

High Yield Healthcare

Demystifying Non-Urban Hospitals

As part of an ongoing series of exploratory reports, we review the challenges hospitals are facing and how they can address them; we attempt to better classify facilities and include data on select hospitals and their respective patient origins.

In our first report within a series of deep-dives, we aim to better understand the challenges facing hospitals, how they can address them, and how we should analyze turnarounds. We analyze the hospitals within our coverage universe using various metrics and classifications (from census, OMB, FOHRP, and USDA) to determine how to better characterize these acute-care providers, rather than classifying facilities as merely rural or urban. We examine the challenges of rural locations, highlight the strategic considerations to improve outcomes, and review certain facilities and their respective demographics and market shares. We also analyze certain markets and provide classifications to better reflect the surrounding demographics of the hospitals' target patient populations. Subsequent reports will include a deep dive into our new classification for hospitals based on the data we review and the facilities in our coverage universe. We will also host a number of panels about hospital turnarounds, with the first during our High Yield Conference on June 7 and the second during our Nashville trip.

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#modernmedicine

Rishi Parekh
+1 212 412 5245
rishi.parekh@barclays.com
BCI, US

Yi Li
+1 212 320 0169
yi.li@barclays.com
BCI, US

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Please see analyst certifications and important disclosures beginning on page 75 .

Completed: 04-Jun-19, 19:01 GMT Released: 04-Jun-19, 19:05 GMT Restricted - External

FIGURE 1. Ratings

Ticker	Coupon	Security	Maturity	Issue Rating		Price	YTW	STW	Date: 5/31/19		STW chg
				M	S&P				4/17/19	Ratings	
COMMUNITY HEALTH											
CYH	5.125%	1st lien	8/1/2021	Caa1	/	B-	98.500	5.870%	380	101	OW
CYH	6.250%	1st lien	3/31/2023	Caa1	/	B-	96.750	7.234%	520	53	OW
CYH	8.625%	1st lien	1/15/2024	Caa1	/	B-	100.250	8.538%	651	84	OW
CYH	8.000%	1st lien	3/15/2026	Caa1	/	B-	96.750	8.638%	653	55	OW
CYH	11.000%	2nd lien	6/30/2023	Ca	/	CCC-	82.000	16.075%	1,404	37	UW
CYH	8.125%	2nd lien	6/30/2024	Ca	/	CCC-	76.500	14.879%	1,285	(11)	UW
CYH	6.875%	Sr Unsec	2/1/2022	C	/	CCC-	68.750	23.252%	2,125	37	UW
HCA INC											
HCA	L+150	1L TERM A5	6/10/2020	Baa3	/	BBB-	100.125	3.891%	137	1	
HCA	L+175	1L TERM B11	3/17/2023	Baa3	/	BBB-	100.250	4.192%	167	(1)	
HCA	L+200	1L TERM B10	3/13/2025	Baa3	/	BBB-	100.250	4.466%	194	2	
HCA	4.250%	1st lien	10/15/2019	Baa3	/	BBB-	100.500	2.856%	56	(19)	MW
HCA	6.500%	1st lien	2/15/2020	Baa3	/	BBB-	102.500	2.859%	79	(20)	MW
HCA	5.875%	1st lien	3/15/2022	Baa3	/	BBB-	106.750	3.314%	131	29	MW
HCA	4.750%	1st lien	5/1/2023	Baa3	/	BBB-	104.875	3.407%	138	15	MW
HCA	5.000%	1st lien	3/15/2024	Baa3	/	BBB-	106.500	3.511%	148	15	MW
HCA	5.250%	1st lien	4/15/2025	Baa3	/	BBB-	107.375	3.833%	180	23	MW
HCA	5.250%	1st lien	6/15/2026	Baa3	/	BBB-	107.375	3.958%	174	22	MW
HCA	4.500%	1st lien	2/15/2027	Baa3	/	BBB-	103.250	3.976%	176	26	MW
HCA	5.500%	1st lien	6/15/2047	Baa3	/	BBB-	104.500	5.191%	255	41	MW
HCA	6.250%	Sr Unsec	2/15/2021	Ba2	/	BB-	104.750	3.348%	127	23	MW
HCA	7.500%	Sr Unsec	2/15/2022	Ba2	/	BB-	110.000	3.578%	157	24	MW
HCA	5.875%	Sr Unsec	5/1/2023	Ba2	/	BB-	107.125	3.892%	186	30	MW
HCA	5.375%	Sr Unsec	2/1/2025	Ba2	/	BB-	105.250	4.318%	229	37	MW
HCA	5.875%	Sr Unsec	2/15/2026	Ba2	/	BB-	107.250	4.520%	231	38	MW
HCA	5.375%	Sr Unsec	9/1/2026	Ba2	/	BB-	105.000	4.506%	229	37	MW
HCA	5.625%	Sr Unsec	9/1/2028	Ba2	/	BB-	105.125	4.896%	268	45	MW
HCA	5.875%	Sr Unsec	2/1/2029	Ba2	/	BB-	106.750	4.949%	274	40	MW
QUORUM HEALTH CO											
QHC	L+675	TERM LOAN	4/29/2022	B1	/	CCC	98.000	10.077%	755	66	
QHC	11.625%	Sr Unsec	4/15/2023	Caa2	/	CC	86.500	16.466%	1,444	(92)	UW
REGIONALCARE HSP											
RGCARE	L+450	Term Loan	11/16/2025	B1	/	B+	100.250	7.483%	481	0	*
RGCARE	8.250%	1st lien	5/1/2023	B1	/	B+	106.500	3.947%	157	221	*
RGCARE	11.500%	Sr Unsec	5/1/2024	Caa1	/	CCC+	106.250	9.004%	700	272	*
RGCARE	9.750%	Sr Unsec	12/1/2026	Caa1	/	CCC+	106.250	8.064%	603	(7)	*
TENET HEALTHCARE											
THC	4.750%	1st lien	6/1/2020	Ba3	/	BB-	101.500	3.205%	113	34	MW
THC	6.000%	1st lien	10/1/2020	Ba3	/	BB-	103.125	3.565%	149	35	MW
THC	4.500%	1st lien	4/1/2021	Ba3	/	BB-	101.750	3.501%	143	7	MW
THC	4.375%	1st lien	10/1/2021	Ba3	/	BB-	101.500	3.697%	162	17	MW
THC	4.625%	1st lien	7/15/2024	Ba3	/	BB-	100.250	4.536%	253	36	MW
THC	5.125%	2nd lien	5/1/2025	Ba3	/	B-	100.000	5.123%	312	55	MW
THC	6.250%	2nd lien	2/1/2027	Ba3	/	B-	103.000	5.509%	348	51	MW
THC	8.125%	Sr Unsec	4/1/2022	Caa1	/	CCC+	106.000	5.789%	378	65	MW
THC	6.750%	Sr Unsec	6/15/2023	Caa1	/	CCC+	100.250	6.677%	465	77	MW
THC	7.000%	Sr Unsec	8/1/2025	Caa1	/	CCC+	99.500	7.099%	507	87	MW
THC	6.875%	Sr Unsec	11/15/2031	Caa1	/	CCC+	91.500	7.963%	575	58	OW
UNIVERSAL HEALTHCARE SERVICES											
UHS	L+137.5	1L TERM A	10/23/2023	Ba1	/	BBB-	100.375	3.797%	128	(0)	
UHS	L+175	1L TERM B	10/31/2025	Ba1	/	BBB-	100.625	4.157%	163	(5)	
UHS	4.750%	1st lien	8/1/2022	Ba1	/	BBB-	101.375	3.485%	119	12	MW
UHS	5.000%	1st lien	6/1/2026	Ba1	/	BBB-	102.000	4.548%	252	50	MW

* Private Company / ** Ratings Suspended/Restricted

Source: Company reports, Bloomberg, Barclays Research

Investment Summary

Based on our analysis, we recommend buying RGCARE 9.75% 2026 as we believe the company operates a number of locations in strong feeder markets or in protected cluster areas. While their 2016 acquisitions face competition and although North Carolina may face some headwind with Managed Medicaid expansion (offset by Virginia Medicaid expansion), we believe there is a path to deleveraging that includes improvement within these assets and the company should have options to address its legacy RGCARE notes (thereby lowering interest expense).

We are upgrading the CYH 6.25% 2023 and 8.625% 2024s to Overweight from Underweight and we are initiating on the 8.0% first liens with an Overweight rating (aligns with our view on the upgrade of the pari first-lien tranches). We believe risks should be priced in. First, at this point, we should be aware (and it should be priced in) that the company may issue incremental first lien to address the 2022s. Second, we continue to discount the company's ability to achieve its asset sale guidance at the 1.0x revenue target; however, based on our market review, the company has options to sell additional facilities that may be non-core to CYH's system and may allow CYH to address its near-term liabilities. Third, we believe CYH operates a number of facilities in strong localized markets. While some of these facilities face competition, and while the company has scaled back on much needed capex, we believe the markets can support the number of beds with the right management. We maintain an Overweight rating on the 5.125% 2021 notes for the same points noted above and for the short duration. We maintain our Underweight rating on the second liens and 2022 unsecureds. Despite our view on certain facilities, the high leverage and negative FCF support our view on these tranches. We recommend selling 3y CDS as we believe the company has options to avert a filing and to clear maturities (please see [Focus Credits: Choose your flavor\(s\)](#) and [High Yield Best Ideas: Bonds, Loans and CDS](#))

We are maintaining our Underweight on the QHC 11.625% notes. While we believe QHC has several attractive locations (such as Barstow, California; Springfield, Oregon; Tooele Utah) and although there may be some gains from the RCM contract, we believe the company may have a difficult time refinancing without bondholder involvement (such as equitization, which will materially help FCF) and there are operating challenges (recent physician exits, state reimbursement cuts) at some of these facilities. The company may be able to deleverage through sale/leasebacks, and the asset sales (if completed) should help. However, we do not believe the creation multiple through the notes is attractive at this point. We believe the loan below par is attractive and recommend buying it.

We are downgrading the HCA 6.25% 2021 notes to Market Weight. We believe the notes trade at fair value for two-year paper.

FIGURE 2. RUCA Classification

RUCA Code	Classification	Definition	%
1.0	Urban Core	Metro area: primary flow within an Urbanized Area (UA)	70.3%
1.1	Urban Core	Secondary flow 30% to 50% to a larger UA	1.1%
2.0	Other Urban	Metro area high commuting: primary flow 30% or more to a UA	7.3%
2.1	Other Urban	Secondary flow 30% to 50% to a larger UA	0.4%
3.0	Other Urban	Metro area low commuting: primary flow 10% to 30% to a UA	0.5%
4.0	Large Rural Core	Micropolitan area: primary flow within an urban cluster of 10,000 to 49,999 (large UC)	5.4%
4.1	Other Urban	Secondary flow 30% to 50% to a larger UA	0.6%
4.2	Large Rural Core	Secondary flow 10% through 29% to a UA	2.1%
5.0	Other Large Rural	Micropolitan area high commuting: primary flow 30% or more to a large UC	1.5%
5.1	Other Urban	Secondary flow 30% to 50% to a larger UA	0.0%
5.2	Other Large Rural	Secondary flow 10% through 29% to a UA	0.2%
6.0	Other Large Rural	Micropolitan area low commuting: primary flow 10% to 30% to a large UC	0.3%
6.1	Other Large Rural	Secondary flow 10% through 29% to a UA	0.1%
7.0	Small Rural Core	Small town core: primary flow within an urban cluster of 2,500 to 9,999 (small UC)	2.4%
7.1	Other Urban	Secondary flow 30% to 50% to a larger UA	0.3%
7.2	Small Rural Core	Secondary flow 30% to 50% to a large UC	0.1%
7.3	Small Rural Core	Secondary flow 10% through 29% to a UA	1.0%
7.4	Small Rural Core	Secondary flow 10% through 29% to a large UC	0.6%
8.0	Other Small Rural	Small town high commuting: primary flow 30% or more to a small UC	0.6%
8.1	Other Urban	Secondary flow 30% to 50% to a larger UA	0.0%
8.2	Other Small Rural	Secondary flow 30% to 50% to a large UC	0.0%
8.3	Other Small Rural	Secondary flow 10% through 29% to a UA	0.1%
8.4	Other Small Rural	Secondary flow 10% through 29% to a large UC	0.0%
9.0	Other Small Rural	Small town low commuting: primary flow 10% to 30% to a small UC	0.3%
9.1	Other Small Rural	Secondary flow 10% through 29% to a UA	0.1%
9.2	Other Small Rural	Secondary flow 10% through 29% to a large UC	0.1%
10.0	Isolated Rural	Rural areas: primary flow to a tract outside a UA or UC	1.5%
10.1	Other Urban	Secondary flow 30% to 50% to a larger UA	0.1%
10.2	Isolated Rural	Secondary flow 30% to 50% to a large UC	0.1%
10.3	Isolated Rural	Secondary flow 30% to 50% to a small UC	0.1%
10.4	Isolated Rural	Secondary flow 10% through 29% to a UA	0.7%
10.5	Isolated Rural	Secondary flow 10% through 29% to a large UC	0.8%
10.6	Isolated Rural	Secondary flow 10% through 29% to a small UC	1.0%
Total			100.0%

UA - Urbanized Area

UC - Urban Cluster

Source: The USDA, Rural Health Research Center, Barclays Research

Innovation and Holistic Local Care in an Evolving Healthcare Landscape

Discussions about the evolution of healthcare mostly revolve around high-level topics such as Amazon, new outpatient strategies, new payor initiatives, or anything ending in “isms.” While these initiatives catch the mainstream’s attention and “thought leaders” focus on how to capitalize on disruption in major cluster areas, the heightened risks related to the changing healthcare landscape in non-urban areas necessitate focus. Rising healthcare costs (and cost inequalities), an aging population, shifting demographics (poverty rates, net migration, etc), an unpredictable regulatory environment, and increased calls for transparency have had a profound effect on many non-urban facilities, and most of these issues have been disregarded. These issues have placed a heavy burden on facilities that have historically been integral to their local communities (as major employers and economic drivers) and critical components in

the delivery of healthcare for many of these non-urban areas. While many well-capitalized providers can adapt to the changes, others face difficult decisions to either evolve at the expense of margins and local jobs or close or merge at the likely expense of the local community.

