Independent Assessment of the Benefits and Disadvantages in the Proposed Merger of Mountain States Health Alliance and Wellmont Health System

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I. Executive Summary

Compass Lexecon was asked to provide an independent assessment of whether the likely benefits of the proposed merger of Wellmont Health System (Wellmont) and Mountain States Health Alliance (Mountain States) outweigh the potential disadvantages of displacing competition, as set out in statutory criteria for issuing a Certificate of Public Advantage which governs the cooperative agreement between the Parties (hereinafter COPA or cooperative agreement) in Tennessee. In conducting this evaluation, we considered all submissions to the State of Tennessee and Commonwealth of Virginia, including the commitments proposed by the Parties. This Report provides the results of that evaluation.

The economic conditions in the Northeast Tennessee and Southwest Virginia region pose particularly severe challenges to the ability of Wellmont and Mountain States to sustain their healthcare delivery systems in current configurations. Each health system has a few tertiary referral centers and a large number of very small community or critical access hospitals located throughout a sprawling rural geographic area with a population of less than one million. Challenging market conditions for the region and its current healthcare infrastructure include an aging, slowly growing population (with some rural communities projecting declining population), a declining rate of inpatient admissions, lower income, a high proportion of government pay and uninsured patients, and a declining commercial base of insured patients. In turn, both hospital systems face significant financial pressures due to increasing costs, low reimbursements, and low occupancy and volumes in most of their smaller and high-fixed cost hospitals. Each system's ability to coordinate care and move toward newer payment models is inhibited by the region's geographic scope and broadly distributed population, and the relatively small volumes associated with each individual insurer contract.

Compounding its economic distress, the region also suffers from some of the nation's most serious health issues, which, in some notable cases, are accelerating and imposing high (and still rising) medical and other costs on residents, employers, and governments. Reducing these conditions will require significant behavioral change, as well as preventative, hospital, and outpatient care that adapts to a population health model, while also sustaining a proper mix of localized medical and community-based resources. Both Parties face significant difficulty recruiting enough physicians to address the region's multitude of health issues. Addressing these conditions and their impact will require substantial coordination of effort and resources across the area's entire continuum of care.

Facing these challenges, Mountain States and Wellmont evaluated options and determined that combining resources into a new entity named Ballad Health is the best strategy to preserve access to healthcare in this economic environment and address the region's major health issues. The Parties propose a model to realign their systems into a single integrated delivery system (IDS) of healthcare providers, organized to provide a coordinated continuum of services to the community. Supporting the proposed IDS are numerous key investments and structures that include governance, a Clinical Council, a Common Clinical IT Platform, and region-wide information sharing. The model also includes an IDS-led Accountable Care Community, coordinated with specific community partners to achieve improved community health as well as specific structures and commitments to make significant, needed investments aimed at "moving the needle" on the most urgent health challenges. Ballad Health represents an innovative pilot model for moving more rapidly to integrated delivery to address the region's unique health challenges while addressing cost, quality, and access in healthcare services. The IDS, supporting infrastructure, and investments are targeted to achieve the much needed healthcare transformation sought by many health systems across the country.

In reaching the conclusions in this report, we reviewed the Advisory Board’s report on Ballad Health's readiness, governance and operating structure, the important role of IDSs for population health

and improved care delivery, and the substantial infrastructure and support that Ballad Health proposes to accomplish these benefits (the "Advisory Board Report").[1]

We were asked to examine whether Ballad Health would be better able to accomplish risk-based contracting and transition to new payment models than Wellmont or Mountain States could do separately. For this, we considered the Advisory Board findings, and interviewed executives of both systems. We concluded that the integrated organization would be substantially better equipped than either Party separately to achieve the requisite scale and make the necessary investments for risk-based contracts and clinically-based population health management – particularly in light of the covered population's relatively small size and fragmented nature.

We also considered the Healthy Communities Institute (HCI) findings (HCI Report) and the population health section of the Index (defined below). HCI focused on the advantages of using high priority health conditions and measuring progress based on interim metrics and trends. HCI's recommendations are consistent with the approaches used in other states.[2] The approach is to incentivize and enable health systems to achieve integrated care and improve outcomes. The goal of achieving these changes may adversely affect hospital financials but can also reduce overall costs and better align the health system with new risk-sharing payment models We make use in this report of HCI's findings that, with the proposed commitments, the Parties have the incentives and accountability to focus on the highest priority areas and develop and implement plans to address needed changes.

Tennessee and Virginia laws permit each State to grant a COPA and actively supervise the conditions under which the merged entity operates, with the objective of ensuring that the benefits continue to outweigh the potential disadvantages. Based on our experience, interviews with key stakeholders, and review of the extensive record of evidence, including the proposed commitments, we conclude that the proposed merger's benefits likely substantially outweigh any disadvantages that may result from the loss of competition between the Parties. The proposed commitments and conditions of the COPA mitigate substantially any potential disadvantages. These commitments would be enforced by the State to protect communities and stakeholders in the region served.

II. Introduction and Overview

Compass Lexecon, LLC is one of the world's leading economic consulting firms that specializes in antitrust, competition policy, regulatory change and applied microeconomics. The primary author of this Report, Margaret E. Guerin-Calvert, is a Senior Consultant with Compass Lexecon and President and Senior Managing Director of the Center for Healthcare Economics and Policy, a business unit that specializes in healthcare economics and applied microeconomics. Ms. Guerin-Calvert has worked as an economist in the public and private sectors on issues related to competition and competition policy involving a variety of industries since 1979. She served as Assistant Chief of the Economic Regulatory Section of the Antitrust Division, U.S. Department of Justice, where among other matters she had primary responsibility for healthcare matters, as Economist at the Federal Reserve Board, and as an Adjunct Lecturer at Duke University Institute of Policy Sciences. She has served as an expert in several healthcare matters, including several hospital merger cases since the late 1990s, and has been invited to appear in many conferences and hearings before the federal antitrust agencies and international agencies on healthcare. Her experience includes public proceedings such as the Pennsylvania Insurance Department’s review of the Highmark affiliation with West Penn Allegheny Health and its ongoing supervision of terms and conditions of the resulting Order, where she was retained as an expert by the Pennsylvania Insurance Department. That matter involved review of an integrated delivery system and its benefits, as well as conduct and performance commitments, and evaluation of competition. She also

has extensive experience in healthcare economics, including health metrics, population health, and the drivers of health costs, access and quality of care. An example is the Pilot Study on Health, Access, Cost and Quality conducted for several stakeholders led by the Nashville Chamber of Commerce.[3] Her research covers a broad array of areas, including hospital competition issues, extensive empirical studies of pricing, price variation, and major factors driving costs and explaining variation in hospitals. She has more than three decades of work in antitrust and regulatory policy nationally and internationally, including qualification as an expert economist in the U.S., Canada, and New Zealand.

For this report, we reviewed the extensive sets of submissions made to the Department of Health and Attorneys General officials in Tennessee and Virginia and to the Southwest Virginia Health Authority, as well as the latter's report on the merger, third-party submissions, reports of the COPA Index Advisory Group, responses to questions by State officials, data submissions and relevant studies.[4] We interviewed many executives and staff of each Party numerous times over the two-plus years of our engagement, including as recently as March 2017 in Johnson City, Kingsport and Bristol.[5] The Advisory Board and HCI Reports on the readiness and benefits of the Parties' plans for establishing an IDS, improving population health, and moving forward to risk-based contracting also informed our evaluation of the proposed merger's potential benefits and disadvantages.

III. The Context for the Proposed Merger

A. The Parties

Mountain States, headquartered in Johnson City, TN, became a health system in 1998. It operates 13 hospitals with 1,669 licensed beds,[6] plus two critical access facilities, a Level I trauma center, and the region's only children's hospital, Niswonger Children's Hospital. Mountain States employs approximately 400 physicians and mid-level practitioners and provides pharmacy, home health, hospice, diagnostic, skilled nursing, and rehabilitation services. Wellmont, headquartered in Kingsport, TN, became a health system in 1996. It operates seven hospitals and one critical access hospital (for a total of 1,011 licensed beds),[7] plus a Level I and Level II trauma center. Wellmont also provides pharmacy, home health, hospice, diagnostic, skilled nursing, and rehabilitation services, and also employs approximately 400 physicians and mid-level practitioners. Mountain States and Wellmont provide services in 21 counties spanning northeastern Tennessee and southwest Virginia (hereinafter "Geographic Service Area," "GSA," or, more generally, the "region").[8]

B. Challenging Economic Conditions in the Geographic Service Area

The Appalachian region served by Mountain States and Wellmont has an aging population with flat growth, suffers from pervasively poor health and low incomes, and faces declining inpatient admissions. For these and other reasons discussed below, the GSA is a very challenging environment in which to sustain a healthcare delivery system, particularly with an infrastructure designed for a level of demand for inpatient services that has declined substantially. The data in this regard are compelling:

Aging population with flat growth: The GSA population grew by just 0.81% from 2008 to 2014 to its current level of 955,006. By contrast, over that period, Tennessee grew by 5.4% and Virginia by 7.2%. The population is also getting older: Since 2008, the percentage of the GSA's population aged 65 and over grew from 16.7% to 18.7%, compared to the over-65 population in Tennessee (from 13.2% to 14.5%) and Virginia (from 12.1% to 13.4%).[9]

Largely rural and dispersed population: The GSA is mostly rural. Rural areas tend to have higher concentrations of uninsured or publicly insured populations, which strains hospital finance.[10] Across the country, rural hospitals are more likely to close due to financial difficulties and the changing nature of healthcare.[11] In the U.S. since January 2010, nearly 80 rural hospitals have closed, including eight in Tennessee and one in Southwest Virginia.[12]

Low admissions and low occupancy rates in small, rural hospitals: Four of Wellmont's seven hospitals are rural, have fewer than 50 staffed beds, and show an average daily census ("ADC") between three and 13.[13] In 2014, 88% of Wellmont's discharges were from its tertiary care hospitals in Bristol and Kingsport (Bristol Regional Medical Center and Holston Valley Medical Center); the other Wellmont hospitals each accounted for approximately 1% or less of the area's discharges. Seven of Mountain States' 13 hospitals are rural, have fewer than 50 staffed beds, and show an ADC between one and 35.[14] Mountain States' Johnson City Medical Center accounts for 40% of Mountain States' discharges.[15]

Declining inpatient admissions: From 2011-2014, inpatient discharges in the GSA decreased by approximately 7% (or 10,000 patients). [16] Inpatient discharges are a hospital's main source of income. The substantial reductions in inpatient admissions puts the smaller hospitals in increasing jeopardy of closing, given the high fixed costs associated with individual hospitals, medical professional staffing and the volumes needed to sustain quality care.

Physician recruitment difficulties: In a 2014 Merritt Hawkins Survey of Final-Year Residents, 69% of respondents said geographic location was "most important" when they consider where they will practice after residency, and only 7% responded that they would most like to practice in communities smaller than 50,000 people.[17] The Parties report that the recruited physician pool is transitory and many physicians leave the area. To attract physicians, the Parties have to offer compensation levels that overcome geographic preferences. This includes the Parties' rural hospitals.[18] The difficulty in recruiting and retaining physicians also makes it more difficult to sustain patient relationships and build regional health.

Declining Medicare payments for labor: In 2014, the Medicare wage index for the Johnson City and the Kingsport-Bristol (TN)-Bristol (VA) Core-Based Statistical Areas was more than 25% below the national average. The federal government calculates this index based on hospital salary and benefit costs relative to the national average. Since 2000, the area's wage index decreased while average area salaries for healthcare employees increased.[19] This means local wages are rising more slowly than elsewhere in the country, but still they are rising. Medicare calculates a hospital's reimbursement by multiplying the wage index by the proportion of services attributed to salaries and benefits. The result is that Medicare reimburses this region less each year, despite rising labor costs. The region's combination of a large Medicare population with declining Medicare reimbursement results in lower hospital Medicare revenues for more patients. This adds to the difficulty of operating the hospitals, especially the smaller, rural hospitals.

Unfavorable and worsening payor mix: Among GSA residents, 19.6% live in poverty, compared to poverty levels of 18% overall for Tennessee and 12% for Virginia.[20] Low-income residents are more likely to be insured through Medicaid or be uninsured, to suffer from medical conditions, and to utilize medical services, than higher-income patients.[21] These factors, combined with the very low hospital reimbursement rates for care of Medicaid patients, create another source of financial stress on the area's hospitals. The GSA's percentage of insured patients is lower than that of Tennessee, Virginia, and the national average. As of 2015, more than 14% of the GSA population was uninsured. Among the insured, public insurance (Medicare or Medicaid) is very prevalent in the GSA, accounting for approximately

70% of the hospitals' discharges; only 17.5% of discharges are covered by commercial insurance.[22] A high Medicare-Medicaid population adds pressure to a health system, because public insurers tend to pay hospitals at or below cost. The GSA's high uninsured/publicly insured sector means provider budgets are less flexible and financial stress on smaller hospitals is more likely.[23] Moreover, trends are worsening. From 2011 to 2014, the region's patient mix moved more towards Medicare and away from commercial payors: overall inpatient discharges and Medicare discharges both fell by approximately 7%, but commercially insured discharges fell by 16%.[24]

Under these economic conditions, many of the Parties' hospitals cannot sustain profitable operations. Four Mountain States hospitals had over $1 million in negative operating income for fiscal years 2014, 2015, and 2016; two others suffered losses in 2015 and 2016.[25] In 2017, one Wellmont hospital (Hawkins County) lost its status as a Disproportionate Share Hospital (DSH) and with it, its eligibility to purchase certain prescription drugs at a discount under the federal 340B Prescription Drug program. This is projected to turn Hawkins County's current net income into a net loss.[26]

If Mountain States and Wellmont were to remain independent or combine with out-of-area entities and therefore not capture the cost-savings available from the proposed merger, downsizing or fundamental changes to one or more hospital operations is likely.[27] The Parties face greater challenges than many other health systems because their physical operations are largely located in smaller facilities.

