavily based on how cash is utilized. If unknown capital needs arise, or if other needs materialize, cash may be utilized to provide for those needs. The importance of a conservative approach to capital and spending in the first five-year period relates to the number and amount of major capital projects undertaken more recently by Ballad Health and its legacy systems. Specifically, Ballad Health and its legacy organizations have brought five new hospitals online in recent years, and major capital projects were performed at other system hospitals, which brought new equipment and facilities. As newer projects begin to age after the first five-year plan is exhausted, it is important for Ballad Health to have the capacity on its balance sheet to provide for what will be expected capital needs. Thus, Ballad Health is taking a responsible and methodical approach to capitalization and debt reduction. These issues are intertwined, and an important part of ensuring ongoing capital needs can be met.

Capital issues are further complicated by the industry-wide slowdown in inpatient utilization. Fewer capital dollars are needed for inpatient related services as volumes decrease, while more capital is needed in areas like information technology and outpatient access. An example of the type of capital spending that combines the need for certain inpatient services with outpatient access is the recently opened Unicoi County Hospital. In that instance, an outpatient focused hospital was built in a rural community where high-acuity inpatient services do not need to be provided. High-quality diagnostics and emergency services are a major component of this project. As a community-based organization, Ballad Health remains committed to ensuring its facilities and assets are well-capitalized, and the board of directors has a long-term plan to ensure this occurs.

Ballad Health is pleased that in its first year, the expected capital expenditures will exceed the combined capital expenditures of each legacy health system over the last five years. **In a specific advantage related to the merger, the newly merged entity will spend more in capital in its first year than both systems did on a combined basis in any of the last five years.**

Included in this capital spending is more than \$160 million over three years to upgrade the information technology and move to a common information technology platform. This new platform will create significant opportunity for improved outcomes and reduced risk for patients, reduced costs, more patient engagement and more robust sharing of critical information between providers. Additional examples of capital deployed include: new MRI diagnostics, hybrid cardiovascular operating room, replacement CT scanners, new beds, a new hospital in Unicoi county, significant upgrades to exteriors of hospitals, advanced radiological diagnostics, and a host of other investments for the improvement of care.

#### 6. Reducing unnecessary external signage and improving patient wayfinding

Rather than “rebranding” the new health system by replacing every external Mountain States and Wellmont sign one-for-one, Ballad Health adopted a system-wide strategy of “de-branding.” Many signs that had been erected by legacy systems for purely competitive purposes are being permanently removed, and signs that are replaced with Ballad Health branding will be designed and placed according to patients’ wayfinding needs. Not only will this reduce the visual clutter that external signs produce against our mountain landscape, it allows for money otherwise spent on signage to be redirected to improving patient care and services. The project involves local vendors, in an effort to keep expenditures in the region as much as possible.

#### 7. Operational Excellence (Lean Management) Activities

Ballad Health has adopted lean management as its common approach to operational excellence. Lean management supports the concept of continuous improvement in performance (clinical quality, service, operations, financial) and takes a long-term approach to work that methodically strives to achieve incremental changes in processes to improve efficiency and quality. Since the merger, Ballad Health has developed and deployed an operational excellence (lean management) class for all new hires as part of the orientation process, revamped and consolidated the lean training program for leaders across Ballad Health, and developed new lean certification levels that incorporate practices from both legacy health systems.

#### 8. First Quarter Results Reported – Strong Financial Results

Ballad Health reported its results for the first budgeted quarter as a merged health care system. The strong financial performance was driven by well-executed expense management. Overall, earnings before interest, taxes, depreciation and amortization (EBITDA) grew year-over-year by 25.2 percent to \$52.6 million. With improvements in productivity, reductions in the use of temporary contract labor, focused management of supply cost and overall operational focus, the operating income went from a loss in the prior year period to a gain in the current year. This performance was achieved even with a continued 4.3 percent decline in admissions and a 0.7 percent decline in adjusted admissions. Two variables are driving the reductions in volume. First, rural and non-urban communities all over America are seeing reductions in volume as population growth has been stagnant. Second, Ballad Health is working collaboratively with its physician community to reduce unnecessary lower-acuity admissions. Both variables are impacting Ballad Health. Even while admissions have been declining, patient acuity, or the severity of patient needs, has increased by 2.5 percent, indicating that lower acuity admissions

are the primary driver of the decline in volume. This, combined with a modest increase in inpatient surgery (0.1 percent growth year over year) and an overall increase in total surgeries of 1.7% to 18,290 cases, supports the assertion that volume declines are largely through the effort of risk-based, shared savings and value-based arrangements to reduce lower acuity admissions.