These challenges are front and center in many local communities. While systematic disruption may be years away (see [Focusing on Affordability](#)), disruption due to the issues noted above (and subsequent care destruction) in many of these local markets is (and has been) happening now and may require more hands-on focus. In our opinion, the patient and community costs of local facility closures are greater than the cost savings from new outpatient strategies. Therefore, as we discuss how to address the evolution of healthcare or fix a broken system, we cannot overlook these non-urban areas. In some markets, closure may be the best option (because of overbedding or alternatives that are more reasonable in a market with deteriorating demographics), but we believe a number of non-urban facilities operate in attractive markets.

Considering the misconceptions about rural facilities, many investors, ourselves included, developed a highly pessimistic view. However, through our research, we have realized that a number of these locations are not failing, are attractive and profitable locations within their concentrated target populations, and have strong localized market share that supports ongoing investment. For certain facilities that may seem challenged because of either mismanagement or competition, the markets where they operate remain attractive (due to employer base, feeder markets, locations, etc) but the operators may need to execute facility-level changes, such as replacing leadership, increasing accountability, or rationalizing costs because of low utilization.

Addressing Misconceptions

Misconception 1: All for-profit facilities outside of HCA and UHS are rural facilities. We believe this is a generalized view, and for some, the bifurcation in performance between Universal Health Services (UHS)/HCA and other operators has propagated this perception. As an example, HCA operates a group of hospitals acquired in 2017/18 that were “breakeven or better” (4Q transcript) at the end of FYE 2018. LifePoint (LPNT) acquired a group of assets in 2016 that were generating more than \$1bn of revenue and margins of less than 5% (before the go-private transaction). While HCA’s challenges with these assets are overlooked, LPNT’s ability to turn them around is mostly disregarded because of its “rural market exposure.” For Community Health (CYH), a number of its facilities may be deemed attractive, but the overall company’s underperformance (high leverage, weak free cash flow) has weighed more heavily on the credit than the attractiveness of certain individual markets/hospitals. CYH operates facilities in New Mexico, Indiana, and Florida (as well as other markets) that can be categorized more as rural/urban or very large rural core rather than just “rural.” A number of CYH and LPNT facilities (and some Quorum Health (QHC) facilities) operate in markets that are more urban-like than rural. These facilities may be the only major providers in their town, target a large radius of patients, and have demographics (unemployment, net migration, poverty rates, broadband access) that should support the number of beds in these markets.

Misconception 2: A low ROI on capex reflects a market that is not deep enough to support the spending. With an evolving healthcare system, we believe it is imperative for hospitals to defend their market positioning, even if the ROI does not meet investor thresholds. Furthermore, for many of these non-urban (not large city) markets where the employer base is not as strong as those of its urban counterparts or where the demographics are older, hospitals must adjust their specialized care offerings to accommodate changing demographics. Therefore, most of this capex may not be achieve a high ROI. Take, for example, LPNT’s

Marquette, Michigan, facility. It operates in the Upper Peninsula of Michigan, and the demographics for this region have been more stable than most other markets we have reviewed. There are a number of urgent care facilities in the market, which may be capturing the low-margin Level 1 and 2 type patients. While there may not be a major volume uptick for the new hospital (as obvious from the local demographics), the company is building a more efficient facility (reducing square footage from 1mn square feet to 600,000 square feet and cutting beds by nearly 10%) in a new location (closer to the highway). While the facility has been updated in pieces over the past hundred years, in our opinion, the \$300mn+ capex was needed to revitalize the hospital in a better location, and we believe the market dynamics will support this new system.

We expect hospitals to focus on capex to support sustainability and maintain loyalty. Across the nation, the pipeline of construction projects varies by region, but based on Health Facilities Management (HFM), the volume of projects has increased from 2018. According to HFM's survey, 23% of those surveyed are building acute care hospitals and 22% plan to build over the next three years. The increased volume is due to technological advances, growing needs for the baby boom generation, and hospitals dealing with higher acuity patients who may be covered by Medicare. Furthermore, for most non-urban facilities built to support a large inpatient base (greater than 60% of revenue), we expect them to consider projects to expand outpatient or ambulatory services to recover lost volume. We also believe projects to support other specialties such as telehealth or pain management could be beneficial to hospitals.

Misconception 3: Non-urban hospitals cannot implement value-based systems. For some facilities, volumes may not support the cost base if they migrate to 100% valuebased. That said, we believe certain payment models may ease the transition to a value-based system for some types of facilities, such as those implemented in Maryland and Pennsylvania (reviewed below). For some, these global budget models are not effective if there is constant change in health needs, which implies that the annual budgets (with inflationary adjustments) may not account for these changes. Furthermore, we do not believe it is crucial to migrate immediately to a 100% value-based system but instead hospitals can implement this model first in areas that fit their care-delivery needs. In our opinion, the challenges to this process require a high degree of management accountability, which may be a significant factor contributing to why transformations face a number of challenges.

Misconception 4: Without a hospital-centric model, facilities cannot appropriately address the health of their local populations. We disagree. In a number of the markets we evaluated, there is an assumed dependence on infrastructure (the hospital). Unfortunately, due to an aging population, competition, and cost, we believe these facilities must break away from this hospital-centric model and provide ancillary services to improve health outcomes. These could range from simple healthier food options to mental health coverage, but there must be a methodical approach to these introductions. Ultimately, many social determinants of health strategies need to cater to the hospitals' target population and not mirror what other hospitals or thought leaders are advocating. Considering that many of these hospitals may have negative operating margins, switching to a new strategy without assistance or accountability could lead to challenges and further uncertainties. Although there are certain complexities to overcome, a hospital's operating leverage may diminish with an aging population, which is another reason to focus on alternatives.

Defining Rural

The federal government's definition of rural is based on the US Census and the Office of Management and Budget (OMB). There are other definitions that incorporate both definitions, such as the Federal Office of Rural Health Policy (FORHP)'s definition that includes aspects of

both the US Census and OMB when classifying a region. The US Department of Agriculture's (USDA) definition is also widely used.

The Census Bureau defines two types of urban areas: Urbanized Areas of more than 50,000 people and Urban Clusters of 2,500 to < 50,000 people. Per the bureau, rural is defined as anything not included in an urban area. Based on the 2010 Census and according to the Census Bureau's definition, 19% of the population and 95% of land area were considered rural, 14% of urban areas (an urban area "must encompass at least 2,500 people, at least 1,500 of which reside outside institutional group quarters") represented 71% of the population, and 86% of urban areas were urban clusters and represented 9.5% of the population. According to the Office of Management and Budget's (OMB) definition of rural (all counties not part of an MSA or counties containing a core urban area of less than 50,000 and less than 25% of the labor force in that non-metro county community to adjacent metro counties), non-metro counties accounted for 15% of the U.S. population and 72% of covered land. The FORHP attempted to streamline the challenges under the Census and OMB definitions through the use of Rural-Urban Commuting Area (RUCA) codes (developed with the USDA), which are based on codes assigned to each Census Tract within Metropolitan counties. A RUCA code of 4-10 is considered rural and the Federal Office of Rural Health Policy (FORHP) has designated 132 larger tracts of land with a sparse population with RUCA codes 2 or 3. Based on the FOHRP definition (which categorizes non-Metro counties as rural as well), roughly 18% of the US population and 84% of land is considered rural. According to the USDA, non-metro areas (as defined by the OMB) are mostly viewed as rural and are divided into two areas: Micropolitan areas (non-metro labor market areas with populations of 10,000 to 49,999 persons) and all remaining counties (that are viewed as non-core).

The Set-up: Characterizing Acute-care Providers

We use the Rural-Urban Commuting Area (RUCA) codes to evaluate patient origin by hospital, which helps us develop a more accurate characterization of the hospitals in our coverage universe. In our opinion, these codes, which are further broken down by secondary flow areas, provide deeper insight into the geographic patterns between urban and rural areas (Figure 2) through the use of census tracts (that reflect commuting flow). Although these RUCA codes are important to analyze the flow characteristics between rural and urban, we adjusted them to better reflect the target patient population in each particular market, commuting flow, geographic isolation and secondary markets. We provide a sample review of certain markets.

Urban Feeder Market

CYH's AllianceHealth Midwest hospital is located in Midwest City, Oklahoma. The county population is nearly 800,000 and the city represents roughly 7% of the county population. The RUCA code for this location is 1 or Urban Core, which reflects the flow characteristic between cities but not the patient flow to that particular hospital. Based on our adjusted weighting, CYH's AllianceHealth would be classified as Other Urban, which better reflects the city's population (60,000) and density (slightly over 2,000 people per square mile). In 2004, this Other Urban classification represented 7% of the total US population in 2004 (compared to Urban Core, which represented 71% of the total US population). Therefore, we believe this RUCA classification is more appropriate.

In order to further refine the classification of this market to reflect the hospital's target population, we reviewed a number of factors. First, the location is adjacent to a major urban cluster, which may support employment growth. Second, the city population is nearly 60,000, and the hospital is roughly 25 minutes from two major hospitals (SSM Health and Integris) located in Oklahoma City, Oklahoma. We believe that a majority of the market share cluster near Oklahoma City belongs to those two. Within Integris' zip code, AllianceHealth's patient

discharge market is only 4%. In SSM Health's primary location, AllianceHealth's market share is less than 5%. Therefore, while the hospital pulls from a number of urban markets, the competitive impact and nominal market share implies its dependence on its primary zip code (60,000 population) where they have a 35% market share (SSM's market share is 25% and Oklahoma University Medical Center is 9%). Based on this, CYH's AllianceHealth operates in a feeder market to a large urban market. In other words, the hospital is located near a populous cluster but its target patient population is mostly tied to its core city.

Large Cluster Market

LifePoint's Marquette facility is classified as rural, which we do not believe accurately characterizes the market. First, the county population is nearly 70,000 and is the largest county in the Upper Peninsula of Michigan. Second, while the city represents 30% of the county, the facility pulls patients from over 45 miles and its market share in these markets (by discharge) exceeds 45% and in some exceeds 70%. While the definition of urban is over 50,000, we believe the population of the market's target exceeds this population. Third, while the market is not a feeder to a major metropolitan area, the facility and region are demographically well protected as net migration in the upper peninsula was less than 1,500 from 2016 to 2017 and the overall population has only declined -5% since 2000. Based on these points and the hospital's target demographics, we believe the hospital operates in a market that is closer to a large cluster market than a rural market.

Small Rural Feeder

HCA acquired Mission Health earlier this year. Included in this acquisition is Blue Ridge Regional Hospital, which operates in a small market. However, it is roughly an hour away from HCA's Mission Hospital Memorial facility, which has a dominant share in Blue Ridge Regional's core markets. While the facility is mostly located in a rural area, it is a feeder to Blue Ridge and may handle spillover for Mission Memorial. We believe the facility is a small rural feeder for a large rural/urban market.

Rural/Urban Feeder

RUCA classifies CYH's Bluffton Regional Medical Center in Bluffton, IN as Other Urban due to the commuting flow; however, the facility operates in a small market roughly forty minutes from Fort Wayne. The demographics (10,000 population; county population nearly 30,000) and location of this hospital closely mirror what we view as a Rural/Urban Feeder facility. Furthermore, the hospital's primary competitor is CYH's Lutheran Hospital (40 minutes north of Bluffton).

Large Rural Core

Frye Regional Medical Center operates in a market classified by the RURA as Urban Core but viewed as a rural facility. Charlotte is nearly 1h10m south of Frye (in Hickory, NC; population nearly 40,000) and the three main competitors are HCA's Carolinas Healthcare System Spruce Pine, Catawba Valley Medical and Atrium Health's Carolinas Healthcare System. We do not believe Hickory, NC is a major feeder market to Charlotte, and the hospital pulls its patient population mostly from a twenty-mile radius. The city does have a number of large employers such as CommScope, Alex Lee and Rock-Tenn. In our opinion, the hospital is closer to a large rural core market.

Challenges Facing “Rural” Facilities

The financial viability of a number of rural hospitals is in question. According to the National Rural Health Association, nearly 675 rural hospitals are at risk of closing and roughly a third are at an “extreme risk” of closing. Many are operating with margins of less than 2%, while, on average, urban hospitals operate at margins 3x that. Higher government mix, lower

utilization/admissions, and higher rates of illness all squeeze hospital margins. Certain rural markets do not have the employer base to support sustainability and a diversified payor mix. These closures have a ripple effect on the local economy and the local population's health needs.