The current economic environment prompts movement from more traditional approaches of healthcare delivery to new and more highly integrated care delivery and coordination of care. A component of such change is enhanced value-based and risk-based contracting between health systems and payors. A major benefit from such contracts is that they align the contracting parties' economic incentives to reduce utilization of services and promote wellness by enabling healthcare providers to share with payors in the savings that result from such efforts. The transition to new care models and delivery systems potentially involves significant reductions in hospital volumes and revenues, however, and also requires substantial investment in infrastructure, clinical realignment and governance to design the delivery system around patient-centered care. The Parties are hindered in their ability to do this independently, due to the high financial costs of implementation and risks in managing a dispersed rural population. An approach other than the proposed merger provides few if any opportunities for efficiencies of the type and magnitude available here, including reductions in duplicative overhead and costs and the benefits of both integration and re-alignment of the delivery system.[28]

C. Very Poor Health Conditions in the Region

Northeast Tennessee disproportionately suffers from serious health problems, including high obesity rates, smoking, drug poisoning mortality and related deaths, and has a high proportion of children living in poverty, which leads to greater health problems. These health problems largely overlap with the "Big Four" health challenges (physical inactivity, obesity, tobacco addiction and substance abuse) identified by the State.[29] A comparison of the Tennessee counties in the GSA to the Tennessee average makes this evident:

- All Tennessee GSA counties but one (Washington) have worse physical inactivity rates than the State average.[30]
- All Tennessee GSA counties but one (Johnson) have worse substance abuse scores than the State average.[31]
- Nine Tennessee GSA counties have a higher percentage of children living in poverty than the State average, and, in some cases, exceed the State average by *over ten percentage points*.[32]

- Most of the Tennessee GSA counties rank in the lower half of all Tennessee counties on health issues, and several of the GSA counties are among the State's lowest.[33]

Opioid abuse is pervasive. Nationally, Tennessee ranks third for prescription drug abuse and 12th for drug overdose deaths.[34] The prevalence of addiction among newborns suffering from withdrawal after exposure to drugs in utero is startling. Tennessee ranks first in the nation for incidence of Neonatal Abstinence Syndrome (NAS), which increases the risk of developmental delays and death.[35] The number of Tennessee newborns suffering from NAS increased eleven-fold since the late 1990s.[36]

These health problems not only impair quality of life, but also result in high, and costly, medical utilization and expense and lost productivity. Obesity is an example. Approximately 16.5% of U.S. healthcare expenditures are to treat persons classified as obese. On average, obesity raises medical costs by $2,741 per year per person.[37] Among Medicare beneficiaries, obesity is related to increased hospitalization and orthopedic procedures and results in approximately $1,500 higher annual medical expenditures.[38]

Obesity and physical inactivity are closely linked with diabetes. Approximately 20% of U.S. healthcare expenditures go to treating individuals with diabetes.[39] Diabetics have medical costs that on average are 230% greater than persons without diabetes.[40] Among beneficiaries of employer-sponsored insurance who are younger than 65, medical costs in 2013 were 3.5 times higher for someone with diabetes than someone without.[41] Mental health issues related to diabetes are commonly overlooked but have serious implications.[42] Per capita mental health expenditures are estimated to be 4.5 times higher for people with diabetes than for those without. Young adults with diabetes have over three times as many emergency room visits as do young adults without diabetes and four times as many mental health and substance abuse admissions.[43] Improving obesity and physical inactivity may help lower the prevalence of diabetes and reduce healthcare spending.

Seven of the ten counties in the Tennessee area of the GSA have tobacco addiction rates that exceed the state average.[44] The high rate of smoking in the Tennessee GSA has serious health implications. Cigarette smoking is associated with more frequent hospitalizations and outpatient visits, which drive up medical expenditures for those with a history of smoking as compared to those that never smoked.[45]

Poor health among working persons results in lost productivity through absenteeism (too ill to work) and presenteeism (employees at work despite illness with lower productivity). The medical and productivity costs are substantial. Analyzing cost statistics related to diabetes and obesity – two important health conditions that are changeable, can be influenced by interventions, and are prevalent in the GSA's ten Tennessee counties – helps to quantify the costs associated with poor health. Applying national data to local information to estimate the combined annual medical and productivity costs associated with diabetes and, separately, with obesity in these ten counties shows the significance of these costs.[46] For diabetes, the costs are more than $273 million; for obesity, costs are more than $380 million.[47]

Combined, therefore, these conditions may be responsible for more than $650 million in annual medical and productivity costs in the ten-county GSA region alone.[48] But a committed group of stakeholders can drive positive change in community health conditions. The Centers for Disease Control and Prevention (CDC) demonstrated this in its recent initiative that designated smoking, physical inactivity and obesity (among other health problems) as "Winnable Battles."[49] CDC reports that in the six years since it launched this initiative, improvements met or in some cases exceeded initial goals.[50] "Winnable Battles" relied on partnering efforts at the federal, state, and local level, including among

hospitals and health systems.[51] Through effective collaboration and defining clear strategies and targets, it is possible to make a meaningful impact in the health of a community. For efforts like this to be successful, however, two necessary elements must be applied: resources and focus. Given the magnitude of challenges in the region, without the resources to be generated from the proposed merger transaction, it is unclear how such an effort could be sustained.

The need for improvement in health conditions in the GSA is dramatic. We discuss below in Section V why the Parties' proposed commitments are well-aligned with the area's specific health needs.

D. The Transaction

In April 2014, facing challenges only briefly highlighted above for its health system and region, Wellmont requested proposals from 22 health systems that it believed might be interested in a partnership; nine sent proposals.[52] The Mountain States proposal was the only one that matched Wellmont's vision for improving healthcare and health in the region. It was important to Wellmont that its merger partner share the goals of providing a full set of healthcare services to the region, focusing on the population's particular health needs and avoiding higher costs to the extent possible. Mountain States proposed that the two health systems combine their resources and invest the savings from available synergies to "move the needle on population health."[53] Mountain States and Wellmont decided that this merger represented the best opportunity for the region as a whole.

In February 2016, Wellmont and Mountain States applied for a Certificate of Public Advantage (COPA) in Tennessee and a Letter Authorizing a Cooperative Agreement in Virginia. It is our understanding that Tennessee law requires that the Department of Health, after consultation and agreement from the Attorney General, issue a COPA if it determines that the applicants have demonstrated by clear and convincing evidence that the likely benefits resulting from the agreement outweigh any disadvantages attributable to a reduction in competition that may result from the agreement.[54] In evaluating the potential benefits of a COPA, the Department of Health considers whether the following benefits may result from the COPA:

(A) Enhancement of the quality of hospital and hospital-related care provided to Tennessee citizens;
(B) Preservation of hospital facilities in geographical proximity to the communities traditionally served by those facilities;
(C) Gains in the cost-efficiency of services provided by the hospitals involved;
(D) Improvements in the utilization of hospital resources and equipment;
(E) Avoidance of duplication of hospital resources;
(F) Demonstration of population health improvement of the region served according to criteria set forth in the agreement and approved by the department;
(G) The extent to which medically underserved populations have access to and are projected to utilize the proposed services; and
(H) Any other benefits that may be identified.

We further understand that the Department also must conduct an evaluation of any disadvantages attributable to a reduction in competition that is likely to result from the agreement, including the following factors:

(A) The extent of any likely adverse impact on the ability of health maintenance organizations, preferred provider organizations, managed healthcare organizations, or other healthcare payors to negotiate appropriate payment and service arrangements with hospitals, physicians, allied

healthcare professionals, or other healthcare providers;

(B) The extent of any reduction in competition among physicians, allied health professionals, other healthcare providers, or other persons furnishing goods or services to, or in competition with, hospitals that is likely to result directly or indirectly from the cooperative agreement;

(C) The extent of any likely adverse impact on patients in the quality, availability, and price of healthcare services; and

(D) The availability of arrangements that are less restrictive to competition and achieve the same benefits or a more favorable balance of benefits over disadvantages attributable to any reduction in competition likely to result from the agreement.

The Department may evaluate or require specific commitments or conditions that may mitigate or reduce any potential disadvantages or that may increase the likelihood that the benefits of the transaction are achieved. If the COPA is approved, then these provisions could be part of the framework of ongoing supervision by the State, which we understand is to be measured by an Index that tracks demonstration of Public Advantage going forward.[55]

The Application identifies specific proposed plans and commitments by the Parties. We refer to them as the "Ballad Health Model" and the "Commitments." They include: establishment of a new IDS supported by infrastructure and a Common Clinical IT Platform; organizational and governance structures (including a combined Board of Directors and a new Population Health Department); operational protocols (including clinical best practices), efficiencies and alignment plans; and planned expansions of needed services funded by efficiencies from the merger. Supporting these commitments are other commitments related to contracting, pricing, quality, population health and additional subjects. The Parties continue to work with the State on these commitments, including the Index, described below.

IV. Ballad Health Model

In their Application, the Parties propose a plan to realign their two existing health systems into a single entity, Ballad Health, that will operate as an IDS providing a coordinated continuum of services to the region funded by efficiencies from the merger. They also propose to establish an Accountable Care Community that reaches beyond traditional healthcare delivery systems to focus on prevention and improve community health. The goal of the Ballad Health Model is to create an entity with the scale, resources, and economic incentives for effective healthcare delivery and the ability to engage in risk-based contracting with payors while shifting to care management across the population.

A. Integrated Delivery System

The Ballad Health Model combines the two delivery systems of Mountain States and Wellmont into a single, fully integrated delivery system of hospitals, outpatient facilities, physicians, and other providers to provide quality healthcare to all residents of the GSA in the most effective and appropriate location. The IDS will be accountable, both clinically and fiscally, for health outcomes and the health of the region's population. Ballad Health will put systems in place to manage and improve the health of the region, work with payors to align incentives and initiatives, and work with independent physicians and providers to provide access to the system and its benefits.

B. Focus on Population Health

The second major aspect of the Ballad Health Model is to extend efforts beyond clinical settings and medical care delivery to focus on broader community health with a substantial emphasis on prevention. This initiative is intended to reduce disease development, prevalence, and progression, creating a more direct path to improve health and health outcomes. It will also facilitate research and learning in collaboration with State and local public health agencies, academic partners, and community partners. A key element in this effort will be developing annual plans that support the Parties' long-term Community Health Improvement Plan and facilitate the State's active supervision and evaluation of COPA progress. Ballad Health's IDS and the focus on population health improvement are fundamentally inter-related and share attributes with recent public policy efforts to move fragmented delivery systems towards integrated care and achieve critically needed population health improvements in challenging environments.[56]

C. The Parties' Commitments

Mountain States and Wellmont have made extensive commitments in the COPA Application designed to improve healthcare affordability, quality, and access and to mitigate or limit any potential disadvantages to the merger. These commitments generally fall within three categories. For convenience, we briefly summarize some of the commitments here:

Protection Commitments are designed to mitigate any negative effects of the reduction of competition and provide assurances of access to services. These include the Parties' commitments to implement a rate reduction, implement a rate cap, adopt charity care and patient discounts that are substantially similar to the Parties' existing policies; and to maintain all hospitals in operation as clinical and healthcare institutions for at least five years; maintain three full-service tertiary referral hospitals in Johnson City, Kingsport, and Bristol; and maintain open medical staffs at all facilities. These also include the Parties' commitments not to require physicians to practice exclusively at Ballad Health and not to take any steps that would prohibit independent physicians from participating in health plans/networks of their choice.

Conduct Commitments are designed to govern future actions of Ballad Health. These include the Parties' commitments to honor prior employee service and benefits earned over time; spend up to $70 million over ten years to address salary/pay rate and benefit differences for employees; combine both systems' career development programs to ensure maximum enhancement of career advancement and training; and provide timely notification of Ballad Health's quality scores and financial condition, to ensure the public remains informed about the health system's performance level and financial well-being. The Conduct Commitments are intended to provide significant public advantage above and beyond the fundamental goal of protecting payors, providers, and consumers.

Community Investment Commitments are designed to fund improvements and new resources in the community through the cost-savings and efficiencies generated by the merger. These include the Parties' commitments to invest $140 million in specialty services for the region; invest $75 million in population health improvement; invest $85 million to sustain research infrastructure, increase residency and training slots, create new specialty fellowship training opportunities, and add faculty; and invest up to $150 million to implement a Common Clinical IT Platform that will serve as the backbone for the clinical transformation and population health efforts. These

commitments allow the State to ensure that the financial investments are directly aligned with community priorities and needs (e.g., investments in new clinics, new services, and specific population health initiatives) as agreed upon in the COPA.