An important component driving the merger of Mountain States Health Alliance with Wellmont Health System was the choice facing both systems related to whether to join larger out-of-region health systems or keep local governance control. An out-of-region acquisition of either system, or both, would likely have resulted in the loss of 1,000 or more jobs locally. This assertion is based on past evidence of what larger systems typically do when they acquire smaller regional systems. As administrative and support functions are no longer needed locally, they are consolidated into larger corporate centers. At the time of the merger, Ballad Health stipulated that there would be some local synergies between the systems, and those synergies are ongoing. However, these synergies are small relative to the alternative of a larger acquisition of the two legacy systems.

***As a result of this approach, Ballad Health invested \$267.1 million into the local economy through salaries, wages and benefits spending, an increase of \$1.5 million from the prior year period. There has been no negative impact on aggregate labor spending resulting from the merger, and there has been an avoidance of massive reductions in workforce, which would have resulted had the legacy systems been acquired from outside organizations. Ballad Health identified this as one of the key benefits of the merger, and this benefit is being realized. Ballad Health estimates a 1,000-person reduction in the local workforce would have resulted in an annualized decrease in salary, wages and benefits of more than \$100 million.***

## 9. Implementing a common clinical and operational technology platform

Information technology is integral to any successful health system. Yet nationwide, many providers still cannot easily share information with each other, electronic health records are frustrating to interact with for both physicians and patients, and in many cases health systems installing new technology are hundreds of millions of dollars over budget and years behind on their technology implementation.

Ballad Health is committed to moving to a common clinical platform as part of the merger to improve patient care quality and experience and connect patients and physicians region wide to their health information.

### *a. Implementing the Epic electronic health record system wide*

In April 2018, the Ballad Health board of directors approved the move to a common clinical platform and electronic health record, with Epic as the chosen vendor. Prior to the merger, Epic was in use by Wellmont Health System facilities but not Mountain States Health Alliance. Immediately following the board vote, work began on an implementation plan to bring the former Mountain States Health Alliance facilities onto the platform. Infrastructure enhancements began during the summer to support the expansion.

A common electronic health record across the new health system will allow patient information to be shared immediately at the point of service regardless of where a patient enters the Ballad Health system, providing clinical staff with information to better manage patients in the emergency room, the physician's office and the hospitals. Previously, patients who used both Mountain States and Wellmont services could not be assured that all of this information was available to at the time of treatment. Fragmented information "silos" have been routinely identified nationally as a key contributor to driving unnecessary costs (such as duplicate tests) and poor outcomes (such as when a provider does not have a complete medication list or list of known allergies).

The first facility transition in the Ballad Health Epic rollout plan occurred at the newly-constructed Unicoi County Hospital on October 23, 2018. As part of Ballad Health's commitment to supporting rural healthcare, the new facility was built to replace an aging rural hospital in Erwin, Tennessee, and the Epic launch was completed concurrent with the hospital's opening date. The next facility to go live with Epic will be Laughlin Memorial Hospital in Greeneville, Tennessee, in April 2019. The remaining physician clinics and 13 hospitals will go live with Epic in late 2019/early 2020. This will place all Ballad Health facilities on a common clinical platform and newly extend Epic functionality to hundreds of thousands of patients in the region.

*b. Community connectivity*

Discussion have begun with independent physicians to determine the best way to share clinical information across the region. EpicCare Link software, which allows physicians a simple web-link to view the content of patient records in Epic, has been made available to independent physician offices at no cost to them.

In addition, Epic's Community Connect program installs fully functional Epic software into independent physicians' offices to serve as their office EHR. Meetings have begun with several physician groups regarding this program.

An overall health information exchange plan required by the COPA and cooperative agreement is under development. This plan will propose a strategy for maximizing health information exchange across all providers in the Ballad Health service area, regardless of their particular choice of electronic health record. Final plans will be submitted to the states on January 31, 2019.

*c. Unifying IT systems, applications, the network and domain*

A review of all IT systems and applications is in process. The goal is to eliminate duplication and create a more efficient and standardized electronic health record. Several hundred applications are now running within Ballad Health; many of them are duplicative of each other or redundant of Epic capability. Rationalizing these applications will reduce cost to the health system as fewer licensing and maintenance fees will need to be paid, and will increase overall reliability of the system as updates and integration will be more reliable.

Work has also begun to create one network and one domain for Ballad Health. This will provide the infrastructure needed to establish the common clinical platform across Ballad Health and to extend to independent physician offices, providing for enhanced data interoperability.

*d. Data governance*

A governance structure has been developed for data and governance. This will be used to structure the databases and to produce metrics for population health, predictive analytics, COPA/CA metrics, etc. These analytics will be used to monitor the health improvements in our region.