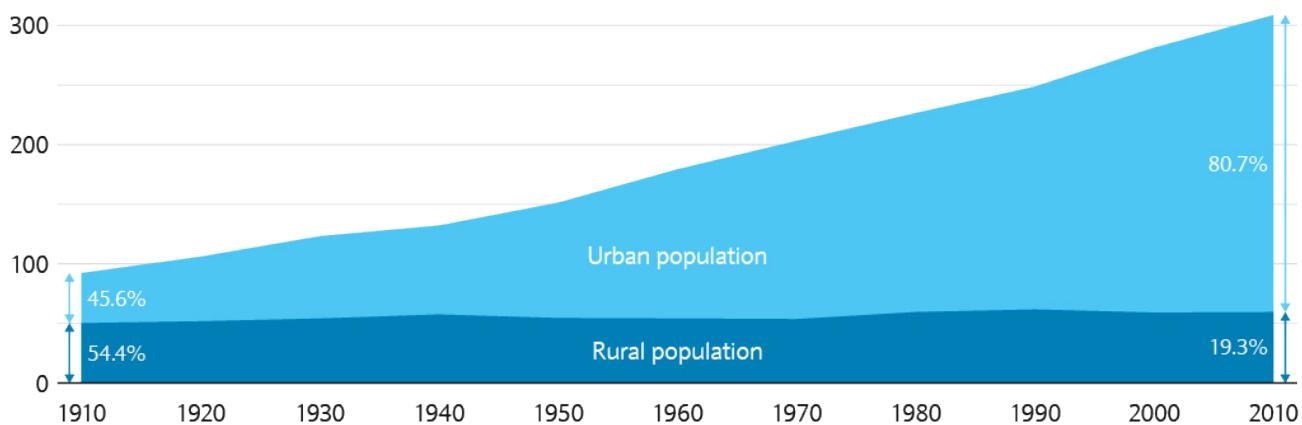
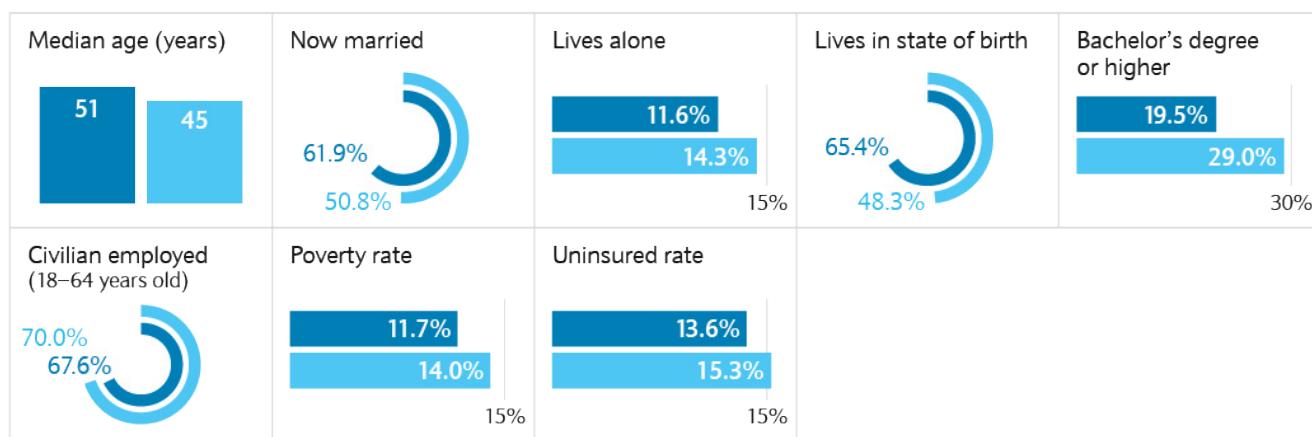
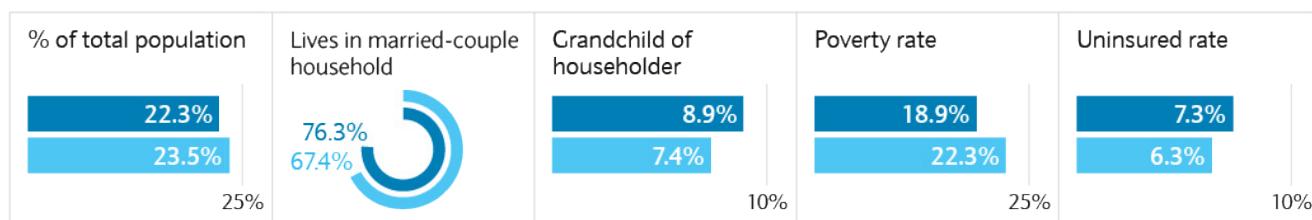
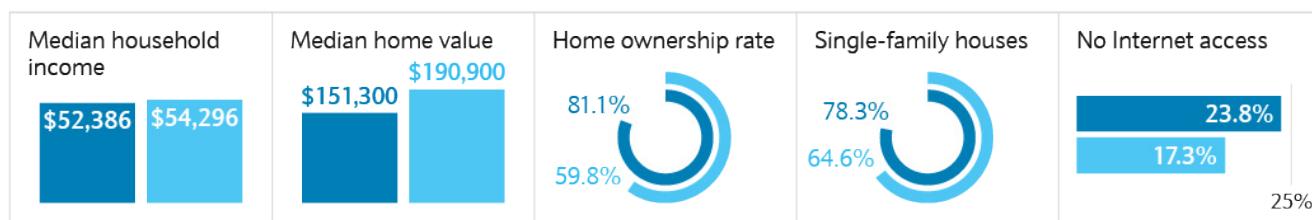
After reviewing a number of the statistics, it becomes clear why the number of rural hospital closures have outpaced the non-rural. In many rural locations, the demographics of the local patient population have not consistently supported the financial needs of the local hospital. Relative to most urban locations, a higher proportion of residents are elderly and in poorer health, payor mix is heavily weighted toward Medicare/Medicaid, the economic backdrop is challenging, financial constraints have limited capital allocation for maintenance and growth spend and utilization is relatively lower than in most urban locations. These factors negatively affect long-term profitability, may lead to employee loss, limit the ability to consistently achieve high quality standards, impact physician coverage and force the municipality, board or owner to face the difficult decision of either closing or repurposing the hospital.

Rural hospital statistics. In 2019, there are 5,262 hospitals, of which 25% are for-profit. According to the GAO and the FORHP's definition of rural, there are roughly 2,250 rural acute care hospitals, which represent 48% of hospitals and 16% of inpatient beds. In 2013, rural hospitals in the South accounted for 38% of all rural hospitals but from 2013 to 2017 accounted for 77% of their closures. According to the North Carolina Rural Health Research Program (NCRHP), a hospital is considered rural if it is located outside of a metropolitan CBSA or within a RUCA code of 4 or greater (per the Federal Office of Rural Health Policy from 2010). Based on this definition, nearly 48% of total hospitals were located in rural areas.

Rural hospital characteristics. A typical rural hospital is located in a county with a median population of 27,980. Rural areas typically contain a higher elderly population and a population with a larger number of chronic conditions. Nearly 20% of this population is 65 and older, the average per capita income is \$32,781 and 17.5% live below the federal poverty level. Hospitals in large rural areas employ over 500 employees, while those in smaller or more isolated areas employ between 140 and 225. The average population for a large rural area is 46,740, whereas average urban hospitals are located in areas with populations greater than 500,000. Hospitals operating in core urban areas have numerous resources including the labor pool, and operate in markets with a diversified patient population and a stronger base of employers. On the other hand, rural hospitals operate mostly in geographic isolation with an older population, have limited labor resources, and operate in economies with an employer base less stable than in urban areas.

FIGURE 3. Urban vs Rural - 2010 Census

U.S. population in millions

**Adult (18 years and older)****Children (Under 18 years)****Housing and households**

Source: census.gov, Barclays Research

FIGURE 4. Regional Breakdown of Rural Communities

Census Location	2017 Rural Population	No FQHC	No RHC	No Acute Care	No FQHC, RHC, Acute Care Hospital
New England	3.8%	0.9%	5.4%	0.1%	0.0%
Middle Atlantic	6.2%	4.6%	10.0%	3.8%	10.8%
East North Central	18.7%	23.5%	20.5%	15.9%	20.8%
West North Central	14.1%	25.2%	11.2%	16.3%	19.8%
South Atlantic	15.9%	9.5%	21.5%	29.7%	33.8%
East South Central	13.2%	10.6%	8.1%	15.3%	3.1%
West South Central	13.5%	16.1%	10.0%	13.0%	6.8%
Mountain	8.6%	7.0%	10.2%	4.5%	4.7%
Pacific	5.9%	2.7%	3.0%	1.3%	0.2%

(1) Middle Atlantic includes New York, Pennsylvania, New Jersey

(2) East North Central includes Wisconsin, Michigan, Illinois, Indiana, Ohio

(3) West North Central includes North Dakota, Minnesota, Kansas, Missouri

(4) South Atlantic includes Florida, South Carolina, North Carolina and West Virginia

(5) East South Central includes Kentucky, Tennessee and Alabama

(6) West South Central includes Texas and Oklahoma

(7) Mountain includes Arizona, Colorado, Nevada and New Mexico

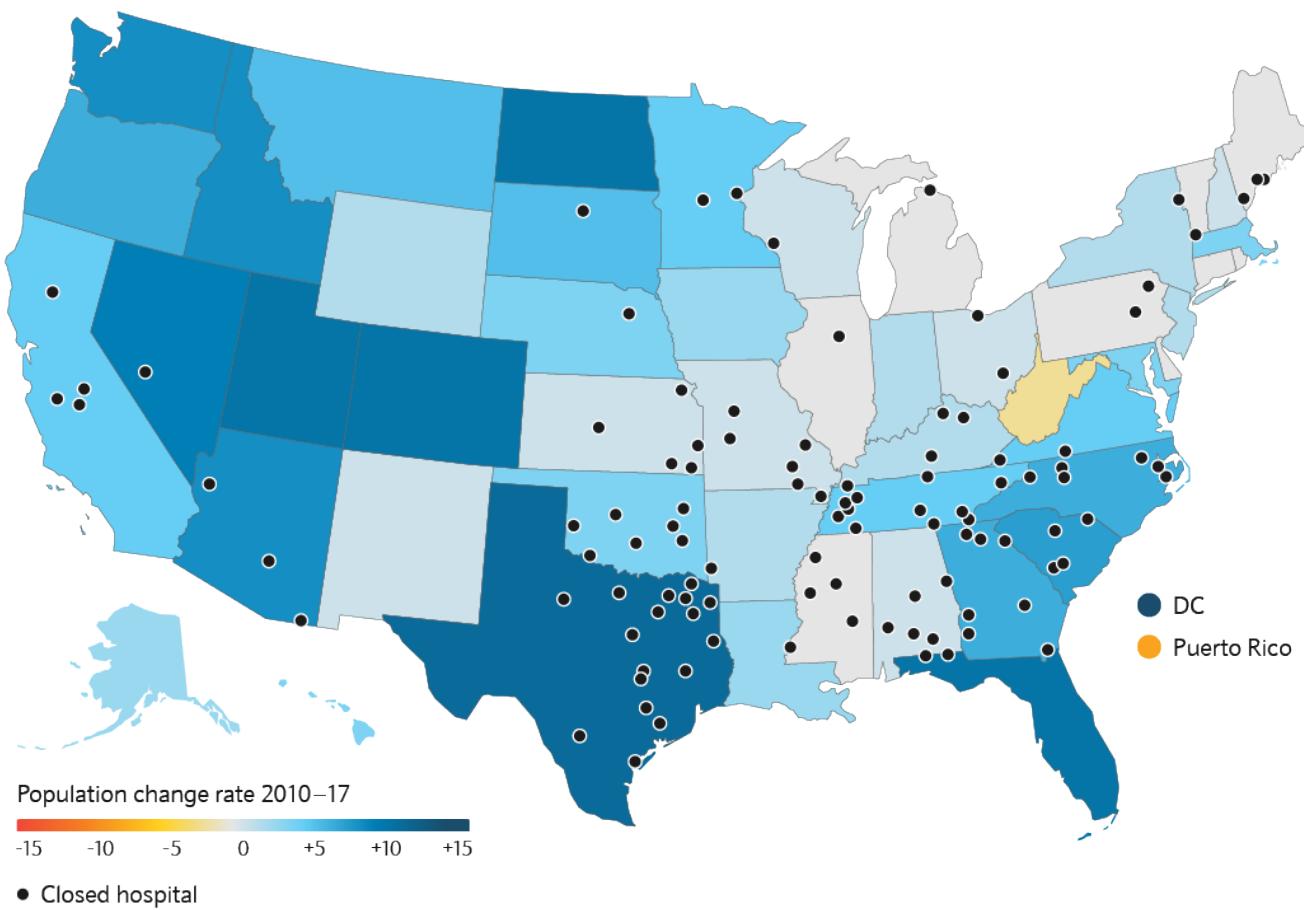
(8) Pacific includes California and Washington

Note: These communities lack access to an acute care hospital, Federally Qualified Health Center (FQHC) or Rural Health Clinic (RHC).