The Parties based their financial commitments in the Application on estimates of savings generated through merger-related efficiencies. A nationally recognized healthcare consulting firm, FTI Consulting, was retained by Mountain States and Wellmont to verify these estimates. Wellmont and Mountain States have committed to achieve at least $95 million in annual efficiencies by the end of the fifth year of operations.[57] We address those efficiencies further below. [58]

V. Benefits of the Proposed Merger and Ballad Health's Model

We have been asked to provide an opinion on whether the likely benefits resulting from the merger outweigh any disadvantages attributable to a reduction in competition that may result from the merger. In conducting our assessment, we were asked to take into consideration the specific proposed commitments. Below, as an organizational framework for setting out our opinion, we use the key topic areas set out by the Tennessee COPA statute.

We note at the outset that, based on our experience as economists, the Parties have the incentive and expertise to accomplish the benefits described below. By combining the two health systems, the Parties will be able to align incentives across the merged organization to achieve cost savings, allocate resources more efficiently and effectively, and improve care coordination to reduce cost trends and improve the efficacy of care delivery. The commitments further support these incentives. The Parties, when merged, will have greater incentives to make necessary investments to sustain their operations than either would have independently or through an out-of-area merger. Such alternatives to the COPA would not have the same opportunity to capture integrative efficiencies or obligation to commit to comparable total investments for community benefit. Of all available alternatives, Ballad Health's incentives best align with those of payors and community leaders, who desire reduced total costs of care, better community health, and more stable and predictable trajectories of costs.[59]

A. Enhanced Quality of Hospital and Hospital-Related Care

We reviewed the commitments proposed by Mountain States and Wellmont in their Application and subsequent submissions related to "[e]nhancement of the quality of hospital and hospital-related care provided to" the region's citizens. Tenn. Code Ann. § 68-11-1303(e)(2)(A). These include commitments to:

- Create an integrated delivery system;
- Invest up to $150 million over ten years towards the adoption of a Common Clinical IT Platform;
- Implement a Common Clinical IT Platform as soon as reasonably practical after the closing;
- Participate meaningfully in the exchange of health information open to community providers;
- Collaborate with independent physician groups to develop a local, region-wide clinical services network to share data, best practices, and efforts to improve outcomes for patients and the overall health of the region;
- Invest $140 million over ten years towards specialty care services in the region;
- Establish annual priorities related to quality improvement and publicly report these quality measures in an easy-to-understand manner for use by patients, employers and insurers; and
- Expand quality reporting on a timely basis so the public can easily evaluate the performance of Ballad Health System as described more fully in the Application.

With regard to hospital-related care, the Ballad Health Model represents fundamental changes in the healthcare delivery system in this region, with the establishment of an IDS that is focused on population health. The Model represents an effort to rapidly transition from two separate healthcare delivery systems to an integrated delivery system serving the entire region with extensive common infrastructure and IT. According to The Advisory Board, the proposed Ballad Health Model (with its infrastructure, IT, and governance structures) represents best practices in the country. This conclusion is supported by research and review of IDSs built upon IT platforms of the type envisioned here.[60] The Advisory Board notes that the Parties' commitments fully support the IDS and its requirements for implementation. The HCI Report further affirms that Ballad Health's proposal to focus on the chronic conditions and behaviors that cause the poorest health, along with the associated investments and commitments, is critical to evaluating the benefits of the proposed merger.

The Parties' commitment to transform into an integrated delivery system supported by a Common Clinical IT Platform is likely to result in the enhancement of quality of hospital and hospital-related care throughout the region.[61] Their commitments to invest in specialty care services and to greater transparency in the reporting of performance quality scores will further enhance the quality of hospital care services offered in the region. Ballad Health's plans include purposeful strategies and approaches to use structures like the Clinical Council to work with employed and independent physicians to develop and implement system-wide protocols and approaches to reduce variation in quality and cost of care. These plans also involve support systems to improve care coordination and delivery throughout the system. Furthermore, enhanced transparency, through more timely and more descriptive reporting, will provide consumers with information they can use when making healthcare decisions and incentivize achievement of higher quality of care.[62] After reviewing these plans, interviewing executives about them, and reviewing the opinions in the Advisory Board Report, we agree that these plans are consistent with the types of strategies successfully used by other health systems to reduce costs and improve care delivery.

We conclude, based upon our experience and the record, that the Parties' quality commitments are, in total, consistent with an overall enhancement in the quality of hospital and hospital-related care for the region.

B. Preservation of Hospital Facilities

We reviewed the commitments proposed by Mountain States and Wellmont in their Application and subsequent submissions related to the "[p]reservation of hospital facilities in geographical proximity to the communities traditionally served by those facilities." Tenn. Code Ann. § 68-11-1303(e)(2)(B). These include the commitments to:

- Maintain all hospitals in operation at the effective date of the merger as clinical and healthcare institutions for at least five years; and
- Maintain the three full-service tertiary referral hospitals in Johnson City, Kingsport, and Bristol to ensure higher level services are available in close proximity to where the population lives.

The challenges facing two competing health systems to sustain care delivery and patient access are particularly significant in the GSA.[63] In many cases, service offerings and locations are redundant and lead to duplicative investments and lower scale for each operation. There is also difficulty in attracting and retaining sufficient staffing for specialties in two competing systems.[64] The Parties' current hospital networks are not likely to be sustainable in their current configuration and are likely to

change significantly absent the merger. If Mountain States and Wellmont remain independent, expected changes will likely include closure of some facilities and downsizing or changing services offered in some facilities.

As a combined entity, Ballad Health will be better able to sustain smaller hospitals and preserve access they provide to local populations through support from the combined system's three tertiary referral centers. We examined the FTI Report and its assessment of opportunities for retaining access. Those findings appear to be well documented and conservative. They include opportunities to save resources through the re-alignment of services such as trauma. These savings can then be re-invested to sustain access for rural populations. In addition, the Parties have committed to keep all currently operating hospitals open for at least five years as healthcare institutions, ultimately preserving access. Although many of the smaller hospitals are currently financially challenged and at a higher risk of closing, if the COPA is granted, access to essential services for local patients will be assured with commitments to keep facilities providing healthcare services open for five years in these rural communities.

Based on our review of the record and our experience, we conclude the Parties' commitments will likely result in the preservation of hospital facilities in geographical proximity to the communities traditionally served by those facilities.

C. Gains in Cost-Efficiency of Services

We reviewed the commitments proposed by Mountain States and Wellmont in their Application and subsequent submissions related to "[g]ains in the cost-efficiency of services provided by the hospitals involved." Tenn. Code Ann. § 68-11-1303(e)(2)(C). These include commitments to:

- Combine efforts for risk-based contracting
  - This requires investments to develop the requisite systems and data which could be spread over the combined larger scale of contracting and the larger combined populations;
- Implement a Common Clinical IT Platform
  - This would make data and information on patients and care delivery more readily available and has the potential to substantially reduce over-utilization of tests, improve the ability to search for information, and improve the ability to reduce care variation that affects quality and costs; and
- Align the healthcare delivery system
  - This would improve overall resource allocation efficiency by better organizing the use of the entire network of physicians, outpatient facilities, and hospital operations in a more effective manner.

Ballad Health has opportunities to realize cost efficiencies and resource savings from integration in specific areas, including labor, non-labor, clinical, and IT categories. These will enable the Parties to reduce duplicative costs and operate their facilities and services more efficiently, with improved quality and patient outcomes.

The area's two Level I Trauma Centers provide a primary example of duplicative services that are expensive to maintain and, for a region with low population density, largely redundant. The FTI Report evaluates the potential consolidation of these programs into a single facility and projects significant cost savings,[65] which appear to be well-documented and conservative. Other information we examined provides additional support for cost-savings and improved operations in trauma, NICU, and other areas, with evidence that these changes in healthcare delivery would sustain, if not improve,

quality of these services. The likelihood of efficiencies and benefits are consistent with the economics and healthcare literature regarding conditions in which in-market mergers provide opportunities to realize scale or cost savings from combining overhead, eliminating or shifting duplicative services, and reducing costs.[66] Many of these efficiencies would not be available to out-of-area acquirers.

Other cost-saving and efficiency opportunities include consolidation of specialty pediatric services, repurposing acute care beds and consolidation of certain co-located facilities. These repurposing efforts will likely lead to higher volumes in the locations in which services will be consolidated and, thus, better efficiency. Higher volumes, in turn, will result in improved quality of care, as studies indicate quality is generally better in higher volume healthcare environments.[67] Access is also expected to improve because the repurposed facilities may be able to add services that could not be previously supported in an environment of duplication and low capacity.

Based on our review of the record and our experience, we conclude the Parties' commitments will likely result in gains in the cost-efficiency of services provided in the region.

D. Improvements in the Utilization of Hospital Resources and Equipment

We reviewed the commitments proposed by Mountain States and Wellmont in their Application and subsequent submissions related to "[i]mprovements in the utilization of hospital resources and equipment." Tenn. Code Ann. § 68-11-1303(e)(2)(D). Based upon our review and experience, there are several commitments that would be consistent with improvements in the utilization of hospital resources and equipment. These include the commitments to:

- Adopt a Common Clinical IT Platform for electronic medical records;
- Participate in a health information exchange (HIE) between participating community providers in the region;
- Maintain all hospitals in operation at the effective date of the merger as clinical and healthcare institutions for at least five years; and
- Maintain the three full-service tertiary referral hospitals in Johnson City, Kingsport, and Bristol to ensure higher level services are available in close proximity to where the population lives.

The Application states that Ballad Health's strategic plan is to create a fully integrated delivery system and Accountable Care Community.[68] The system will prioritize new and expanded population health resources, including analytics, case management and health coaching, implement new modes of access, such as telemedicine and expanded clinical call centers, develop a clinically integrated network structure, and effectively use a common electronic health record (EHR) system and HIE system.[69] In our experience, taking steps to ensure that the entire patient population has access to the full complement of services needed to promote health and well-being is important to the population health goals of an integrated delivery system. The foundation of any integrated care approach is that each patient has easy access to primary services, and that is what Ballad Health has proposed: expanded access to clinics, support groups, and physicians on a local level.

The commitment to maintain currently operating hospitals is a component of this strategy, to provide patients with the local, basic services they may require.[70] We refer to the Advisory Board Report on the IDS and note that interviews with physicians and executives confirmed the commitments to building the necessary infrastructure and to align services around coordinated care and best practices.

There are other dimensions on which the combined organization seeks to improve the best use of healthcare resources, including deploying resources into areas where they will best meet the needs of the

population. Ballad Health has committed to developing pediatric specialty centers and emergency rooms in Kingsport and Bristol, expanding pediatric telemedicine, and establishing specialty clinics in its rural hospitals.[71] Approximately $55 million over ten years will be dedicated to increasing access for rural health and regional pediatric services.[72] In response to the area's high level of opioid addiction, Ballad Health plans to expand treatment services by building "longer-term residential services based on the 'therapeutic community' model."[73] This approach would rely on community-based resources such as mobile health crisis management teams as well as outpatient treatment.

The efficiencies identified in the FTI Report are intended to free up resources for investments in other needed services or locations of care and provide significant opportunities for Ballad Health to improve utilization of hospital resources and equipment across the region. Our stakeholder interviews and our study of the record indicate that, absent the COPA, it is highly unlikely that the hospitals independently could allocate spending to the same degree for these types of improvements.

E. Avoidance of Duplication of Hospital Resources

We reviewed the commitments proposed by Mountain States and Wellmont in their Application and subsequent submissions related to "[a]voidance of duplication of hospital resources." Tenn. Code Ann. § 68-11-1303(e)(2)(E). Based upon our review and experience, there are several commitments that would be consistent with avoiding duplication. These include commitments to:

- Achieve at least $95 million in annual efficiencies by the end of the fifth year of operation;
- Invest in infrastructure and systems, such as IT and shared data, that can be used to improve utilization of resources and efficiency in care delivery; and
- Establish a system-wide physician-led Clinical Council that will develop and implement best practices across Ballad Health to standardize clinical protocols and reduce overlap and duplication.

The Parties note in their submissions that a major factor in their accumulation of nearly $1.5 billion of debt and redundant costs has been the duplication of services and programming by Wellmont and Mountain States as two separately operating healthcare systems. It appears unlikely that this duplication of healthcare services and costs will change absent the proposed merger. In a combined system, however, Ballad Health will be able to eliminate duplicative services and costs throughout the Parties' hospital systems. As noted above, the Parties have evaluated opportunities to consolidate programs such as Level I Trauma and specialty pediatric services. Consolidation of services as proposed by Wellmont and Mountain States can lead to better patient outcomes, increased efficiency, and cost-savings.[74]

F. Demonstration of Population Health Improvement

The Parties are currently working with the Tennessee Department of Health to develop a comprehensive Index and scoring mechanism to fulfill the statutory standard of "[d]emonstration of population health improvement of the region served according to criteria set forth in the agreement and approved by the department." Tenn. Code Ann. § 68-11-1303(e)(2)(F). The Index will be used to track progress towards specific health and community goals identified as priorities by the Department and its COPA Index Advisory Group. Based on discussions to date, it is expected that the goals will be in the areas of behavior (tobacco addiction, physical activity, obesity, and substance abuse), immunizations, community/environment, and outcomes. To achieve goals in these areas, the Parties have committed to:

- Invest $75 million in population health efforts over a ten-year period;
- Invest $85 million on mental health, addiction, and substance abuse treatment over a ten-year period;
- Invest $27 million on pediatric sub-specialty access;
- Invest $28 million on rural health access;
- Invest $85 million to enhance academic and research opportunities over a ten-year period; and
- Invest up to $150 million in Common Clinical IT Platform over the next ten years.