Source: North Carolina Rural Health Research Gateway, Barclays Research

Hospital closures. According to the NRHA, 44% of rural hospitals in 2018 were operating in the red, up from 40% in 2017. From 2013-17, rural hospital closures were more than 2x the number from 2008 to 2012. Nearly 50% of these were converted to other facilities, such as urgent care, outpatient care or primary care, and 43% were more than 15 miles from the closest hospital. On average, rural hospitals that closed operated with less than 3% margins, outpatient accounted for nearly 70% of total revenue, Medicare was greater than 30% of revenue, and the average inpatient visits per day for urban facilities outpaced rural facilities 15 to 1. According to the Rural Health Research Gateway (funded by the Federal Office of Rural Health Policy), 124 rural hospital closed from January 2005 to November 2017. The effect from these closures has varied. During 2010-14, nearly 800,000 people lived in rural markets where hospitals closed, while 700,000 people live in markets where the rural operator converted to an urgent care/emergency facility, outpatient or primary care facility or SNF or rehab facility. In 2018, nearly 4.5mn folks in rural counties were without an acute care hospital (but may have a Federally Qualified Health Center or Rural Health Clinics). Closures have led to increased emergency costs, increased transportation time and associated costs, and a loss of jobs. According to the GAO, for-profit rural hospitals are more likely to close than not-for-profit and government owned hospitals. We believe possible contributing factors include mismanagement, investors disconnected from the local community, the inability to sell the facility to meet certain return targets and location. Private owners may also place restrictions on hospitals to prevent nearby portfolio hospitals from being affected if the closed hospital is repurposed, or these facilities may place restrictions on physicians by requiring them to sign non-competes within a specific radius.

FIGURE 5. Rural Hospital Closures since 2010



Source: The USDA, shepscenter.unc.edu, Barclays Research

FIGURE 6. State Review - Closures versus Medicaid Expansion

States	% of Population - Rural	% of Population - Uninsured	Expand Medicaid	Rural Hospital Closures Since 2010
AL	14%	11%	Not Adopted	6
AK	32%	15%	Adopted	
AZ	8%	12%	Adopted	3
AR	29%	9%	Adopted	1
CA	3%	8%	Adopted	4
CO	14%	9%	Adopted	
CT	0%	6%	Adopted	
DE	9%	6%	Adopted	
DC	0%	4%	Adopted	
FL	1%	16%	Not Adopted	1
GA	9%	16%	Not Adopted	7
HI	21%	5%	Adopted	
ID	26%	12%	Adopted	
IL	8%	8%	Adopted	1
IN	14%	10%	Adopted	
IA	36%	6%	Adopted	
KS	32%	10%	Not Adopted	5
KY	34%	6%	Adopted	4
LA	10%	10%	Adopted	
ME	36%	10%	Adopted	3
MD	3%	7%	Adopted	
MA	1%	3%	Adopted	1
MI	14%	6%	Adopted	1
MN	22%	5%	Adopted	2
MS	48%	15%	Not Adopted	5
MO	19%	11%	Not Adopted	6
MT	59%	11%	Adopted	
NE	31%	10%	Adopted	1
NV	6%	13%	Adopted	1
NH	30%	7%	Adopted	
NJ	0%	9%	Adopted	
NM	29%	11%	Adopted	
NY	5%	7%	Adopted	1
NC	14%	13%	Not Adopted	6
ND	49%	9%	Adopted	
OH	15%	7%	Adopted	2
OK	27%	17%	Not Adopted	7
OR	17%	8%	Adopted	
PA	9%	7%	Adopted	2
RI	0%	5%	Adopted	
SC	7%	13%	Not Adopted	4
SD	52%	11%	Not Adopted	1
TN	17%	11%	Not Adopted	11
TX	7%	20%	Not Adopted	17
UT	8%	10%	Adopted	
VT	62%	6%	Adopted	
VA	9%	10%	Adopted	2
WA	9%	7%	Adopted	
WV	18%	8%	Adopted	
WI	20%	6%	Not Adopted	1
WY	70%	14%	Not Adopted	

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Source: KFF, census.gov, zip-codes.com, shepscenter.unc.edu, The USDA, Rural Health Research Center, Barclays Research

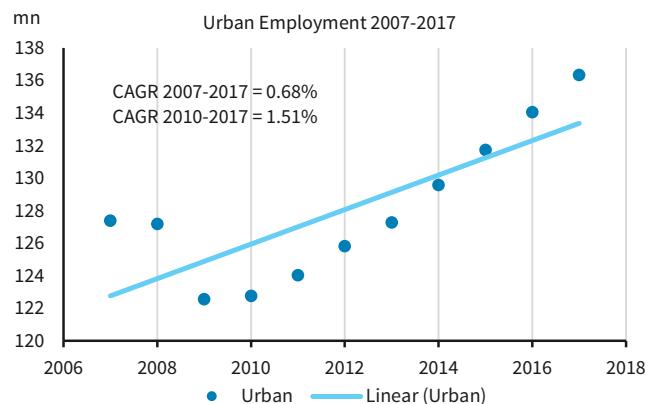
FIGURE 7. Select Review of Rural Hospital Closures

Facility	City	State	RUCA Code	Medicaid expansion state	Review
Takoma Regional Hospital	Greeneville, TN	TN	4.0	Not Adopted	Takoma had nearly 100 beds and Laughlin Memorial (about 11 minutes from Takoma) had 250 beds. According to certain articles, bed utilization was consistently low (busiest days it was < 20%). Both hospitals served a community of 70,000 people, which forced the two hospital to consolidate. Laughlin became an acute-care hospital, while Takoma repurposed its facility to offer outpatient services, ER, IRF and wound care.
Cumberland River Hospital	Celina, TN	TN	6.0	Not Adopted	Closed early 2019 with 25 beds and 140 employees. The nearest ER is nearly 20 miles away.
Washington County Hospital	Plymouth, NC	NC	7.0	Not Adopted	Declared bankruptcy in early 2019, which forced residents to travel more than 30 miles for care. The facility was operated by a private company since 2007. The hospital reopened a week ago under a court -appointed bankruptcy trustee.
Fairfield Memorial Hospital	Winnsboro, SC	SC	2.0	Not Adopted	The county had less than 23,000 residents and anticipated the closure in late 2018. According to various articles, the poverty rates were amongst the highest in the state. The county focused on building out its ambulance system post closure and Providence Health opened a standalone ER near the closed hospital.
Adventist Health Feather River	Chico, CA	CA	4.1	Adopted	The hospital had roughly 100 beds and employed 1,300 people. Due to the wildfire clean up costs, it decided to close but could reopen in 2020
McKenzie Regional Hospital	McKenzie, TN	TN	7.0	Not Adopted	Closed Sept-18. Residents have to travel nearly an hour to a hospital in Jackson, TN. The county had the 13th highest unemployment rate in the state and the hospital employed nearly 200 residents. The population in 2010 was 5,300. Roughly 12% of employed residents were uninsured.
Chestatee Regional Hospital	Dahlonega, GA	GA	2.0	Not Adopted	The hospital closed in Jun-18 as the new owner was avoiding legal problems facing its former owner. Northeast Georgia Health System plans to open a smaller hospital in July with an ER and scaled down inpatient beds. In 2022, a new replacement hospital will open in the county.
Coalinga Regional Medical Center	Coalinga, CA	CA	4.0	Adopted	The facility closed in Jun-18 due to financial issues and 200 residents were laid off. The hospital had 123 beds (acute and SNF) and employed over 200 residents. Due to a ballot initiative, the hospital may reopen later this year and the district may sell the hospital for roughly \$1mn
Our Community Hospital	Scotland Neck, NC	NC	10.1	Not Adopted	The facility closed in Dec-17. 70% of its patients were on Medicare and/or Medicaid with 20% self-pay. Utilization was low for a 20-bed facility.
Pioneer Community Hospital of Patrick County	Stuart, VA	VA	6.0	Adopted	The facility closed in late 2017 after the owner filed for CH11 in 2016. Average census was 10-11 patients per month and nearly 90% of its patients were on Medicare. The hospital had critical access status. A declining population and higher hospital expenses impacted financials.
Campbellton-Graceville Hospital	Graceville, FL	FL	7.1	Not Adopted	The facility closed Jun-17 after a Chapter 11 filing associated with over-billing tied to a lab processing scheme. The district sold the hospital to Northwest Florida Community Hospital
Tennova Healthcare - McNairy Regional	Selmer, TN	TN	7.0	Not Adopted	The facility closed in 2016, due to needed repairs. According to the hospital, the number of patients admitted declined nearly 70% over a five period.
SoutheastHEALTH Center of Reynolds County	Ellington, MO	MO	2.0	Not Adopted	The facility closed in 2016 due to a liability that was not paid by a prior owner. Utilization was low with roughly 2 admits per day and only 10-12 daily ER visits.
St. Mary's Hospital	Streator, IL	IL	4.0	Adopted	The facility closed in 2015 and was repurposed into an outpatient clinic operated by OSF Healthcare System.
Cochise Regional Hospital	Douglas, AZ	AZ	4.0	Adopted	The 25-bed hospital closed in 2015. Medicare cut of funding due to compliance and safety investigations. The facility is 120 miles south of Tucson. The population was 20,000 and 70 residents lost their jobs.
Yadkin Valley Community Hospital	Yadkinville, NC	NC	2.0	Not Adopted	The facility closed in 2015. Yadkin was a CAH and the nearest hospital was nearly 25 miles away.

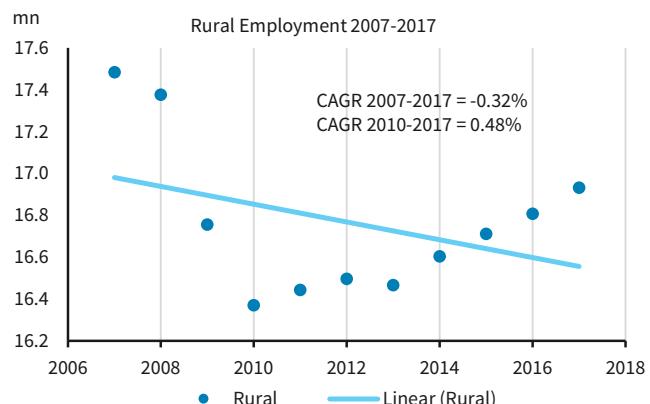
Facility	City	State	RUCA Code	Medicaid expansion state	Review
Tilden Community Hospital	Tilden, NE	NE	10.2	Adopted*	The facility closed in 2014. Inpatient admissions were declining, which led to a budget shortfall. It was repurposed into a medical clinic offering x-ray services, lab services and outpatient services.
Mid-Valley Hospital	Dunmore, PA	PA	1.0	Adopted	The facility was repurposed in 2014 into an urgent care and outpatient services center. The population was nearly 5,000. Inpatient admissions declined nearly 50% over a 6 year period.
North Adams Regional Hospital	North Adams, MA	MA	4.1	Adopted	The facility closed in 2014 and filed for bankruptcy. Nearly 500 residents were laid off. The facility served the Northern Berkshire communities, southern Vermont and eastern New York.
Charlton Memorial Hospital	Folkston, GA	GA	2.0	Not Adopted	The facility closed in 2013 due to financial losses and increased uncompensated care. The closest hospital was 30 miles away. The population was aging, payor mix was unfavorable and funding declined.
Corcoran District Hospital	Corcoran, CA	CA	4.1	Adopted	The facility closed in 2013 and the board sold the hospital to Adventist Health. It had 32 beds. According to the CEO, it faced challenges with fewer surgeries from the local prison.
Cheboygan Memorial Hospital	Cheboygan, MI	MI	7.0	Adopted	Closed in 2012 and over 400 employees were left jobless. The hospital was the largest employer in the county. It filed for bankruptcy protection and a judge approved the sale of the hospital to another hospital. However, CMS did not grant a waiver to allow McLaren to complete the acquisition. The closest options were 30-50 minutes away. About a month after the closure, the ER and outpatient services were open and the hospital rehired 150 employees.
Kingsburg Medical Center	Kingsburg, CA	CA	4.1	Adopted	Closed in 2010. Patients can travel 5 miles to Selma but higher acuity procedures would require going to Fresno, which is nearly 30 minutes north of Kingsburg. The 11,000 population could also travel nearly 40 miles to Tulare. The housing crisis and financial crisis impacted the population and doctors transferred to larger facilities.

Source: shepscenter.unc.edu, Barclays Research

The domino effect. Overall net migration from rural locations continued through most of the decade, but reversed a few years ago as total population in rural counties increased. This is based on a consolidated number, which may reflect the elderly migrating to rural areas for retirement or net births or rural economies improving. However, based on Figures 8 and 9, rural/non-metro employment has not grown to the level of metro areas due to a combination of factors such as fewer job openings, fewer available skilled positions or changes in employer needs (cutting plant utilization or shifting production to other locations). As the younger generation migrates out of rural markets to seek job opportunities, hospitals may face a higher risk pool of sicker patients who are either uninsured or covered by Medicare/Medicaid. This leads to a domino effect of lower admissions and lower revenue/admit against a higher cost base. This trend is followed by cost cuts, which reduces the quality of care and may lead to closures.

FIGURE 8. Urban Employment 2010-2017

Source: The USDA, Rural Health Research Center, Barclays Research

FIGURE 9. Rural Employment 2010-2017

Source: The USDA, Rural Health Research Center, Barclays Research

The few regulatory hits (+) and the many misses (-). While certain recent regulatory proposals may benefit non-urban locations, the regulatory environment has not had a meaningful positive effect on non-urban facilities.