The Parties have described their intention to actively manage these investment commitments to ensure that the maximum impact is achieved. Based upon our review and experience, these investment commitments are consistent with supporting the scope of population health improvement goals outlined to date by the Department. The HCI Report provides additional detail on the benefits of these investments.

G. Access for Medically Underserved Populations

We reviewed the commitments proposed by Mountain States and Wellmont in their Application and subsequent submissions related to "[t]he extent to which medically underserved populations have access to and are projected to utilize the proposed services." Tenn. Code Ann. § 68-11-1303(e)(2)(G). There are several commitments that would address medically underserved populations. These include the commitments to:

- Adopt a charity care policy that is substantially similar to the existing policies of both Parties and consistent with the Internal Revenue Service's final 501(r) rule;
- Provide for the full write-off of amounts owed for services by patients with incomes at or below two hundred percent (200%) of the federal poverty level;
- Discount services for patients who do not qualify for full write offs in compliance with rule 501(r) of the Internal Revenue Code according to the ability of individuals and families to pay, as well as communicate discounts according to policy prior to service delivery or at the point of service to avoid creating any barrier to essential care;
- Determine financial assistance eligibility for patients by a review of the Application for Financial Assistance, documents to support the Application for Financial Assistance (i.e. income verification documentation), and verification of assets;
- Base financial assistance determinations on National Poverty Guidelines for the applicable year. Ballad Health will adhere to the IRS regulatory guidelines set forth in Section 501(r) of the Internal Revenue Code. Ballad Health will work to connect people to insurance coverage and state and federal programs for which they qualify; and
- Not charge uninsured patients or underinsured patients more than amounts generally billed ("AGB") to individuals who have insurance covering such care in case of Emergency Services or other Medically Necessary Services.

An important factor in evaluating access by the medically underserved population is lack of insurance. Wellmont and Mountain States currently provide significant amounts of charity care to uninsured and underinsured populations in the GSA[75] and have committed to continuing to do so in the future in accordance with IRS guidelines for not-for-profit hospitals.

Plans to enhance community-located services and to fulfill commitments on chronic conditions and health needs (including preventative care) will benefit the medically underserved as well as other residents. The Ballad Health Model and the Parties' Commitments go beyond commitments typically

required of hospitals in other contexts, such as consent decrees, by focusing on the full range of population and not just a given population (e.g., seniors). Based upon our review and experience, these commitments would be consistent with ensuring medically underserved populations continue to have access to services.

H. Other Benefits

We reviewed the commitments proposed by Mountain States and Wellmont in their Application and subsequent submissions related to "[a]ny other benefits that may be identified." Tenn. Code Ann. § 68-11-1303(e)(2)(H).

As a starting point, we note that the potential benefits of a cooperative agreement identified as relevant in the COPA statute go beyond traditional antitrust efficiencies and resource savings.[76] Important non-traditional benefits from the proposed merger include sustainable healthcare delivery across the region, increased focus on improved access and care coordination for vulnerable populations, and efforts to expand behavioral health services and assets (including physicians and staffing) to address key chronic conditions including opioid use.

The Parties have identified several strategies to achieve these types of benefits, including increased behavioral health and substance abuse services, enhanced health IT capabilities, robust academic and research partnerships, and a commitment to workforce development. We reviewed the Parties' recent submissions on each of these areas and found they provide support for likely benefits from the Ballad Health Model. In particular, much academic and healthcare literature supports the conclusion that behavioral health resources are severely limited in many areas and that scarcity of services, locations, and medical professionals represent key challenges that must be overcome in order to address chronic and crisis issues in substance abuse and behavioral care.[77] In addition, close coordination of resources across the community creates key opportunities for achieving benefits. We reference here some of the Parties' specific commitments and rationale for the benefits (then refer to the Benefits/Disadvantages submission for additional detail).

- *Behavioral Health and Substance Abuse Services*: Behavioral health and substance abuse issues are a major health factor in the GSA. Significant gaps exist in the continuum of care related to these issues. The societal cost associated with mental illness and substance abuse is extensive, and, given that the single largest diagnosis related to regional inpatient admissions is psychosis, these issues merit priority attention. Lack of coordinated and integrated care increases costs and decreases overall effectiveness of care in this region, thereby contributing to the overutilization of costly inpatient services.

  As part of the public benefit associated with the merger and the $140 million commitment, Ballad Health is prepared to make major investments in programs and partnerships that will help address these issues. The Parties recognize that important relationships must be developed across community-based resources, primary care, intensive outpatient care, and inpatient care. Developing effective systems of care in the outpatient environment and the community will contribute to reducing the need for acute hospitalization and emergency department use. While Ballad Health will work to ensure appropriate inpatient resources exist, the main focus of development in this area will be outpatient systems of care, coordinated systems of care in the community, sufficient provider and specialized counseling resources, and residential recovery services. Ballad Health will work within the existing framework of resources and partnerships across the region to identify needs associated with this area as well as gaps in service offerings.[78]

Relevant commitments by the Parties in this area are to:

- Create new capacity for residential addiction recovery services connected to expanded outpatient treatment services located in communities throughout the region; and
- Develop community-based mental health resources, such as mobile health crisis management teams and intensive outpatient treatment and addiction resources for adults, children, and adolescents designed to minimize inpatient psychiatric admissions, incarceration and other out-of-home placements.

- *Enhanced Health IT Capabilities*: The Ballad Health Model will allow the combined system to leverage its integrated technology systems with data from the broader medical community to better coordinate population health efforts. By creating a "single team" approach, the combined system will promote collaboration across inpatient and outpatient care environments, engage patients, and manage healthcare data to promote healthier living and manage chronic care conditions.

  Relevant commitments by the Parties in this area are to:

  - Invest up to $150 million toward the implementation of a Common Clinical IT Platform;
  - Adopt the Common Clinical IT Platform as soon as reasonably practical after the formation of Ballad Health; and
  - Participate meaningfully in a health information exchange open to community providers.

- *Academic and Research Partnerships*: An initiative enabled by the proposed merger is the development of an enhanced academic medical system which can help address healthcare needs and access and the economic well-being of the local community in the near term as well as long term. The Parties will invest funds generated through merger efficiencies in the development of research and academic enhancements. The Parties intend for the academic health system to be a focal point for healthcare and population health research specific to the issues and needs of the communities served by Ballad Health. The investments in research and development, additional faculty, and expanded services and training can improve the ability of Ballad Health to attract medical professionals and business endeavors to the region, thereby benefiting the communities with overall health and economic wellbeing.

  Relevant commitments by the Parties in this area are to:

  - Work with academic partners in Virginia and Tennessee to commit not less than $85 million over ten years to build and sustain research infrastructure, increase residency and training slots, create new specialty fellowship training opportunities, and add faculty;
  - Develop and implement, with its academic partners in Tennessee and Virginia, a ten-year plan for post-graduate training of physicians, nurse practitioners, physician assistants, and other allied health professionals in the region; and
  - Work closely with ETSU and other academic institutions in Tennessee and Virginia to develop and implement a ten-year plan for investment in research and growth in the research enterprise within the region.

- *Workforce Development:* Ballad Health intends to attract and retain employees by being competitive with neighboring health systems. The Parties believe that by carrying through on the commitments in the Application, Ballad Health will become a nationally recognized model that will attract highly talented team members and physicians who want to be part of a unique

healthcare solution.

Relevant commitments by the Parties in this area are to:

- Honor prior service credit for eligibility and vesting under the employee benefit plans maintained by Wellmont and Mountain States and provide all employees credit for accrued vacation and sick leave;
- Work as quickly as practicable after completion of the merger to address any differences in salary/pay rates and employee benefit structures; and
- Combine the best of both organizations' career development programs in order to ensure maximum opportunities for career enhancement and training.

VI. Ensuring the Benefits Outweigh the Potential Disadvantages

The Tennessee COPA law requires the Department of Health to evaluate any disadvantages attributable to any reduction in competition likely to result from the agreement. Tenn. Code Ann. § 68-11-1303(e)(3). Some third parties have submitted concerns that the merger will have disadvantages. The expressed concerns primarily are that the merger would give Ballad Health market power to charge higher prices to non-government payors for which prices are subject to negotiation, limit patient choice though restrictive language in contracts with payors and providers, and reduce incentives to improve quality. Many of these concerns do not take into account the commitments the Parties have proposed to specifically address these concerns. We were asked to evaluate the proposed commitments and whether the commitment is likely to minimize the impact of these potential disadvantages if the COPA is approved.

A. Adverse Impact on Payors is Not Likely

The law requires evaluation of "any likely adverse impact on the ability of health maintenance organizations, preferred provider organizations, managed healthcare organizations, or other healthcare payors to negotiate appropriate payment and service arrangements with hospitals, physicians, allied healthcare professionals, or other healthcare providers." Tenn. Code Ann. § 68-11-1303(e)(3)(A). Our conclusion is that Ballad Health would face substantial constraints and ultimately be unsuccessful if the organization tried to exercise market power when negotiating rates or service arrangements, particularly taking the totality of commitments into account. The Parties have proposed several commitments designed to prevent such adverse effects on payors. We were asked to assess them and consider whether they effectively address the relevant concerns and readily enable compliance review and enforcement by the Department; our conclusion is that they do. The Parties' proposed commitments involve all relevant provider categories in which Ballad Health will operate (including hospital, outpatient and physician services) and provide a comprehensive scope of coverage for contracting and negotiating arrangements.[79] Three key commitments follow:

- Negotiate in good faith with Principal Payors[80] to include Ballad Health in health plans offered in the service area on commercially reasonable terms and rates (subject to the limitations herein), and agree to resolve through mediation any disputes in health plan contracting;
- Not agree to be the exclusive network provider to any commercial, Medicare Advantage or managed Medicaid insurer; and
- Not engage in "most favored nation" pricing with any health plans.

Each of these commitments is designed to protect the payor contracting process and consumer

choice. The first commitment bars Ballad Health from refusing in-network participation with payors constituting more than two percent of Ballad Health's revenue, if the offered terms and rates are commercially reasonable and will help resolve any price and other disputes that may arise with Principal Payors. This commitment is relevant to traditional fee-for-service contracting as well as for new models of risk-based contracting. The second commitment prohibits Ballad Health from requiring payors to contract only with the merged entity in the GSA, which would deny consumers a choice of network providers. The third commitment prohibits Ballad Health from obtaining a promise from a commercial insurer to pay Ballad Health as much as, or more than, any other provider with which the health plan contracts in the area.

We note as well that commitments regarding pricing, which are addressed below, also serve to protect payors.

B. Adverse Impact on Physicians, Competitors, Suppliers or Employees is Not Likely

The law requires evaluation of the "extent of any reduction in competition among physicians, allied health professionals, other healthcare providers, or other persons furnishing goods or services to, or in competition with, hospitals that is likely to result directly or indirectly from the cooperative agreement." Tenn. Code Ann. § 68-11-1303(e)(3)(B). Based on our examination of the record, information regarding inpatient, outpatient, and physician services in the GSA, and our consideration of this evidence in light of our experience in evaluating mergers and acquisitions and competitive effects, it is our opinion that the Parties' incentives and commitments under the COPA mitigate the concerns contemplated by this statutory factor.

The merger will not create a highly concentrated market for physician or outpatient services, and substantial alternatives to Ballad Health will remain within each category.[81] Ballad Health's combined facilities' share for outpatient services either will not change (because there is no geographic market overlap between the Parties) or have a share no greater than 55.6%, depending on the specialty. In the outpatient specialties in which Ballad Health's share of facilities will be 35% or higher, patients will have a choice of facilities numbering between 11 (radiation therapy and cancer centers) and 43 (CT and rehabilitation).[82] Chemotherapy is the specialty in which Ballad Health will have its highest share (55.6%) of facilities; in that specialty, patients will have a total of 18 facilities from which to choose, eight of which are non-Ballad Health facilities.[83] The data also indicate that Ballad Health will employ approximately 30% of the physicians in the GSA, while 70% percent of physicians will remain independent. As noted in the Application, inpatient services will be highly concentrated in certain areas within the GSA as a result of the merger and the Parties have proposed specific commitments to address any resulting issues.