- - Medicare cuts through sequestration, observational stays and penalties for readmissions have negatively affected net revenue for all hospitals, but these cuts have had a more profound effect on rural facilities. Furthermore, managed Medicaid plans have squeezed pricing with higher denials and lower net reimbursement levels (especially through prospective claims).
- + CMS's proposal to modify the wage index for rural hospitals at the expense of mostly urban hospitals is a slightly positive development (the adjustment does not address all the issues impacting hospitals). The proposal will increase Medicare payments to rural facilities with a lower wage index due to lower labor costs, which has lowered Medicare payments for the same procedures performed at urban hospitals. We expect this adjustment to benefit many of the hospital in the Southeast considering the historically low wage index levels there. While we expect urban hospitals will attempt to block the proposal, the HHS has noted that inaccurate wage data has led to overpayments, mostly for urban hospitals (the OIG has also indicated that the index was based on dated wage data and may have led to overpayments to certain hospitals and has partially fueled rural disclosures/distress). Furthermore, many hospitals have knowingly misclassified their status to receive a higher reimbursement, and CMS has recommended adjusting the rural floor methodology (used by certain hospitals to reclassify their status to obtain higher wage payments, which incorrectly readjusted how other hospitals within the state were reimbursed).
- - In many states, rural locations face high uncompensated care, a major factor hampering hospital budgets. Uncompensated care may have been driven by a multitude of factors, including (in some markets) the ACA (limited payors on the exchange may have increased costs and forced people to exit the exchange with no incremental coverage) and higher deductible plans. Under the Middle Class Tax Relief and Job Creation Act, bad debt reimbursement was cut from 100% to 65%, thereby forcing hospitals to bear the remaining 35% (the coverage may be reduced further over the next several years under the president's 2020 budget proposal).
- - States that have not expanded Medicaid have seen more closures. For example, Tennessee and North Carolina have not expanded Medicaid, and both states have faced the highest

number of rural closures. Exacerbating the problem is a higher poverty rate, which may be highly correlated to a high uninsured population (see Figure 10).

- + The passage of the Bipartisan Budget Act of 2018 extended the rural extenders for Low-Volume Hospitals (extended through 2022) and granted an extension through October 2022 for the Medicare Dependent Hospital Program (MDH). Under the Low-Volume Hospital reimbursement program, the add-on payment of 0-25% is based on a sliding scale tied to hospital discharges. The definition for low-volume hospitals were adjusted under this act. In 2018, the definition was consistent with prior years, as a low-volume designation was based on less than 1,600 medicare discharges. However, from 2019 to 2022, this discharge level was increased to 3,800 per year. These hospitals must be located more than 15 miles from another hospital. Under the MDH program, non-sole community hospitals with 60% of inpatient discharges from Medicare patients, located in a rural area with fewer than 100 beds are reimbursed at the IPPS rate plus 75% of the difference between the IPPS rate and the hospital rate.
- + The US District Court judge recently reaffirmed that the HHS's decision to cut the 340B drug reimbursement was unlawful. In 2018, the proposed cut was 22%, and this decision will allow Medicare Part B to sell drugs to hospitals at ASP + 6%. The HHS must come up with some "remedies" and a status report is due August 5.

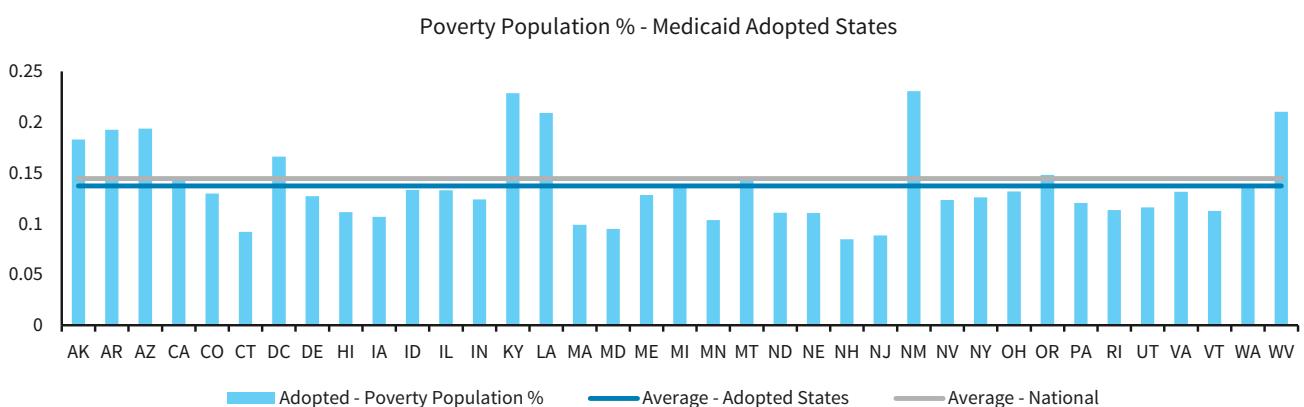
FIGURE 10. Poverty Rate vs Unemployment Rate by Zip Codes



Note: This includes 443 hospitals in our HY coverage (nearly 3,100 unique zip codes)

Source: AHD.com, census.gov, zip-codes.com, incomebyzipcode.com, The USDA, Rural Health Research Center, Barclays Research

FIGURE 11. Poverty Population - Medicaid Adopted States



Source: census.gov, zip-codes.com, The USDA, Barclays Research

FIGURE 12. Poverty Population - Medicaid Not-Adopted States

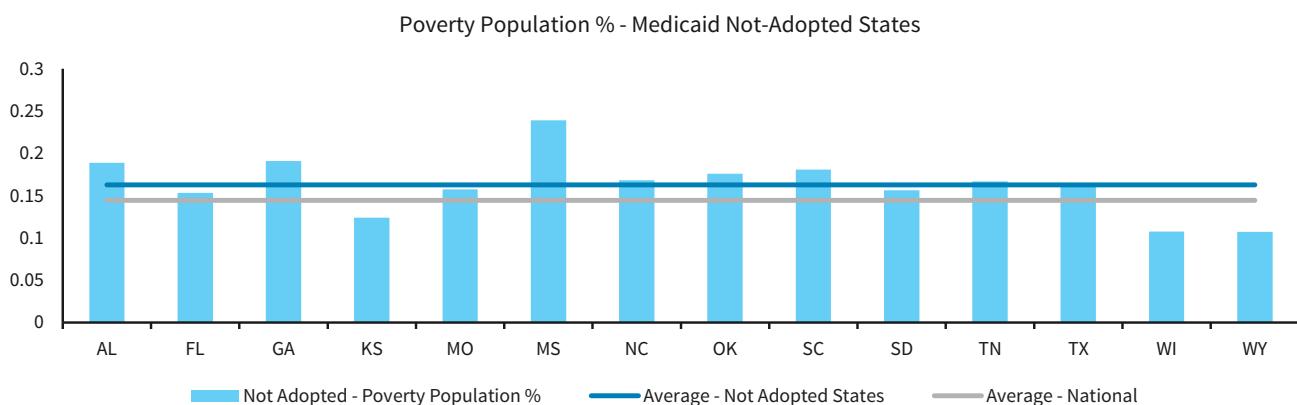


FIGURE 13. Uninsured Population - Medicaid Adopted States

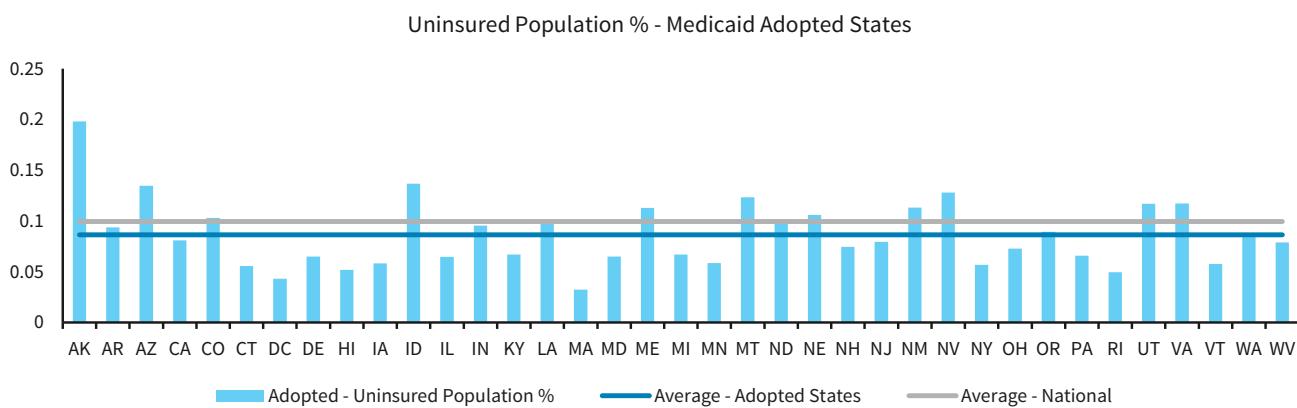
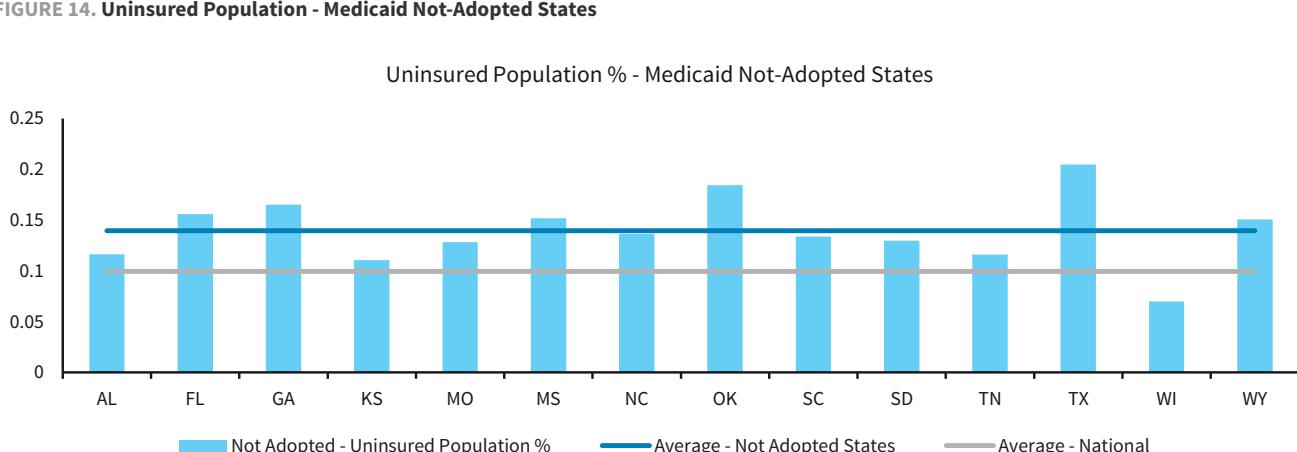


FIGURE 14. Uninsured Population - Medicaid Not-Adopted States



Competitive forces. Redundant health care services within local markets have created more competition for volume, and this volume/demand is not robust enough to support all competitors. Urgent care centers (in 2004, rural locations accounted for nearly 10% of all urgent care centers), free standing clinics and academic medical institutions all offer services that target different needs. Furthermore, some of these facilities may be more cost effective and generate higher margins, which allows for reinvestment. The eventual effect of increased competition may force these local hospitals to close or merge with larger institutions. In certain cases, these mergers may not benefit the local community as prices may increase.

Stemming patient migration to urban hospitals will remain a challenge. Patient needs or demands may not be met within rural locations, which forces residents to drive to urban areas for better care or specialized services. The rural counties that experienced net patient migration trends during this time period were mostly in low-density areas and high-poverty areas. Certain states such as Montana, New Mexico, Texas, and Pennsylvania experienced job losses due to oil and gas and Kentucky and West Virginia were hit by the opioid epidemic. Patient migration weighs heavily on hospital utilization levels, and the consistently low utilization patterns may force hospitals to reevaluate service lines and rationalize their employee base (most of whom are local residents with the hospital the area's largest employer). Following a rural hospital closure (the cost impact on patients and overall healthcare costs worsens with hospital closures), patients not only have to drive longer distances (at least 25 minutes) to a local provider for specialized services and diagnostic tests (important for preventative medicine), but they may incur incremental costs for transportation. These challenges may force the elderly patient population to seek alternatives and delay much-needed care, which will increase risks for those with pre-existing conditions. In many of these rural markets, hospitals in financial distress have no incentive to implement population health initiatives.

As the baby boom generation peaks, the payor shift may force many hospitals to rethink strategies. Per the National Center for Health Statistics (NCHS), there were 2.9mn births in 1945, 3.4mn in 1946 and births peaked at 4.3mn in 1957. The peak years for the baby boom generation were from 1957 to 1961. After 1965, the births fell below 4mn and the nation has not seen this birth level since 1989. The first baby boomers hit age 65 in 2011 (77mn) and by 2030 the number between ages 66 and 84 is expected to drop to 60mn. In addition, the number of taxpaying workers per Medicare beneficiary has declined from 4.6 to 3.1 in 2015 and is expected to be less than 2.5 by 2030 as the reliance on Medicare grows. Considering Medicare is funded through payroll and income taxes, these demographics create challenges for Medicare and significant changes to the system will be necessary to address inefficiencies and the lower funding.

Constant survival mode does not allow for long-term sustainability. As most rural hospitals aim to stay open, focus shifts away from promoting sustainability with preventative medicine to reduce hospitalization for chronic conditions or alternatives to lower cost of care and reduce physician visits. Most larger (urban) competitors are able to talk value and preventative care, while many rural facilities that face operating pressures have been slower to adapt to the changing healthcare environment. As healthcare shifts away from hospital-centric models (reducing inpatient utilization as procedures shift to outpatient type settings), patients may bear the cost of inefficient and reduced quality of care.

Addressing the Challenges

According to a study by Health Affairs (“Improving the Medicare Physician Fee Schedule: Make It Part of Value-Based Payment,” February 4, 2019), fee-for-service adds incentive for providers to deliver more services regardless of effectiveness, need and quality. The study further highlighted other flaws such as how FFS has created “delivery silos” that has prevented, either intentionally or unintentionally, providers from implementing integrated care management

services. In our opinion, many rural areas are too dependent on the infrastructure of a hospital-centric traditional model, and many rural hospitals do not have the resources or financial means to focus on the core health needs of its community and the at-risk patients. This makes it difficult to evolve (especially into a value-based system), and the FFS focus and rural demographics may create challenges to building a scalable system that prioritizes implementing preventative health measures and pushing for improved behavioral health or other social determinants.