It is our understanding that Ballad Health has incentives to expand, rather than restrict, the number of physicians providing care in the region and to recruit more specialists and primary care and behavioral health physicians to meet community health needs. The Parties' plans and commitments for IT and other data systems appear designed to provide more data and information and connectivity for all physicians, rather than to limit those resources. Ballad Health's plans to expand population health initiatives and initiate new forms of coordinated and value-based care will require alignment with independent physicians. These should provide incentives that benefit, rather than reduce, physician competition.

The Parties have made several commitments intended to obviate concerns under this statutory factor, including two contracting provisions noted above (requirements against exclusivity and most favored nations provisions). Based on our review, all of these commitments are in a form that can be

readily monitored and enforced. Relevant commitments include:

- Maintain open medical staffs at all facilities, subject to the rules and conditions of the organized medical staff of each facility. Exceptions may be made for certain hospital-based physicians, as determined by the Board of Directors.
- Commit to not engage in exclusive contracting for physician services, except for hospital-based physicians, as determined by the Board of Directors.
- Not require independent physicians to practice exclusively at Ballad Health facilities.
- Not take steps to prohibit independent physicians from participating in health plans and health networks of their choice.
- Participate meaningfully in a health information exchange open to community providers.
- Honor prior service credit for eligibility and vesting under the employee benefit plans maintained by Wellmont and Mountain States and provide all employees credit for accrued vacation and sick leave.

Each of these commitments substantially mitigates concern under the statutory factor stated above. The commitment to *maintain an open medical staff* at all facilities provides equal access to all qualified physicians in the GSA according to the criteria of the medical staff bylaws, ensuring no disadvantage to independent physicians who meet the terms of the bylaws. The commitment to *abstain from exclusive contracting* (except for hospital-based physicians) will ensure a level playing field for independent physicians, who frequently see patients at multiple facilities, to provide services or manage populations for whom they have assumed risk.[84] The commitment to *not require physician exclusivity* eliminates the potential for reduced patient referrals to competing providers in the GSA or restrictions on the labor supply of physicians available to competitors. The commitment to *not take steps to restrict physician access to health plan networks* eliminates the risk that Ballad Health would try to prevent payors from access to the physicians they need to develop marketable provider networks at competitive prices.

An HIE linked with a Common Clinical IT Platform has the potential to improve coordination of care and quality of healthcare services across the region. The Parties' commitment to *participate in an HIE open to community providers* will provide that independent physicians and other healthcare providers in the GSA will not be disadvantaged by lack of access to information necessary for the management of their patients. Ballad Health will ensure that its Common Clinical IT Platform interfaces appropriately with the exchanges designed to share health information with physicians. Ballad Health will also utilize the data for its own employed physicians and service locations, enabling improvement in coordination of care. The commitments to *honor prior employee service credit for eligibility and vesting under employee benefit plans* and to *provide all employees credit for accrued vacation and sick leave* protects the Parties' employees from potential adverse effects that could result from the merger of two employers.

C. Adverse Impact on Patients is Not Likely

The law requires an evaluation of the "extent of any likely adverse impact on patients in the quality, availability, and price of healthcare services." Tenn. Code Ann. § 68-11-1303(e)(3)(c). Based on our examination of the record and our experience, it is our opinion that incentives and commitments would be in place under the COPA to mitigate any concerns contemplated by this statutory factor.

As discussed in preceding sections, many aspects of the Ballad Health Model have the potential to improve quality, enhance access, and capture efficiencies in the delivery of healthcare – all to the

ultimate benefit of patients in various ways. Ballad Health has the incentives and commitments to achieve them.

The Parties have offered two pricing commitments to reduce concerns that Ballad Health will use the merger to increase prices:

- A one-time 50% reduction in fixed price increases for the second full fiscal year following the merger closing (the "rate reduction commitment");[85] and
- No price increase greater than the national hospital CPI minus 0.25 percentage points for inpatient and hospital-based outpatient services and the national medical CPI minus 0.25 percentage points for physician services and non-hospital outpatient services (the "rate cap commitment"). [86]

The rate reduction commitment applies to ten Principal Payors.[87] The Principal Payors account for 70% of total revenue for the combined system; Medicare fee-for-service (which is set by the federal government and non-negotiable) accounts for 27% of total revenue and non-Principal Payors account for the remaining 3% of total revenue. The rate reduction commitment applies to inpatient, outpatient and physician services and would take effect in the second full fiscal year after the COPA agreement is approved and the transaction closes.[88] This is a one-time reduction but it will have a permanent effect on prices because any subsequent price increases (which will be limited by the price cap) will be based on the outcome of this one-time reduction. Ballad Health could not recapture this one-time rate reduction, because, as discussed below, the rate cap commitment prevents negotiation of price increases in excess of a market-negotiated rate.

Economists, including Dr. Cory Capps, have recommended a rate cap commitment similar to what the Parties have proposed in other price cap regulation situations because it is a better and more efficient regulatory approach for keeping prices in line by attempting to emulate a competitive market.[89] The Medical and Hospital CPIs are measures constructed by the Bureau of Labor Statistics to track prices in the healthcare industry. The Medical CPI tracks all prices related to health, including medical care commodities such as prescription drugs, over-the-counter drugs and supplies, medical care services such as professional and hospital services, and medical insurance. The Hospital CPI is a component of the Medical CPI that includes only the prices of hospital services.[90] The Parties will apply these indices to calculations of rates for hospital-based inpatient and outpatient services, as well as for non-hospital and physician services.

In the Mission Health COPA matter in North Carolina, Dr. Capps determined that the rate cap methodology proposed to replace the existing margin caps was more effective than the alternative approaches.[91] Several reasons that supported this assessment have equal force here. One is that the proposed Ballad Health method places a direct ceiling on the rate of change of prices, and provides better incentives for the health system. Another reason is that the rate cap is relatively easy to administer and validate. The CPI is a public measure, and State officials can readily apply it by subtracting 0.25 percentage points from the published national average. Any price "inflators" contained in payor contracts (i.e., negotiated future percentage increases in rates) can be directly compared to the cap required by the COPA to determine Ballad Health's compliance.

The Department can also ascertain compliance with the rate cap for new contracts, i.e., those that Ballad Health negotiates with a payor upon an existing contract's pending expiration. We understand that the Parties and payors currently use standard models to evaluate the relative changes in reimbursement between an existing and new contract; these same models could be used by the payors and Ballad Health to demonstrate compliance with the rate cap.[92]

In addition to its simplicity in application and compliance monitoring, the rate cap commitment does not have the "incentive problems" that come with price regulations that use margin limits. Dr. Capps pointed to this factor as key to his recommendation for a similar style rate cap in Mission Health. He described how a margin cap can skew incentives in ways inconsistent with COPA goals. These incentive problems can include an incentive to raise outpatient prices, to increase costs, and to evade regulation by transferring proscribed price increases to services or markets not subject to margin limits.[93]

The Parties' proposed rate cap, in contrast, is very hard to evade and makes non-compliance much easier for State officials (and payors) to detect. The rate cap also covers the three major categories of services offered by the Parties – inpatient, outpatient, and physician services. We have examined the Parties' proposed methods to demonstrate compliance with the rate cap commitment and conclude that they would be effective and readily subject to payor and State validation.[94] We note as well that the proposed rate cap method uses a publicly available inflation measure and provides a clear and consistent method for tracking cost changes relevant for price adjustments, such as those envisioned in the rate commitment's effort to emulate competitive pricing. The commitment provides sufficient constraint while also providing a method that is unlikely to require frequent change or adjustment.

Based on our examination of the record and our experience, we conclude the commitments related to the rate cap, engaging in risk-based contracting, and negotiating with payors on commercially reasonable terms make adverse impacts unlikely as the market transitions away from fee-for-service to risk-based contracting. One reason for this is our understanding that risk-based contracts in the GSA are likely to include some fee-for-service component for the foreseeable future regarding fees for hospital, outpatient, and physician services (and therefore allow for straightforward application of the rate reduction and rate cap commitments). In addition, the Parties have some experience with full-risk contracts as well as pay-for-performance and have been able to reach agreement with payors on terms and conditions. These contracts can form a basis from which new contracts by Ballad Health can be considered and evaluated. Payors have the ability to make use of risk-based contract they have used with providers in other areas as models and a basis for commercially reasonable terms. Risk-based contracts align health system and payor incentives to share savings from improved quality and wellness and reduced costs.[95] Under the COPA, with the commitments regarding population health and efficiencies, Ballad Health will have significant incentives to negotiate mutually beneficial risk contracts with payors to gain the potential cost-savings and benefits from their investments in new care models.

The rate cap commitment applies to Medicare Advantage, managed Medicaid, and all commercial payors that represent more than 2% of the combined total revenue.[96] FTI projects that these provisions will save payors $10 million dollars annually.[97] We have examined the method for estimating those savings and find them to be reasonable. Over time, it is anticipated that those savings would be passed on to consumers in the form of lower premiums and out-of-pocket payments.

Based on our experience, the rate reduction and rate cap commitments are likely to be effective in mitigating any potential adverse impact on patients concerning the price of healthcare services.

D. Comparable Less Restrictive Alternatives to the Merger with Same or Greater Benefits Are Not Available

Finally, the law requires an evaluation of the "availability of arrangements that are less restrictive to competition and achieve the same benefits or a more favorable balance of benefits over disadvantages attributable to any reduction in competition likely to result from the agreement." Tenn. Code Ann. § 68-11-1303(e)(3)(D).

We examined whether there are less restrictive arrangements than the creation of Ballad Health that could accomplish a more favorable balance of benefits over disadvantages, or that could achieve the same benefits and be less restrictive to competition. Based on our review of the submissions and materials, and our discussions with the Parties' executives, we conclude it is unlikely that such alternatives exist. Various third parties have proposed the status quo, joint ventures, and a merger with an out-of-market health system as possible alternatives. The Parties have provided extensive commentary on each of these, and their information and conclusions are consistent, in our view, with the economics of the region, the health challenges, the opportunities for significant efficiencies and resource savings through Ballad Health, and the complexities associated with contracting arrangements and loose affiliations.

In particular, the status quo provides limited opportunities to accomplish the efficiencies and savings associated with the proposed Ballad Health Model, including the important resource savings from logical re-alignment and consolidation of specialized services and reduction in overhead. Many of the savings documented in the FTI Report and addressed by the Parties are available as part of the specific plans and would be difficult to accomplish by any other alternative. If the Parties remain independent, they might seek savings by closing some of their hospitals. Such action would tend to reduce, rather than improve, access, and could potentially create other inefficiencies and inequalities. Based on our review, it is unlikely that independent parties would purchase, and commit to the continued operation of any to-be closed or sold facilities. They would face the same economic conditions as the Parties currently face and would lack the overall system that has supported these smaller facilities to date.

We have also extensively reviewed any known opportunities for joint ventures as well as literature on joint ventures. It is our opinion that any likely joint venture opportunity would not entail the extensive integration and other investments proposed by the Parties and would be highly unlikely to yield the same or comparable opportunities for benefits.

Finally, we reviewed the information on plausible alternative out-of-area transactions. These do not appear to be able to accomplish the same benefits as the in-market approach proposed by the Parties. They appear unlikely to result in the alignment of incentives around the achievement of improved efficiency and effective care delivery, unlikely to result in the commitments made by the Parties to change the total cost of care and medical expense and improve health, and unlikely to permit the same opportunities for value-based contracting. Finally, these plausible alternatives would not involve the specific commitments for efficiencies, resource savings and investments in specific programs that drive the benefits of the proposed merger, nor would there be the same opportunities for in-market changes.

On balance, the evidence indicates that the status quo and plausible alternatives to the merger do not provide the same opportunity for benefits, efficiencies from consolidation, and realignment of duplicative services nor do they align the incentives and commitments across the region in the same way as the merger between the Parties. Based on our experience and review of the transaction, we do not believe there are any known alternatives that would be less restrictive to competition and offer the same benefits or a more favorable balance of benefits over disadvantages attributable to any reduction in competition than the proposed State-supervised merger of Mountain States and Wellmont.

VII. Likelihood of Success

Because the Department of Health's review must take into account the *likely* benefits resulting from the merger, the Parties engaged two third-party consultants, the Advisory Board and Healthy Communities Institute, to examine the Ballad Health Model and evaluate whether Ballad Health was

likely to achieve two principal components of its plan: (1) creating an effective integrated delivery system and (2) establishing a community health improvement organization capable of improving population health. Their findings are highlighted below. Separately, we were asked to evaluate the likelihood that Ballad Health could transition efficiently from volume-based to risk-based contracting. Finally, we briefly address the evidence on the likelihood of success that Ballad Health can perform under the objective measures of the Index.

A. Integrated Delivery System

The Advisory Board was asked to evaluate the likelihood that Ballad Health's merged integrated delivery system would successfully combine population health management and risk-based contracting. Specifically, they were asked to assess the merged entity's ability to transition from a fee-for-service system to a fee-for-value reimbursement system and to succeed in an accountable payment environment that requires successful population health management, significant coordination of care, efficient, effective operational delivery, and optimal performance in risk-based contracting.

In their report, the Advisory Board found that Mountain States and Wellmont together have the core capabilities to succeed in population health management and optimal risk-based contracting performance. Uniting their capabilities through the proposed merger will allow them to scale their collective strengths across the region, pursue value-based arrangements, and maintain their financial viability.

The Advisory Board concluded that the two systems' only path to success in population health management and risk-based contracting is by operating at a larger scale and jointly committing to a value-based strategy as a result of the merger.

B. Community Health Improvement Organization

Healthy Communities Institute (HCI) was engaged to assess the capacity and ability of Ballad Health to develop and implement an effective population health strategy over the next ten years. The focus for HCI's assessment was on current infrastructure, steps already taken by Mountain States and Wellmont separately, and stakeholders' readiness to embark on population health improvement efforts that draw on best practices and strategies proven to be successful elsewhere.

Through their assessment of current capacity and expertise, stakeholder engagement, partnership potential, existing programs, and proposed resources, HCI determined that Mountain States and Wellmont possess the essential building blocks for developing an effective population health improvement plan as Ballad Health. In addition, they determined that the two health systems are ready and motivated to embark on a population health improvement effort and that, by applying best practices that have succeeded in other communities, Ballad Health can successfully improve population health over the next ten years.

C. Efficient Transition from Volume-Based to Risk-Based Contracting

We were asked to assess whether the Parties are likely to be able move efficiently from volume-based to value-based or risk-based contracting under the proposed merger.

The use of risk-based contracts is increasing and is expected to represent a larger share of health system revenues in the future.[98] Organizations with a higher percentage of revenue at risk are

incentivized to develop and adopt more sophisticated population health and care management strategies.[99] For a risk-based payment model to be successful, providers must have the right components to create high-functioning, successful care delivery models. These components include a sufficient population base to support the risk-based payment model, a sufficient number of primary care providers to meet current and emerging health needs, and the resources and infrastructure to successfully manage prevention, coordination and cost-control efforts.

Population Base: Participating in risk-based contracts, particularly those with upside and downside risk, requires a sufficient population base to support the scale of the effort. Achieving sufficient scale makes possible the costly investments needed to adopt successful risk-based contracting. There are a total of 955,006 lives in the Parties' 21-county GSA. These lives are currently split between Mountain States and Wellmont, which limits the scale that either system can achieve independently. The lives are further divided by payor and plan, with six major commercial payors, seven Medicaid payors, and four Medicare Advantage payors. If Wellmont and Mountain States continue to operate independently, each would face the difficult challenge of administering a multitude of varying population health management strategies designed to meet the needs of payors, with, in some cases, fewer than 5,000 covered lives per payor.[100] In contrast, the combined entity of Ballad Health will have the population base needed to pursue risk-based contracts on a broad, population-wide scale and engage payors in a more meaningful way that complements the merger's goals.

Primary Care Providers: When Mountain States and Wellmont combine their medical groups, the merged system will have more than 90 primary care physicians.[101] This number represents a sufficient primary care group to engage in more value-based contracts, as the Advisory Board Report indicates.[102] Financial sustainability within risk-based contracting relies on a provider group's ability to manage the care of a meaningful number of attributed patients. Mountain States and Wellmont together would have sufficient attribution to establish an actuarially sound risk pool with most payors, whereas each individual system may not have sufficient lives to engage in large downside risk arrangements.[103]

Infrastructure: Participating in risk-based contracting requires significant investments in both financial and human capital.[104] Mountain States and Wellmont, independently, lack sufficient scale to support such an infrastructure over the long term. As a case in point, Wellmont participated in the Medicare Shared Savings Program for only one year because Wellmont concluded that it lacked sufficient volume of attributed lives to cover extensive fixed infrastructure costs. As separate systems operating in a highly competitive environment with limited resources, it is unlikely that Mountain States or Wellmont could fund competing infrastructure investments in a sustainable manner. Combining resources is the best option to fund the significant investments that will be required to efficiently transition to risk-based contracts.

The leadership teams of both organizations have made public commitments that Ballad Health will make a rapid transition toward risk-based contracts. In particular, leadership has discussed the potential for full-risk arrangements (depending on payor interest) as early as 2019 and wants risk-based models/partnerships in place with each of the Principal Payors by 2022.[105]

Based on our interviews with the Parties and their executives and our review of detailed data, Ballad Health would have greater capabilities and lower risks/costs than either Party individually, enabling it to transition more efficiently to risk-based contracts on a broad, population-wide scale and to engage payors in a more meaningful way that complements the overall goals of the transaction.

D. Performance Under the Index

If the Department of Health grants the COPA, an Index will be used to objectively measure the progress of Ballad Health's efforts over time to ensure public advantage. The Parties are currently working with the Department to develop a comprehensive set of measures and scoring mechanisms to track progress and demonstrate improvement in specific health and community issues that have been identified as priority areas by both the State and its COPA Index Advisory Group. As a result, we will only provide high-level comments on the population health section of the Index.

As Section III.C of this report details, the health challenges of the region are considerable, with some of the highest prevalence of obesity, smoking, diabetes, hypertension, substance abuse (including NAS), and infant mortality in the State and nation. The work performed by the COPA Index Advisory Group, the community work groups assembled by the Parties, and various research supports the selection of these issues as key focus areas for Ballad Health's population health efforts.

The Parties' proposed approaches and commitments are designed to align care delivery and investments to address these priorities and hold the system accountable. While the Parties and other community stakeholders have undertaken significant efforts independently and collectively on these issues, the costs and community impact of these health challenges continue to escalate. A broader coordinated approach will be required to achieve success.

As HCI noted in its report, Ballad Health should focus on a small number of key areas for long-term population health improvement in order to maximize success.[106] Our review of relevant research supports HCI's recommendation that Ballad Health's efforts should focus on three to five key areas that drive other health conditions.[107]

Additionally, our experience indicates that focusing on a small number of key areas allows resources to be targeted into more comprehensive strategies and used more effectively for greater impact. If an organization attempts to address too many measures, the resources and focus may become diluted and result in less success over time. Ballad Health's likelihood of success under the population health portion of the Index will be greatly affected by whether the organization has the ability to focus its resources and implement targeted programs to address a small number of key focus areas.

VIII. Conclusion

The Northeast Tennessee and Southwest Virginia region presents very challenging economic conditions that pose significant risks for the long-term ability of Mountain States and Wellmont to continue operating separately as independent regional health systems. The region suffers from some of the most serious health issues in the nation – issues that jeopardize the well-being of the population and result in significant and rising medical costs. Mountain States and Wellmont have proposed a plan to realign the two existing health systems into a single integrated delivery system of healthcare providers that will provide a coordinated continuum of services to the community. They have also proposed to establish an Accountable Care Community that would reach beyond the traditional healthcare delivery system to impact community health improvement. The combined impact of a fully integrated delivery system and an increased focus on prevention and community health is intended to transform the two entities from traditional healthcare providers to a single community health improvement organization focused on improving health outcomes of the region.

The Ballad Health Model exists because of state laws in Tennessee and Virginia that permit the States to grant a COPA in Tennessee and a Letter Authorizing a Cooperative Agreement in Virginia and

actively supervise the merged entity. In evaluating whether a COPA should be granted, the State of Tennessee looks at whether the likely benefits outweigh any disadvantages likely to result from the combination. Under the COPA structure, Ballad Health would be held accountable to the State for extensive commitments it has made and would fund these commitments with the savings and efficiencies generated as a result of the merger.

Based upon our review of the facts and submissions, relevant research, and the commitments made by Mountain States and Wellmont, it is clear that the benefits of the Ballad Health proposal significantly outweigh any disadvantages attributable to any reduction in competition likely to result from this merger. There is no alternative arrangement of which we are aware that would be less restrictive to competition while still achieving the same benefits, or that offers a more favorable balance of benefits over disadvantages, than the Ballad Health Model offers for this region.

Endnotes

[1] The Advisory Board and Healthy Communities Institute were engaged to assess Ballad Health's likely success under its plan to develop an integrated delivery system and "move the needle on population health." Both organizations found that Mountain States and Wellmont have complementary strengths that will contribute greatly to the combined entity's likelihood of success; they also conclude that Mountain States and Wellmont have the building blocks necessary to execute on the plan. The fundamental benefits of IDSs, the importance of moving care delivery forward from fragmented care to more efficient delivery systems, and the factors that indicate successful IDSs are well supported in the economics and healthcare literature, as well as by experienced academics and practitioners. These benefits have been recognized by other regulators reviewing IDSs, and borne out in practice by health systems.

[2] We refer, for example, to regulatory programs under Medicaid Delivery System Reform Incentive Payment ("DSRIP") programs, which are a facet of Section 1115 Waiver programs, that require health systems to design specific plans to integrate care and to be held accountable with certain metrics-based reporting requirements and ultimately with at risk payments. For instance, New York reinvested $8 billion of federal savings in DSRIP payments to health systems "based on performance linked to achievement of project milestones" such as reduced avoidable hospital use. *See* "DSRIP Overview," New York State Department of Health, *available at* https://www.health.ny.gov/health_care/medicaid/redesign/dsrip/overview.htm (last accessed Apr. 5, 2017).

[3] "Assessment of Nashville Region Health, Cost, Access, and Quality," Center for Healthcare Economics and Policy, *available at* http://www.fticonsulting.com/insights/reports/nashville-area-chamber-healthcare-pilot-study (June 2015).

[4] Ms. Guerin-Calvert was assisted in her work on this report by Jeremy Nighohossian, Ph.D., and Jen Maki, Ph.D.

[5] During our March 2017 visit, we met with President and CEO Alan Levine, Executive VP and COO Marvin Eichorn, Executive VP and Chief Medical Officer Dr. Morris Seligman, and Senior VP for Development and Innovation Tony Keck, all of Mountain States, as well as President and CEO Bart Hove, Executive VP and COO Eric Deaton, Chief Information Officer Todd Dougan, and former Chief Medical Officer Dr. Dale Sargent, all of Wellmont, as well as other staff members. We also had the opportunity to tour the area and take an extended tour of Bristol Regional Medical Center.

[6] This number includes Mountain States' general acute care beds, psychiatric beds, rehab beds, nursing home beds and skilled nursing beds.

[7] Tennessee COPA Application at 11-12 (Feb. 15, 2016), *hereinafter* "Application." Wellmont acquired Takoma Regional Hospital after submission of the original Application, which is why these Wellmont hospital numbers are different from those in the Application. Application at 11-12. Mountain States signed an agreement to acquire Laughlin Memorial Hospital earlier this year, but that transaction has not closed.

[8] The Application identifies the 21 counties: Carter, Cocke, Greene, Hamblen, Hancock, Hawkins, Johnson, Sullivan, Unicoi, and Washington in Tennessee, and Buchanan, Dickenson, Grayson, Lee, Russell, Scott, Smyth, Tazewell, Washington, Wise, and Wythe (including the independent cities of Bristol and Norton) in Virginia.

[9] U.S. Census Population Estimates 2008-2013, 2015 Area Resource File, *available at* http://www.ahrf.hrsa.gov/.

[10] Mark Holmes, "Financially Fragile Rural Hospitals: Mergers and Closures," *North Carolina Medical Journal*, 76 (1) at 37-40, *available at* http://www.ncmedicaljournal.com/content/76/1/37.full (Jan. 2015).

[11] Brystana Kaufman, Sharita Thomas, Randy Randolph, Julie Perry, Kristie Thompson, George Holmes and George Pink, "The Rising Rate of Rural Hospital Closures," *Journal of Rural Health*, 32 (1) at 35-43, *available at* https://uncch.pure.elsevier.com/en/publications/the-rising-rate-of-rural-hospital-closures (Dec. 2016).

[12] *See* "78 Rural Hospital Closures: January 2010 to Present," NC Rural Health Research Program, The Cecil G. Sheps Center for Health Services Research, *available at* http://www.shepscenter.unc.edu/programs-projects/rural-health/rural-hospital-closures/ (last accessed Apr. 6, 2017).

[13] Application at 19.

[14] Application at 20.

[15] Application at Exhibit 5.2A.

[16] Tennessee Hospital Discharge Data System (2011-2014); Patient Level Data, Virginia Health Information (2011-2014).

[17] "2015 Survey, Final-Year Medical Residents," Merritt Hawkins, *available at* https://www.merritthawkins.com/uploadedfiles/merritthawkings/surveys/2014_merritthawkins_fymr_survey.pdf (2014).

[18] Interviews with Todd Dougan and Eric Deaton of Wellmont and, separately, with Alan Levine of Mountain States.

[19] CMS Medicare Area Wage Index, *available at* https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/Wage-Index-Files.html.

[20] U.S. Census Population Estimates 2008-2013, 2015 Area Resource File, *available at* http://www.ahrf.hrsa.gov.

[21] "Financial Condition and Health Care Burdens of People in Deep Poverty," Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services, *available at* https://aspe.hhs.gov/basic-report/financial-condition-and-health-care-burdens-people-deep-poverty (July 2015).

[22] Application at 44. Medicare numbers include managed Medicare.

[23] *See* Mark Holmes, "Financially Fragile Rural Hospitals: Mergers and Closures," *North Carolina Medical Journal*, 76 (1) at 37-40, *available at* http://www.ncmedicaljournal.com/content/76/1/37.full (Jan. 2015).

[24] Tennessee Hospital Discharge Data System (2011-2014); Patient Level Data, Virginia Health Information (2011-2014).