There are options for rural facilities to evolve from their hospital-centric model. We believe the focus should start with reducing acute care beds, especially in areas of overbedding. Second, hospitals could consider new payment models (evaluated below) to better manage the various challenges such as a value-based payment system. Third, they could provide transportation, telehealth, home and urgent care options and better primary care options (to encourage a reduction in inpatient services). Implementing care management solutions that revolve around healthier food options, support systems, housing, transportation, mental and physical stability and improved pharma adherence, and that cater to the local aging population, would allow facilities to shift care models and may allow them to rationalize cost or repurpose the facility to improve operating leverage. Fourth, in many of these markets, ground transport is an important option to stabilize and shift patients to nearby providers, but these transport options must be cost effective for the patient. Fifth, in many cases, smaller rural hospitals could merge or JV with larger organizations and serve as hubs. The rural facilities could provide the needed care to the local population (possibly reduce ER waiting time or ER services), rationalize costs in unproductive areas, given the low utilization from its target patient population and subsequently substitute these areas of rationalization by providing a direct transport line (at no cost to the patient) to larger urban facilities. Sixth, according to a study by Premier from February 2019 (“Ready, Risk, Reward: Improving Care for Patients with Chronic Conditions”), ER visits from patients with one of six primary chronic conditions (asthma, diabetes, heart failure, behavioral health issues, hypertension and chronic obstructive pulmonary disease) accounted for 60% of annual visits to 750 hospitals in 2017. Roughly 16% of these visits (4.3mn) could have been avoidable if these patients had better primary care services. Many chronic conditions (heart disease, chronic lower respiratory diseases) are a leading cause of death in non-urban communities, and most of these deaths are preventable. We believe these rural areas are prime markets for home monitoring and telehealth solutions, which we further discuss below.

Improved Payment Models

Reforming our reimbursement system is critical to improving care, but these changes must be met with improved utilization of preventative care services, nurses and other higher acuity lines. Non-urban hospitals are fundamental to their communities (ie, as the largest employers and primary health centers), and certain initiatives have been proposed to improve predictability and efficiency, stabilize funding and general solvency and maintain access for the local patient population.

Maryland Rate-setting. Maryland launched a statewide rate-setting system for its hospitals over four decades ago and implemented a global payment system for all hospitals in 2014. With the help of CMS, Maryland initially set reimbursement rates for all public and private payors for all inpatient and outpatient services. In 2014, the state migrated to a global budget model in which hospitals continued to bill at the state level fee-for-service reimbursement rates but also adhered to an established budget. The initiative forced hospitals to maintain a higher degree of accountability, not just from a financial perspective but also from a quality of care, utilization and population health perspective. The initiative increased Medicare and Medicaid rates relative to other states, but it lowered private insurance rates. Under the rate-setting environment, the initiative generated nearly \$40bn in savings as the average cost-per-admission

decreased from 25% above the national average to 5% below the national average. In 2014, Maryland and CMS entered into a new five-year waiver to shift the focus from controlling the fee-for-episode payments to controlling total expenditures by hospital. The state was required to limit hospital spending growth by 3.58% and generate \$330mn in Medicare hospital savings by shifting a majority of the episodic reimbursement revenue to a population-based structure, which was achieved by either linking reimbursement to a hospital's projected budget by patient population or by placing a cap on a hospital's budget based on volume, costs and service levels. Based on data from 2014 (the first year the initiative was implemented), the state saved Medicare \$116mn of the expected \$330mn (targeted over a five-year period). The hospitals also saw a 26% decline in avoidable complications and a dramatic decline in re-admissions. From 2014 to 2016, the model has saved Medicare \$586mn in hospital payments.

Pennsylvania Global Budget. Pennsylvania is also implementing an all-payer global budget model for rural hospitals. Participating hospitals (five hospitals including Geisinger Jersey Shore) and participating payors (five payors including Highmark, Geisinger, Medicare) will be allocated dollars based on the hospital's global budget (for all payors). Hospitals are required to redesign their delivery models and quality of care and increase savings for Medicare. Unlike the Maryland model, the Pennsylvania rates used are based on CMS inpatient and outpatient rates. The strategy is to reduce costs and to test the predictability of a global budget model. Therefore, if the hospital saves, then it can allocate resources towards wellness centers, promote healthier eating, expand telehealth and reduce ER waiting times.

Telehealth/Telemedicine

May fill some gaps, but challenges remain. Telehealth is a "health-related activity" that a medical facility conducts over the phone or through the Internet, while telemedicine is the practice of medicine by specified personnel via phone or internet. Based on a study by the USDA, 7% of rural residents participate in some form of online health maintenance (eg, paying health bills, communicating with health providers). This compares with 11% for urban residents. Urban residents were twice as likely to use health monitoring devices (2.5% versus 1.3%) or other medical alert devices. Increased utilization of telehealth has a number of benefits: It may allow rural hospitals to overcome disparities present in most rural areas, reduce costs (for the beneficiary, provider and payor), reduce wait times, drive efficiency and potentially improve patient outcomes. Telehealth may also allow hospitals to extend services not commonly found in rural areas, such as addressing mental health conditions. While we believe telehealth will lead to a number of changes in the delivery of health, a number of areas challenge adoption, specifically, reimbursement, restrictions on the originating site (currently telehealth for many services is not covered if the originating site is the beneficiary's home), cross-state licensing, patient choice, preventing abuse, adoption and broadband access for telehealth/telemedicine.

Background. Coverage for telehealth is defined under Section 1834 of the Social Security Act. The Chronic Care Act in 2017 expanded Medicare telehealth coverage under Medicare Advantage Part B (in 2010) and expands coverage to chronic conditions (especially stroke victims) and eliminates the geographic restriction for stroke services (as of January 1, 2019). In 2020, Medicare Advantage plans can offer its members (as part of basic coverage) telehealth benefits that expand to both rural and urban areas and beyond what is not covered under Medicare. MA will continue to offer supplemental benefits that include remote access and telemonitoring (these supplemental benefits are services that are not currently covered under Medicare Part A, B and D).

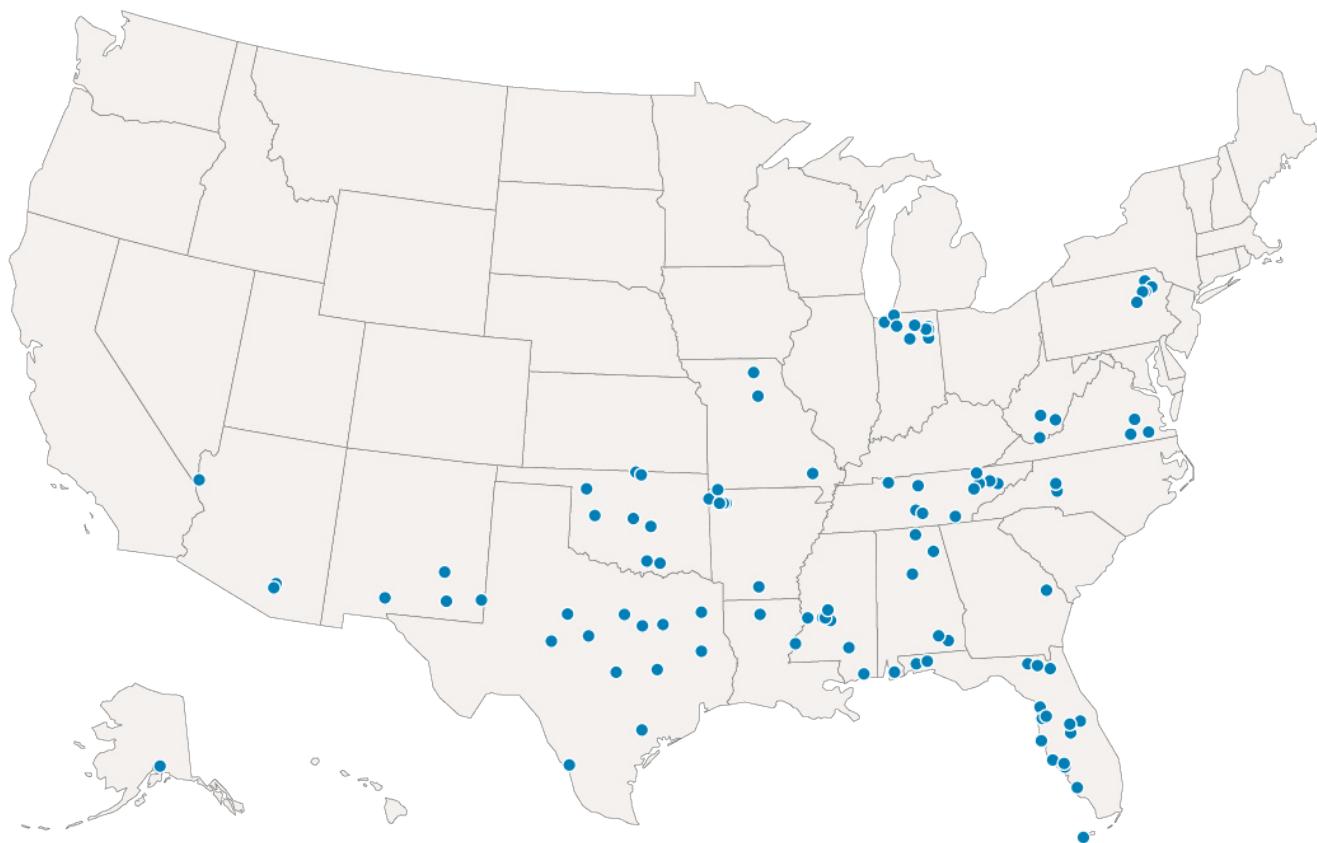
Reimbursement. The originating site is paid an originating fee, which was \$25.76 in 2018 and \$26.15 in 2019. The practitioner providing the service must be located in a separate or distant

site and receives what is comparable to the in-person reimbursement. Certain encounters such as remote cardiac monitoring and provider-to-provider consults are not billable. Under Part B, Medicare pays for services offered by physicians or practitioners through telecommunication systems only if the beneficiary receives these services at an originating site. The originating site is where the beneficiary receives services through this system, which must be in either a county outside an MSA or a rural Health Professional Shortage Area. Sample sites include hospitals, rural health clinics, physician offices and the home of beneficiaries with end stage renal disease (ESRD). Practitioners who can furnish these services include physicians, nurse practitioners, physician assistants, midwives and clinical psychologists. In CMS' 2019 physician fee final rule, the agency has agreed to reimburse for physician services that are "brief communications, technology-based services (Code G2012) and remote evaluations of recorded video and/or images submitted by an established patient (code G2010)." CMS also specifically noted these services are not telehealth services, which implies they do not fall under the geographic restrictions on telehealth services.

Access. In 2016, there were over 240mn in-person office/outpatient visits, nearly 100mn in-person and nursing facility consultations and nearly 15mn in-person mental health evaluations. Despite these statistics, according to CMS, usage has been limited. In 2016, only 90,000 (of 35mn) Medicare FFS beneficiaries used telehealth services. At the time, the states with the highest utilization were Texas, Iowa, Wisconsin, Georgia, Virginia, and Kentucky. Other than encouraging patients to adopt telehealth to address their medical needs, one major bottleneck is uninterrupted broadband access. Weak broadband access could be worse than no access, as any interruption during telehealth visits may dissuade patients (especially older patients) from continuing use. As of 2016, according to the FCC's 2018 Broadband Deployment report, 92% of Americans had access to fixed terrestrial broadband at 25Mbps/3 Mbps, up three percentage points from 2014; however, 24mn Americans still lack access at these speeds. Rural areas lag urban areas with only 69% of rural Americans having access to both fixed terrestrial services at 25 Mbps/3 Mbps and mobile LTE speeds of 5 Mbps/1 Mbps, compared with 98% in urban areas. There is some debate about whether the FCC's estimate of 24mn Americans not having access is correct. Based on our understanding, if a provider reports service to a home or a building in a census block, then the entire location is assumed to have access. We believe the focus should be on accelerating deployment and ensuring households have uninterrupted access. In April, the FCC announced a \$20.4bn Rural Digital Opportunity Fund to expand internet access in rural areas to more than 4mn homes (3,400 megahertz in three different spectrum bands of 37GHz, 39GHz and 47GHz). The FCC is also expected to auction more 5G wireless spectrum in December 2019. Recently (May 2019), the LIFT America Act was introduced and allocated \$40bn in funding to the FCC's cost of providing high-speed broadband to 98% of the U.S.