[25] Information provided by the Parties.

[26] Wellmont has faced difficult decisions regarding smaller hospitals in the past. In 2009, Wellmont sold Jenkins Community Hospital in Kentucky to Appalachian Regional Healthcare less than two years after purchasing it. Despite investments in renovations, physician recruitment, and updating equipment, Wellmont was unable to attract enough patients to keep Jenkins Community viable. *See* "Wellmont to sell Jenkins facility, assets," Press Release by Wellmont Health Systems, *available at* http://wellmont.newsroom.meltwaterpress.com/news/wellmont-to-sell-jenkins-facility-assets-737 (Apr. 8, 2009). Wellmont closed Lee Regional Medical Center in October 2013 because of reimbursement cuts, low utilization, and low physician coverage. *See* "Lee Regional Closing in Wake of Healthcare Reform; Hospital to Help Patients, Co-Workers Transition," Press Release by Wellmont Health System, *available at* http://www.wellmont.org/News/Our-Facilities/Hospitals-And-Medical-Centers/Community/Lee-Regional/2013/Lee-Regional-Closing-In-Wake-Of-Healthcare-Reform;-Hospital-To-Help-Patients,-Co-Workers-Transition.aspx.

[27] Research shows that facility downsizing or major clinical service changes have been responses to substantial reimbursement reductions or financial challenges. *See, e.g.*, Paul Kirby, Joanne Spetz, Lisa Maiuro and Richard Scheffler, "Hospital Service Changes in California: Trends, Community Impacts and Implications for Policy," The Nicholas C. Petris Center on Health Care Markets & Consumer Welfare, *available at* http://petris.org/wp-content/uploads/2013/02/CaliforniaHospitals.pdf (Apr. 2005).

[28] For a discussion of the benefits that can be accomplished by in-market mergers using recent data, *see* Matt Schmitt, "Do hospital mergers reduce costs?", *Journal of Economics* 52 at 74-94 (Feb. 2017). Dr. Schmitt states: "For a large sample of hospital mergers between 2000 and 2010, I estimate difference-in-differences models that compare cost trends at acquired hospitals to cost trends at hospitals whose ownership did not change. I find evidence of economically and statistically significant cost reductions at acquired hospitals. On average, acquired hospitals realize cost savings between 4 and 7 percent in the years following the acquisition. These results are robust to a variety of different control strategies, and do not appear to be easily explained by post-merger changes in service and/or patient mix." *See also* David Dranove and Richard Lindrooth, "Hospital Consolidation and Costs: Another Look at the Evidence," 22 *Journal of Health Economics* 6 at 983-97 (2003).

[29] Application at 31.

[30] Application at 33, Table 8.2. The most recent report by the Tennessee Department of Health shows low physical activity is persistent. *See* "2016 Drive Your County to the Top Ten," Division of Policy, Planning, and Assessment, Tennessee Department of Health, *available at* https://www.tn.gov/assets/entities/health/attachments/Drive_Report_2016.pdf (May 2016).

[31] Application at 33, Table 8.2. Current data show that these problems persist. *See* "2016 Drive Your County to the Top Ten," Division of Policy, Planning, and Assessment, Tennessee Department of Health, *available at* https://www.tn.gov/assets/entities/health/attachments/Drive_Report_2016.pdf (May 2016).

[32] Application at 31, Table 8.1.

[33] Application at 33, Table 8.2. For current data, *see* "2016 Drive Your County to the Top Ten," Division of Policy, Planning, and Assessment, Tennessee Department of Health, *available at* https://www.tn.gov/assets/entities/health/attachments/Drive_Report_2016.pdf (May 2016).

[34] "Opioid Wars: A Johnson City Press Special Report," *Johnson City Press, available at* http://www.johnsoncitypress.com/Local/2016/08/04/Opioid-Wars-A-Johnson-City-Press-Special-Report.html?ci=stream&lp=8&p=1 (Aug. 4, 2016).

[35] *Id*.

[36] *Id*.

[37] John Cawley and Chad Meyerhoefer, "The Medical Care Costs of Obesity: An Instrumental Variables Approach," 31 *Journal of Health Economics* 1 at 219–230, *available at* https://www.nber.org/papers/w16467.pdf (Jan. 2012).

[38] Shirley Musich, Stephanie MacLeod, Gandhi Bhattarai, Shaohung Wang, Kevin Hawkins, Frank Bottone, Jr., and Charlotte Yeh, "The Impact of Obesity on Health Care Utilization and Expenditures in a Medicare Supplement Population," *Gerontology and Geriatric Medicine*, 2: 2333721415622004, *available at* https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5119873/ (2016).

[39] Xiaohui Zhou, Ping Zhang, Lawrence Barker, Ann Albright, Theodore Thompson, and Edward Gregg, "The Lifetime Cost of Diabetes and its Implications for Diabetes Prevention," *Diabetes Care*, *available at* https://www.ncbi.nlm.nih.gov/pubmed/25147254 (Sept. 2017).

[40] "Economic Costs of Diabetes in the US in 2012," American Diabetes Association, *Diabetes Care*, *available at* http://care.diabetesjournals.org/content/36/4/1033 (Apr. 2013).

[41] "Per Capita Health Care Spending on Diabetes: 2009-2013," Health Care Cost Institute, *Issue Brief #10*, *available at* http://www.healthcostinstitute.org/files/HCCI%20Diabetes%20Issue%20Brief%205-7-15.pdf (May 2015).

[42] Individuals with diabetes are at increased risk for mental health conditions including anxiety and depression. *See* Lee Ducat, Louis Philipson, and Barbara Anderson, "The mental health comorbidities of diabetes," 312 *JAMA* 7 at 691-692, *available at* https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4439400/ (Aug. 20, 2014).

[43] "2014 Diabetes Health Care Cost and Utilization Report," Health Care Cost Institute, *available at* http://www.healthcostinstitute.org/wp-content/uploads/2016/06/2016-D-HCCUR-FINAL-7.21.16.pdf (June 2016).

[44] Application at 33. Table 8.2. *See* "2016 Drive your County to the Top Ten," Division of Policy, Planning, and Assessment, Tennessee Department of Health, for 2016 data. *available at* https://www.tn.gov/assets/entities/health/attachments/Drive_Report_2016.pdf (May 2016).

[45] Jennifer Kahende, Bishwa Adhikari, Emmanuel Maurice, Valerie Rock, and Ann Malarcher, "Disparities in health care utilization by smoking status–NHANES 1999-2004," 6 *International Journal of Environmental Research and Public Health* 3 at 1095-1106, *available at* https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2672402/ (2009).

[46] We derived estimates of medical and productivity costs attributable to the prevalence of diabetes and obesity for the ten Tennessee counties in the GSA using accepted methods and applying national estimates. We estimated medical costs by applying the condition prevalence rate for diabetes (obesity) to this population, multiplied by the average annual per capita medical costs for diabetes (obesity). We calculated productivity costs by multiplying the region's average hourly wage rate by estimated number of hours of work missed (based on national estimates) to obtain a per capita estimate. We multiplied this per capita cost by the number of employed with diabetes (obesity). All estimates use national estimates of the medical and productivity costs from the medical and healthcare literature on diabetes and obesity cited in the preceding endnotes and in Finkelstein, Eric et al. 2010. "The Costs of Obesity in the Workplace." Journal of Occupational and Environmental Medicine. Oct 2010. Volume 52, Number 10:971-976.

[47] Productivity cost estimates for obesity are conservative, as they reflect costs due to absenteeism only.

[48] The productivity costs presented here for the ten-county region are lower-bound estimates.

[49] The CDC designated six health challenges in this 2010 initiative: tobacco; nutrition, physical activity, obesity, and food safety; healthcare-associated infections; motor vehicle injuries; teen pregnancy; and HIV. These are public health priorities for which interventions exist and improvement over a relatively short period of time is possible. *See* "Winnable Battles," Centers for Disease Control and Prevention, *available at* https://www.cdc.gov/winnablebattles/report/background.html (last accessed Mar. 15, 2017).

[50] "CDC Reports Winnable Battles Results," Press Release by Centers for Disease Control and Prevention, *available at* https://www.cdc.gov/media/releases/2016/p1205-winnable-battles.html (Dec. 5, 2016).

[51] *Id.*

[52] Parties' Response to Public Comments Submitted to Tennessee Department of Health at 1(Dec. 2016). The proposals themselves were attached as Exhibit A in Wellmont's Response to the Civil Investigative Demand issued by the Tennessee Office of the Attorney General Issued May 9, 2016 at WHS0785 (May 2016).

[53] Application at 2-5.

[54] Tenn. Code Ann. § 68-11-1303(e)(1).

[55] The Parties are currently working with the Department to develop a comprehensive index and scoring mechanism to track progress and demonstrate improvement in specific health and community issues that have been identified as priority areas by both the State and advisory groups.

[56] For example, the Delivery System Reform Incentive Payment ("DSRIP") initiative in New York involves the establishment of twenty-five Performing Provider Systems (PPSs) across the state. Each PPS developed plans to integrate care delivery for their Medicaid populations and plans to move to new payment models. The State assesses performance under various specific metrics (e.g., reduced avoidable admissions and reduced premature births). An overview of the DSRIP program is available at https://www.health.ny.gov/health_care/medicaid/redesign/dsrip/, and the waiver and other documentation can be found at https://www.health.ny.gov/health_care/medicaid/redesign/dsrip/cms_official_docs.htm.

[57] Application at 45.

[58] The Parties' supplemental filings note that the potential savings are limited to the estimated dollar savings from the realignment of resources and certain clinical efficiencies, but do not include the potentially important benefits that the Parties expect to achieve through improved access, quality, and care in the best locations that will directly benefit these communities. *See* "Responses to Questions Submitted April 22, 2016 by Tennessee Department of Health in Connection with Application for Certificate of Public Advantage," Mountain States and Wellmont, at 11, Ex. 10 Benefits and Disadvantages, *available at* http://tn.gov/assets/entities/health/attachments/WHS-MSHA_April_22,_2016_DOH_Response_1.pdf (July 2016).

[59] We find support for these conclusions from public comments of business leaders concerning the importance they place on achieving more stable cost trends. We also understand that payors seek these improvements for managing the care of Medicare and Medicaid, as well as commercially insured, patients.

[60] As discussed more fully below, IDSs represent important new delivery system models that support transformational change and reduction in the fragmentation of care delivery (i.e., the delivery of medical services in a large number of independently operated and uncoordinated entities). The combination of Ballad Health's IDS and IT commitments itself promises significant improvements in care delivery. Geisinger Health System in Pennsylvania serves as an example of this. A case study of Geisinger Health System shows that, as of June 2009, Geisinger's EHR system contained more than three million patient records, becoming a "central nervous system" for the organization. According to the case study, the structure supports evidence-based practices at the point of care. It also supports a patient web portal that has shown to be effective in reducing missed appointments and the number of phone calls to Geisinger clinics per month, which lead to greater physician and office staff productivity. *See* Douglas McCarthy, Kimberly Mueller, and Jennifer Wrenn, "Geisinger Health System: Achieving the Potential of System Integration Through Innovation, Leadership,

Measurement, and Incentives," The Commonwealth Fund, Case Study, Organized Health Care Delivery System at 3-4, *available at* http://www.commonwealthfund.org/~/media/Files/Publications/Case%20Study/2009/Jun/McCarthy_Geisinger_case_study_624_update.pdf (June 2009).

[61] *See* "Independent Assessment of Ballad Health's Likelihood of Successfully Navigating the Narrow Corridor in a Merged Integrated Delivery System," Advisory Board at 13 (Apr. 2017), *hereinafter* "Advisory Board Report." The benefits of IDSs are well documented in the literature. For example, a Kaiser Permanente study states the following: "Key elements of the healthcare delivery enterprise - physicians, hospitals, pharmacies, laboratories, and so on - are neither purposefully organized to act collaboratively across disciplines and settings nor signaled to do so by market forces. A growing body of evidence suggests that this lack of 'systemness' contributes to documented shortfalls in quality and efficiency." "Improving Health Care Quality Through 'Systemness'," *Policy Brief*, Kaiser Permanente Institute for Health Policy, *available at* https://www.kpihp.org/wp-content/uploads/2012/12/In_Focus_HC-systemness-020708.pdf (Jan. 2008). Enthoven and Tollen address shortfalls of the current healthcare delivery system: "Many stakeholders agree that the current model of U.S. health care competition is not working…Instead, we need markets that encourage *integrated delivery systems*, with incentives for teams of professionals to provide coordinated, efficient, evidence-based care, supported by state-of-the-art information technology." Alain Enthoven and Laura Tollen, "*Competition in health care: it takes systems to pursue quality and efficiency*," Health Affairs 24, *available at* http://content.healthaffairs.org/content/early/2005/09/07/hlthaff.w5.420.short (Sept. 2005) (emphasis added). They go on to note that integrated delivery systems have the "ability to drive efficiency improvement and cost containment on a large scale." *Id.* Additionally, there is evidence supporting an association between integrated delivery systems and improved quality. *See* Wenke Hwang, Jongwha Chang, Michelle LaClair, and Harold Paz, "Effects of integrated delivery system on cost and quality," 19 *American Journal of Managed Care* 5 at 175-84, *available at* https://www.pcpcc.org/sites/default/files/resources/Effects%20of%20Integrated%20Delivery%20System%20on%20Cost%20and%20Quality.pdf (2013). The results demonstrate performance improved with IDSs. *See* Anthony Shih, Karen Davis, Stephen Schoenbaum, Anne Gauthier, Rachel Nuzum, and Douglas McCarthy, "Organizing the U.S. Health Care Delivery System for High Performance," Commission on a High Performance Health System, The Commonwealth Fund at 4-8, *available at* http://www.commonwealthfund.org/publications/fund-reports/2008/aug/organizing-the-u-s--health-care-delivery-system-for-high-performance (Aug. 2008). The Commonwealth Fund commissioned studies of 15 different integrated systems, the results of which highlight the diversity of organizational arrangements accomplishing realignment of healthcare. *See* Douglas McCarthy and Kimberly Mueller, "Organizing for Higher Performance: Case Studies of Organized Delivery Systems, Series Overview, Findings, and Methods," The Commonwealth Fund, *available at* http://www.doctorsandmanagers.net/adjuntos/204.1-1288_McCarthy_Overview_report_final.pdf (July 2009).

[62] The proposed metrics reflect a wide array of healthcare performance indicators including 14 CMS measures related to readmissions and deaths, and six relating the healthcare-associated infections. CMS Hospital Compare metrics are publicly available at: https://data.medicare.gov/data/hospital-compare.

[63] Application at 31, Table 8.1; Application at 33, Table 8.2. For county-level data for the region, *See* "2016 Drive Your County to the Top Ten," Division of Policy, Planning, and Assessment, Tennessee Department of Health, *available at* https://www.tn.gov/assets/entities/health/attachments/Drive_Report_2016.pdf (May 2016).

[64] We described in Section III.B above the financial pressures facing the Parties' rural hospitals.

[65] "Report on Potential Efficiencies Gained Through the Combination of Mountain States Health Alliance and Wellmont Health System," FTI Consulting at 13 (Feb. 2016).

[66] The empirical literature supports these conclusions. We refer, for example, to literature cited above in endnote 28 from Schmitt, Dranove, and Lindrooth. An important benefit that is not captured in these articles is the benefit of avoiding loss of access or reduced access to services, which can occur where hospitals facing poor financial conditions and declining admissions choose substantially to downsize in services (usually obstetrics and cardiac services) or to close, as was noted in the article referenced by Spetz et al. regarding California hospital closures and downsizing.

[67] There is also evidence that higher or more stable volumes in trauma centers can lead to better patient outcomes, thereby providing opportunities for value as well as resource savings. *See* Joseph Tepas, Etienne Pracht, Barbara Orban, and Lewis Flint, "High-volume trauma centers have better outcomes treating traumatic brain injury," *Journal of Trauma and Acute Care Surgery, available at* http://www.ncbi.nlm.nih.gov/pubmed/23271089 (Jan. 2013); Avery Nathens,

Gregory Jurkovich, Richard Maier, David Grossman, Ellen MacKenzie, Maria Moore, and Frederick Rivara "Relationship between trauma center volume and outcomes," *Journal of American Medical Association*, *available at* http://jama.jamanetwork.com/article.aspx?articleid=193615 (Mar. 2001).

[68] "Responses to Questions Submitted November 22, 2016 by Tennessee Department of Health in Connection with Application for Certificate of Public Advantage," Mountain States and Wellmont, at Ballad Health Overview of Approach, 4, *available at* https://www.tn.gov/assets/entities/health/attachments/Response_to_November_22_2016_Questions.pdf (Dec. 2016).

[69] *Id.* at Ballad Health Overview of Approach, 4.

[70] The commitment with regard to rural facilities is five years.

[71] Application at 88.

[72] The Parties have indicated that the $140 commitment will be broken out as follows: mental health and addiction recovery ($85 million), pediatric sub-specialty access ($27 million) and rural health access ($28 million).

[73] "Responses to Questions Submitted November 22, 2016 by Tennessee Department of Health in Connection with Application for Certificate of Public Advantage," Mountain States and Wellmont, at Ballad Health Evidence and Rationale for Investment in Residential Addiction Treatment Capacity, 3, *available at* https://www.tn.gov/assets/entities/health/attachments/Response_to_November_22_2016_Questions.pdf (Dec. 2016).

[74] Application at 44-45.

[75] In fiscal year 2015, Wellmont provided $72,940,011 in uncompensated care. See Wellmont's IRS Form 990 for fiscal year 2015. In fiscal year 2015, Mountain States provided $53,884,698 in uncompensated care. See Mountain States' IRS Form 990 for fiscal year 2015.

[76] Benefits in the context of antitrust efficiencies tend to focus only on competitive effects. But mergers can result in a far broader set of benefits in the form of materially improved health, access, cost-effectiveness, and quality. Traditional antitrust enforcement also assesses how efficiencies impact only the commercially insured segment. But mergers can yield benefits to the entire population, including the uninsured and those enrolled in government payor programs.

[77] Kathleen Thomas, Alan Ellis, Thomas Konrad, Charles Holzer, and Joseph Morrissey, "County-level estimates of mental health professional shortage in the United States," 60 *Psychiatric Services* 10 at 1323-28, *available at* http://ps.psychiatryonline.org/doi/abs/10.1176/ps.2009.60.10.1323?url_ver=Z39.88. 2003&rfr_id=ori%3Arid%3Acrossref.org&rfr_dat=cr_pub%3Dpubmed (Oct. 2009); Larry Gamm, Sarah Stone, and Stephanie Pittman, "Mental health and mental disorders—A rural challenge: A literature review," *Rural Healthy People* 2010, Vol. 2 at 97-114, *available at* https://sph.tamhsc.edu/srhrc/docs/rhp-2010-volume2.pdf; Michael Hendryx, "Mental health professional shortage areas in rural Appalachia," 24 *The Journal of Rural Health* 2 at 179-182 (Apr. 2008).

[78] The Parties expect to develop an integrated care model for the region similar to what is outlined by the Agency for Healthcare Research and Quality ("AHRQ") through the efforts of the Community Health Work Groups. That model includes primary care and behavioral health clinicians working together with patients and families, using a systematic and cost-effective approach to provide patient-centered care addressing mental health, substance abuse conditions, health behaviors, life stressors and crisis, stress-related physical symptoms, and ineffective patterns of healthcare utilization. The work of AHRQ and other evidence-based best practices will be used as a guide to support the development of regional services in a model that is coordinated, co-located, and integrated to overcome the disparate and disconnected manner in which individuals are currently treated. Ballad Health will support a network of care resources across the region in partnership with agencies such as Frontier Health, Highlands Community Services, the regional rural health centers and Federally Qualified Health Centers, faith-based organizations, and health departments. Together with these partnership networks, the care resources associated with Ballad Health, including primary care networks, emergency department networks, and inpatient behavioral health, will position the system to positively impact the development of this continuum of resources in an unprecedented way.

[79] The proposed commitments separately address physician, outpatient, and inpatient services with relevant rate caps and other requirements. These are more comprehensive and specific than those in the Mission Health COPA, where inpatient

and outpatient services were combined. This overcomes critiques raised about the Mission Health COPA. *See* Cory Capps, "Revisiting the Certificate of Public Advantage Agreement between the State of North Carolina and Mission Health System: A Review of the Analysis of Dr. Greg Vistnes, with Additional Recommendations for Lessening Opportunities for Regulatory Evasion by Mission Health System," at 13-14 (May 2, 2011). In addition, many of the Parties' commitments regarding contracting terms and conditions are similar to those made in the Mission Health COPA. These commitments attempt to preserve as much of the current contractual arrangement as possible while precluding the addition of competition-limiting provisions and also include conditions used in other regulated transactions. For example, the Order in the Highmark-West Penn Allegheny Affiliation by the Pennsylvania Insurance Department included similar provisions to the Parties' proposed commitments regarding exclusivity and most-favored nations clauses, among others.

[80] The Application defines "Principal Payors" to mean those commercial payors that provide more than two percent of Ballad Health's total net revenue. The Parties have proposed to extend the definition of "Principal Payors" to include managed Medicaid, TRICARE, Medicare Advantage or any other negotiated rate governmental plans offered by Principal Payors.

[81] Share estimates were provided in the Application for outpatient and for physician services, including by specialty (*see* Application at Exhibits 6.1A-E) and updated in the Parties' Addendum #1 to the Application filed on March 16, 2016. These estimates may understate the alternatives because in some instances cases are referred outside the region for specialty services.

[82] Of those that have 11 providers, each has five non-Ballad Health providers; CT has 21 non-Ballad Health, and Rehab has 26.

[83] *See* Application at Exhibit 6.1-A to 6.1-D.

[84] This commitment does not extend to certain hospital-based physicians such as hospitalists, radiologists, pathologists, or emergency-room physicians, as approved by the Board of Directors. This is a sensible approach that is consistent with best practices in concentrated and unconcentrated markets. Quality and cost management in hospital-based departments are often best served by a single physician group held to standards determined in collaboration with hospital leadership. Hospitals rarely staff their emergency departments with multiple ER physician groups, for example; laboratory and radiology follow a similar practice. This avoids risking confusion and lack of consistency. Ballad Health will continue to allow independent physicians and hospitalists to follow their patients in other hospitals as long as medical staff rules and performance metrics are followed.

[85] Application at 46.

[86] Application at 47.

[87] Information provided by the Parties.

[88] Information provided by the Parties.

[89] Cory Capps, "Revisiting the Certificate of Public Advantage Agreement between the State of North Carolina and Mission Health System: A Review of the Analysis of Dr. Greg Vistnes, with Additional Recommendations for Lessening Opportunities for Regulatory Evasion by Mission Health System," at 15 (May 2011).

[90] Bureau of Labor Statistics Handbook of Methods Chapter 17 at 22-24, *available at* https://www.bls.gov/opub/hom/pdf/homch17.pdf.

[91] Cory Capps, "Revisiting the Certificate of Public Advantage Agreement between the State of North Carolina and Mission Health System: A Review of the Analysis of Dr. Greg Vistnes, with Additional Recommendations for Lessening Opportunities for Regulatory Evasion by Mission Health System," at 13-17 (May 2011).

[92] We base this assessment on review of materials provided to the State, on the modeling approaches used by the Parties, and on discussions with the Parties' executives about their negotiations with payors, and payor models.

[93] Capps, *supra* note 91, at 13-15.

[94] Interviews with Todd Dougan, Wellmont's Chief Financial Officer, and Marvin Eichorn, Mountain States' Chief Operating Officer.

[95] We note there are models available for risk-based contracts that have been used in successful transitions from fee-for-service to risk-based contracting in Massachusetts. *See, e.g.*, "Blue Cross Blue Shield of Massachusetts, The Alternative QUALITY Contract," *available at* https://www.bluecrossma.com/visitor/pdf/alternative-quality-contract.pdf (May 2010).

[96] Information provided by the Parties.

[97] FTI's calculation of the $10 million in savings was provided by the Parties and we understand it has been discussed with the Tennessee Attorney General's office.

[98] "Risk-based contracting and the future of health care payment and delivery," Optum, *Trend Watch*, *available at* https://cdn-aem.optum.com/content/dam/optum3/optum/en/resources/trend-watch/optum-trend-report-1st-issue.pdf (2014).

[99] James Colbert, "Understanding the Four Stages of Risk-Based Contracting," *Accountable Care News*, *available at* https://cdn2.hubspot.net/hubfs/394315/assets/News_Articles/AccountableCareNews_Nov16.pdf?t=1487973237425 (Nov. 2016).

[100] Figure based on interviews and information provided by Parties. Primary care physician numbers provided by systems: 54 at Mountain States, excluding urgent care and hospitalists; 36 at Wellmont (estimate does not include Takoma Regional Hospital).

[101] Advisory Board Report at 17.

[102] Advisory Board Report at 17.

[103] *Id.*

[104] "Value-Based Contracting," Hospitals in Pursuit of Excellence, Health Research & Educational Trust, and KaufmanHall, *available at* http://www.hpoe.org/Reports-HPOE/Value-Based_Contracting_KaufHall_2013.pdf (July 2013).

[105] "Responses to Questions Submitted November 22, 2016 by Tennessee Department of Health in Connection with Application for a Certificate of Public Advantage," Mountain States and Wellmont (Dec. 2016). We explored specifically with the Parties the costs involved with undertaking more risk-based contracting.

[106] "Ballad Health Population Health Improvement Plan, Capacity and Preparedness Assessment and Recommendations," Conduent Community Health Solutions, Healthy Community Institute at 22 (Apr. 2017). We note that the areas identified by HCI include those with high medical and productivity costs and substantial impact on health and wellness.

[107] "Metrics That Matter for Population Health Action: Workshop Summary (2016)," National Academies of Sciences, Engineering, and Medicine (2016); "Assessment of Nashville Region Health, Cost, Access, and Quality," Center for Healthcare Economics and Policy, *available at* http://www.fticonsulting.com/insights/reports/nashville-area-chamber-healthcare-pilot-study (June 2015).

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