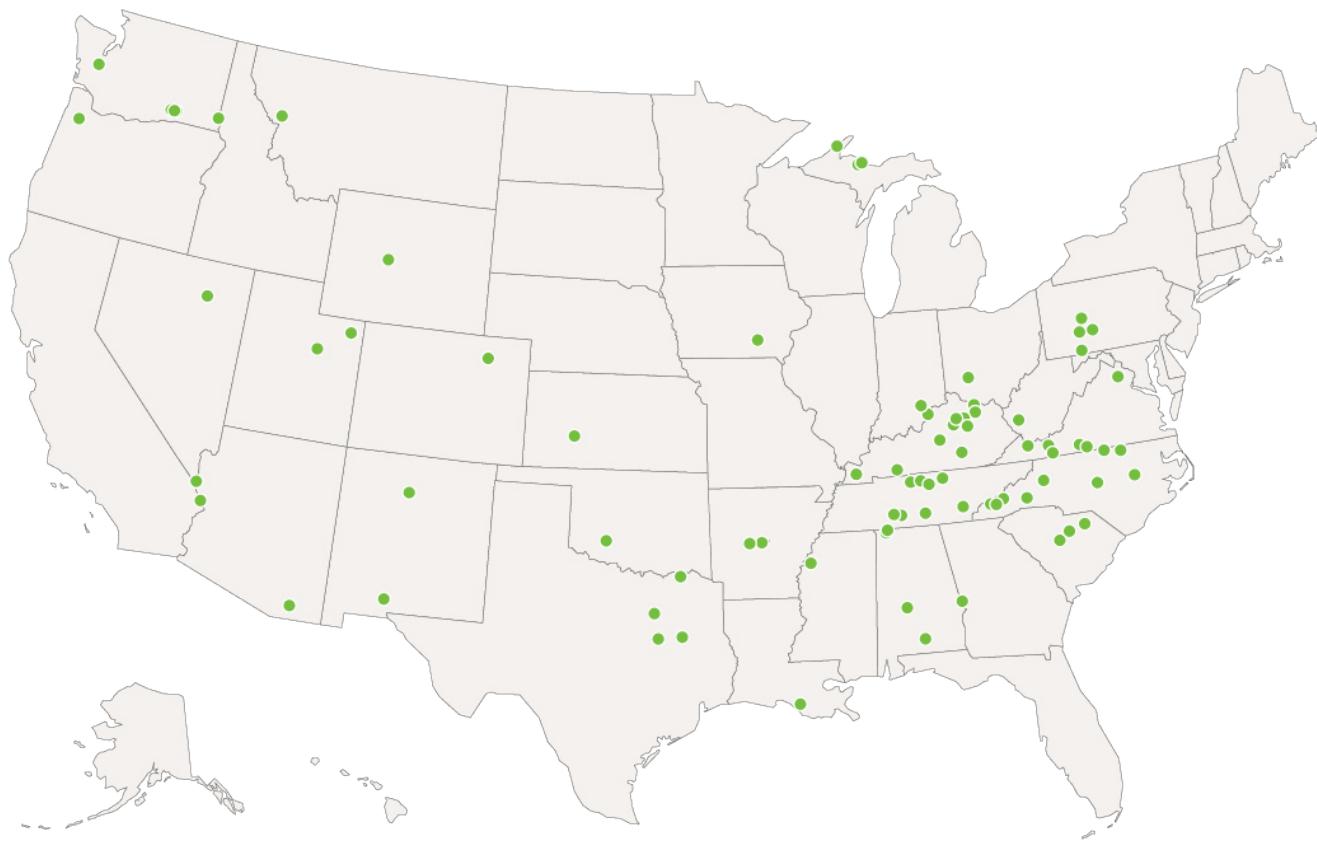
In the appendix tables, we break down for key hospitals the discharges, days of care and charges by RUCA codes. We also include snapshots of select states and hospitals with patient origin specifics. Our follow up reports will provide further analysis of our hospital credits and more details of these snapshots and include our classifications of each hospital market.

FIGURE 15. Community Hospital Locations



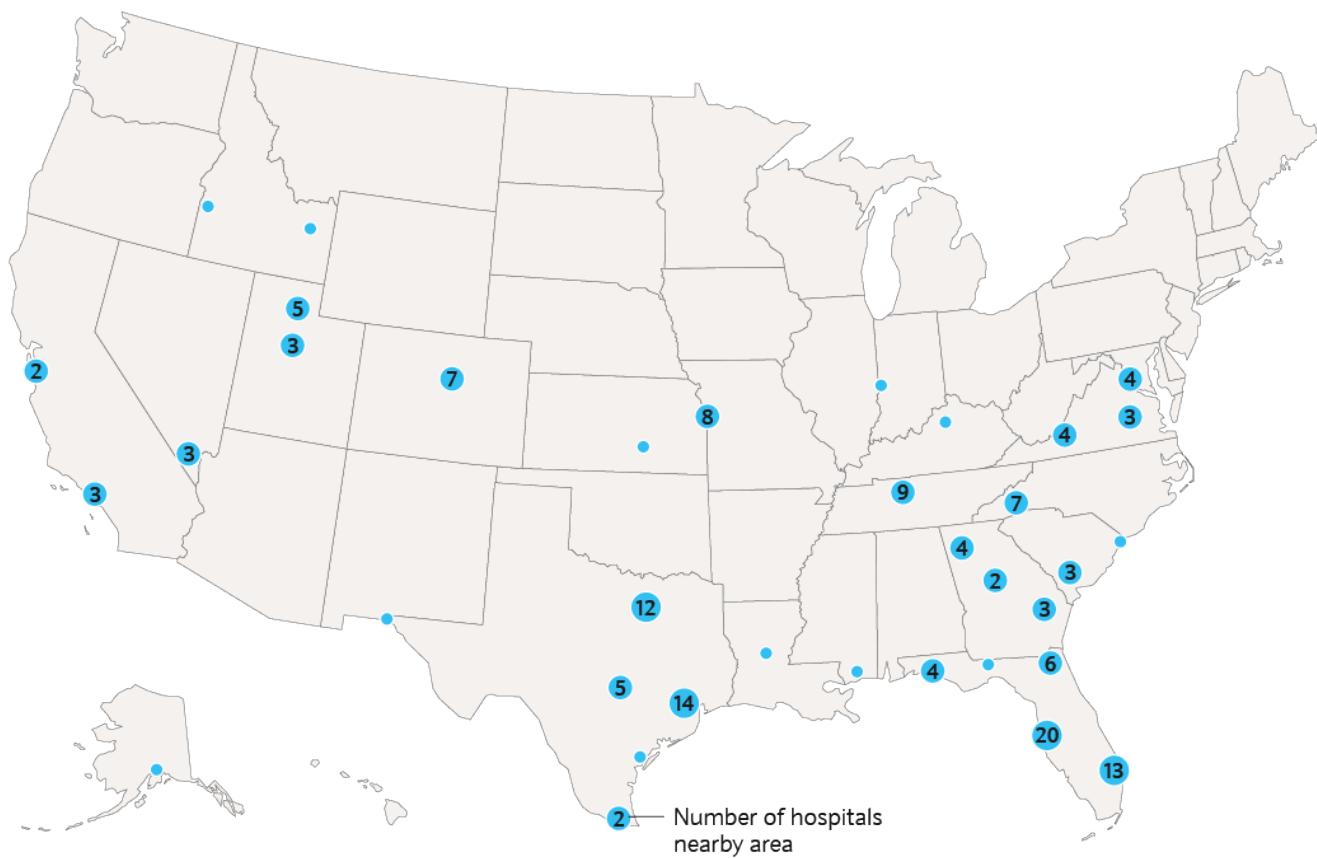
Source: ADH.com, Barclays Research

FIGURE 16. LifePoint Hospital Locations



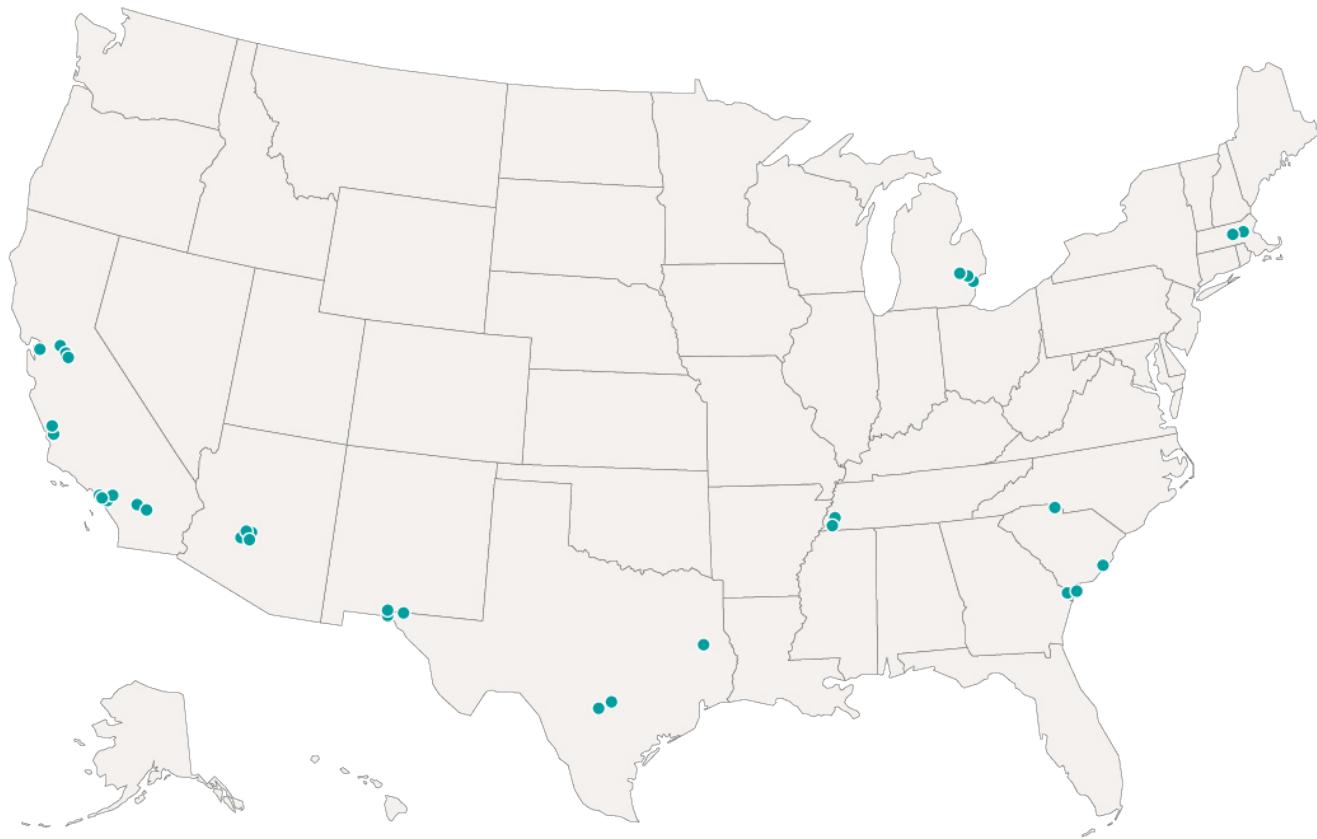
Source: ADH.com, Barclays Research

FIGURE 17. HCA Hospital Locations



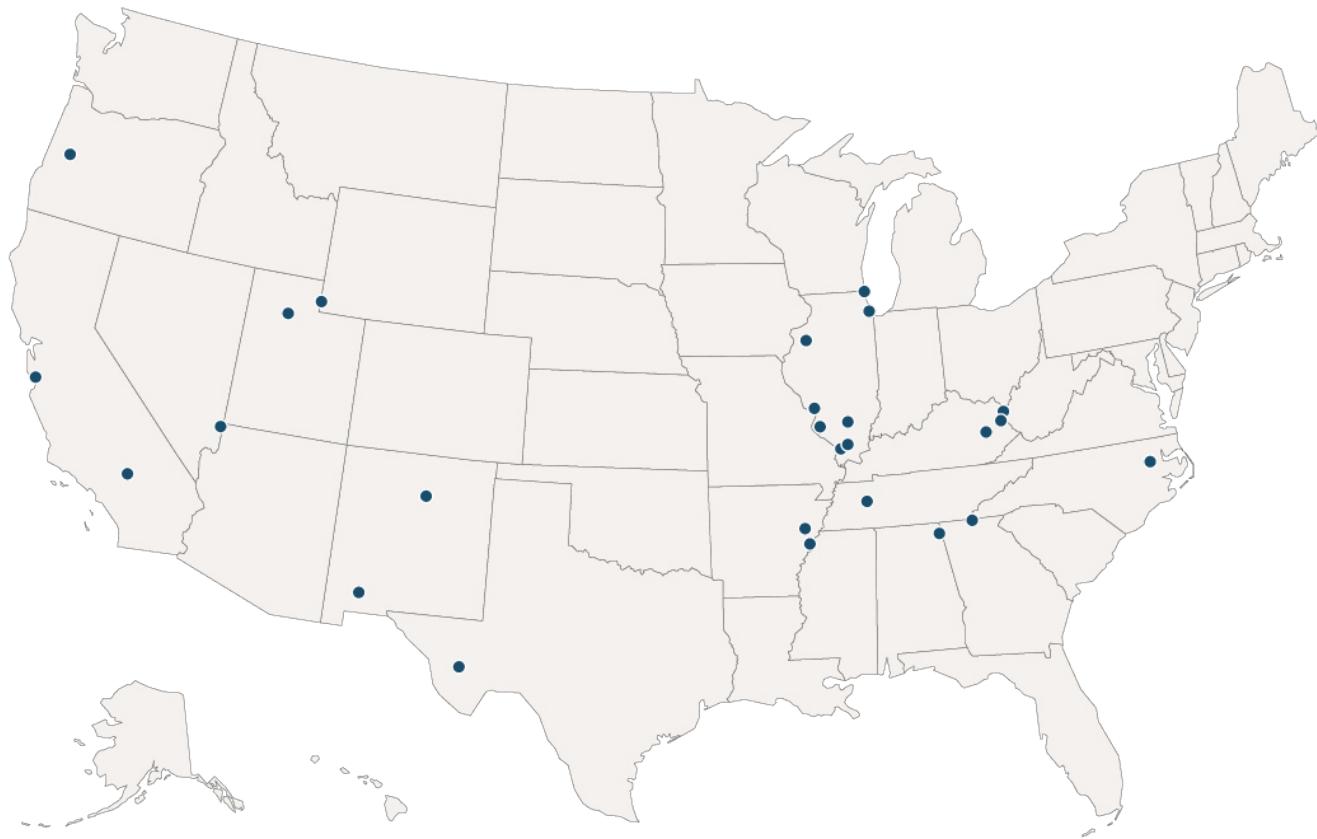
Source: ADH.com, Barclays Research

FIGURE 18. Tenet Hospital Locations



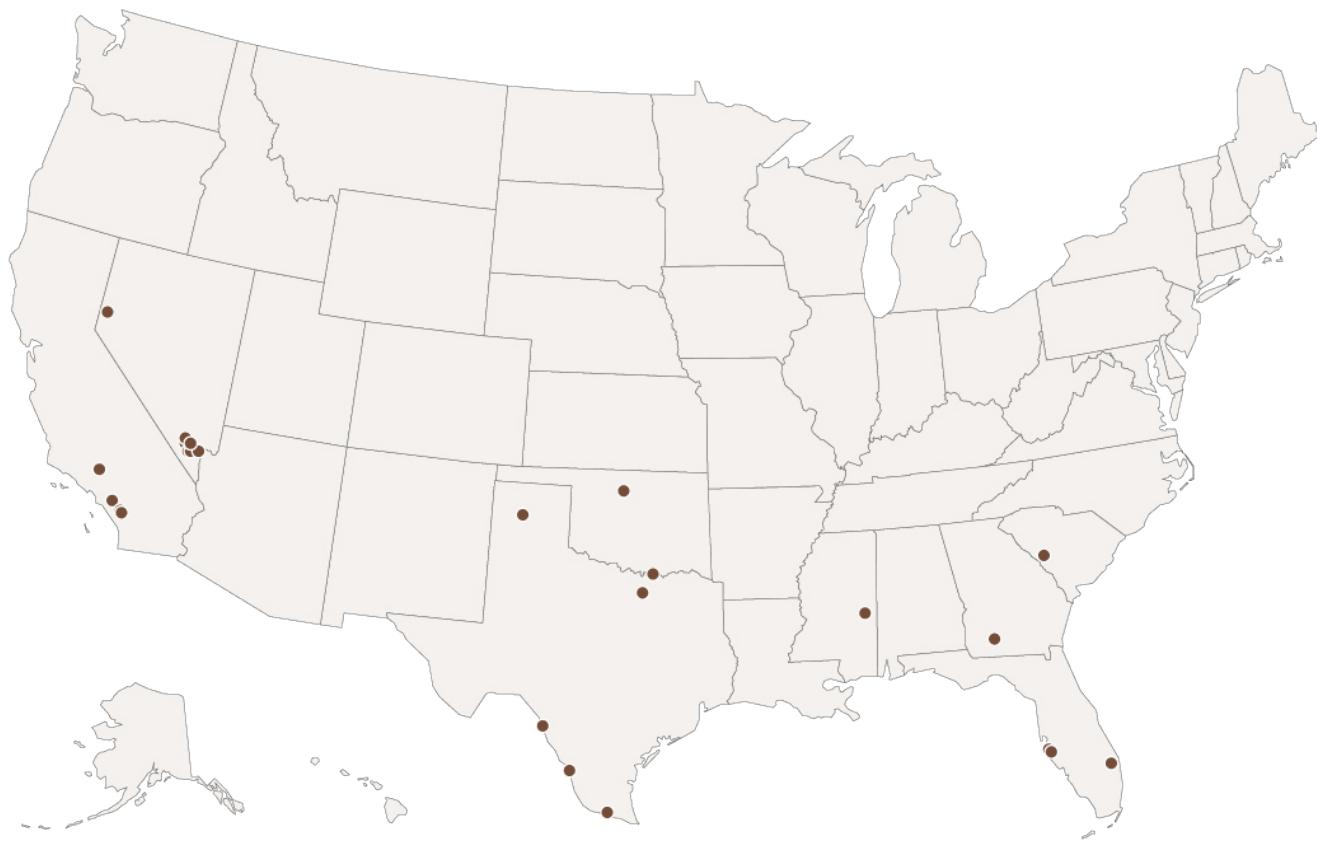
Source: ADH.com, Barclays Research

FIGURE 19. Quorum Hospital Locations



Source: ADH.com, Barclays Research

FIGURE 20. Universal Health Hospital Locations



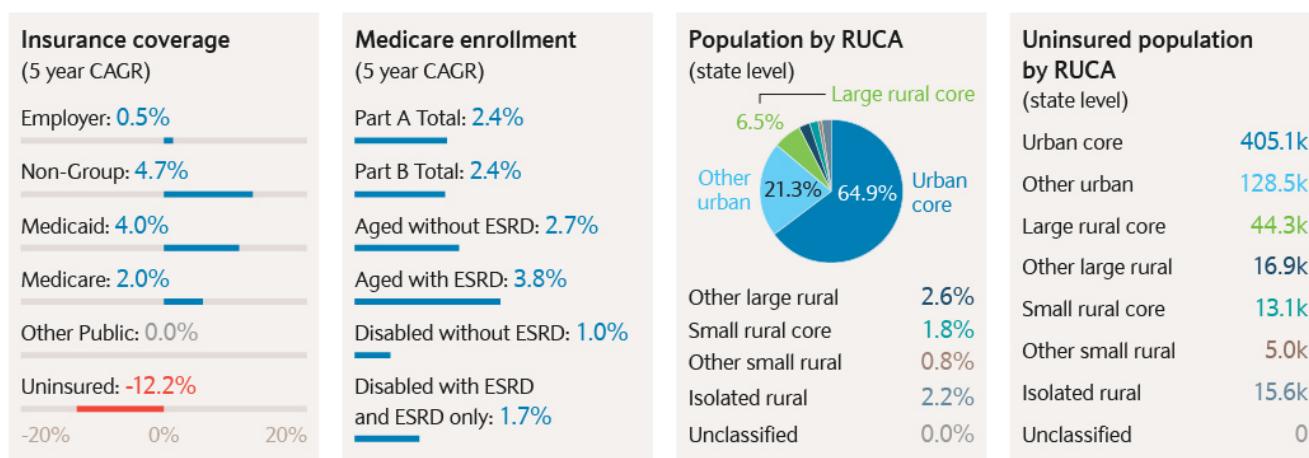
Source: ADH.com, Barclays Research

Below, we include state, county and hospital snapshot for 32 hospitals.

FIGURE 21. Deep Dive into Selected Hospitals - Indiana

Indiana

Medicaid expansion	Adopted	Primary Care Physicians per 100,000 population:	126
Population (rank, 50 states)	6.69 mn (17th)	Median Age	37.7 (US: 37.8)
Population over 65 (% of total)	1.02 mn (15.2%)	Household Median Income	\$52,182 (US: \$59,039)
Density	187 / sq mi	Household Median Income – Over age 65	\$39,104
Unemployment rate	3.5% (US: 3.6%)	Population Without Broadband Access – Non-Rural Areas	1.3%
Poverty rate	16.4%	Population Without Broadband Access – Rural Area	12.4%



Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 22. Deep Dive into Selected Hospitals - Indiana (continued)

Fort Wayne, IN

CBSA	Fort Wayne, IN	City population	262.5k	Population by RUCA (county level)	Uninsured population by RUCA (county level)
CBSA population	416.3k	City population – Median age	34.9	Other urban 4.7%	Urban core 32.7k
County	Allen	City population – Over 65	35.1k	Urban core 95.3%	Other urban 1.6k
County population	372.9k	City density	2,372 / sq mi		
County population without broadband access	3.4k	City median household income	\$45,853		

Dupont Hospital (Community)

Below county average Above county average

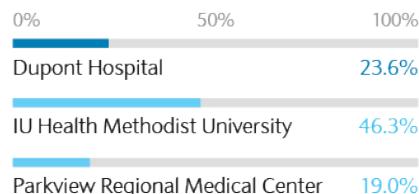
Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Unemployment rate	Zip	Zip civilian labor force %	Zip poverty rate
46816	1.0	Urban Core	1.9%	37	5.6%	18,116	4.9%	34,989	12.2%	45.9%	16.9%	
46808	1.0	Urban Core	2.3%	11	1.6%	19,309	5.2%	39,528	6.5%	53.9%	13.4%	
46805	1.0	Urban Core	2.1%	6	1.0%	21,306	5.7%	38,350	5.5%	51.9%	14.0%	
46815	1.0	Urban Core	4.1%	10	1.6%	26,522	7.1%	55,073	7.5%	54.6%	4.7%	
46825	1.0	Urban Core	10.5%	15	2.3%	27,931	7.5%	52,148	4.7%	59.1%	7.9%	
46835	1.0	Urban Core	7.1%	21	3.2%	33,604	9.0%	60,287	3.6%	56.7%	5.7%	
46845	1.0	Urban Core	7.2%	23	3.5%	22,117	5.9%	88,584	3.1%	52.8%	2.3%	
46818	1.0	Urban Core	6.9%	66	10.1%	18,790	5.0%	58,330	5.4%	56.8%	8.4%	
46703	4.0	Large rural core	3.6%	117	38.0%	18,029	52.3%	49,493	5.2%	49.9%	7.5%	
46774	1.0	Urban Core	3.2%	51	7.8%	16,008	4.3%	53,976	7.2%	54.9%	6.4%	

Distance, Top Two Competitors

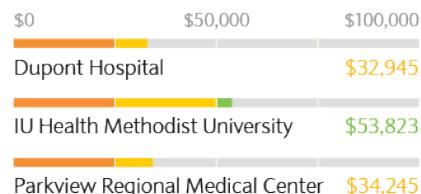
~131 miles ~2 miles

IU Health Methodist University Parkview Regional Medical Center

EBITDA Margin



Net Revenue/Discharge



Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com; Rural Health Research Center, Barclays Research

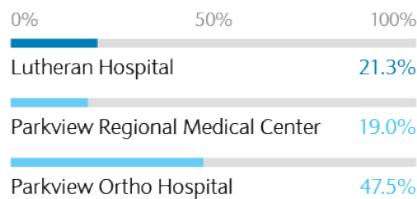
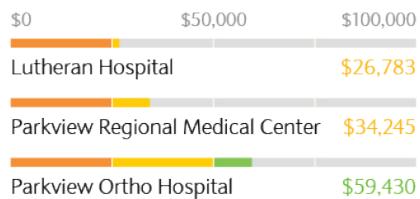
FIGURE 23. Deep Dive into Selected Hospitals - Indiana (continued)**Lutheran Hospital (Community)**

 Below county average Above county average

Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Unemployment rate	Zip civilian labor force %	Zip poverty rate
46804	1.0	Urban Core	62.0%	19	2.9%	27,245	7.3%	66,358	4.1%	56.0%	4.5%
46816	1.0	Urban Core	32.0%	37	5.6%	18,116	4.9%	34,989	12.2%	45.9%	16.9%
46809	1.0	Urban Core	52.8%	23	3.5%	8,947	2.4%	36,541	7.2%	51.5%	11.9%
46750	4.1	Other urban	21.3%	199	52.1%	27,221	74.9%	47,920	4.1%	51.9%	7.3%
46819	1.0	Urban Core	55.2%	26	3.9%	8,765	2.4%	47,275	4.6%	60.8%	10.4%
46714	7.1	Other urban	31.9%	129	35.0%	14,645	52.3%	45,769	2.8%	48.0%	10.0%
46806	1.0	Urban Core	23.3%	9	1.4%	23,560	6.3%	27,449	11.2%	44.8%	33.4%
46733	4.1	Other urban	28.2%	172	50.9%	18,777	52.9%	49,708	4.8%	48.5%	10.9%
46970	4.1	Other urban	16.3%	185	49.5%	23,766	66.3%	42,829	10.1%	44.9%	11.8%
46808	1.0	Urban Core	25.5%	11	1.6%	19,309	5.2%	39,528	6.5%	53.9%	13.4%

Distance, Top Two Competitors

~15 miles **~15 miles**
Parkview Regional Medical Center Parkview Ortho Hospital

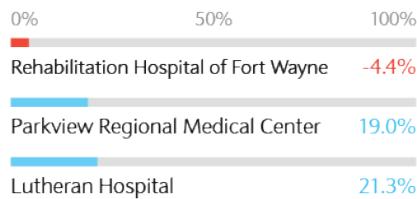
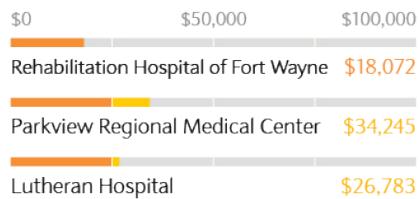
EBITDA Margin**Net Revenue/Discharge****Rehabilitation Hospital of Fort Wayne (Community)**

 Below county average Above county average

Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Unemployment rate	Zip civilian labor force %	Zip poverty rate
46804	1.0	Urban Core	1.9%	19	2.9%	27,245	7.3%	66,358	4.1%	56.0%	4.5%
46816	1.0	Urban Core	0.9%	37	5.6%	18,116	4.9%	34,989	12.2%	45.9%	16.9%
46733	4.1	Other urban	1.3%	172	50.9%	18,777	52.9%	49,708	4.8%	48.5%	10.9%
46777	2.0	Other urban	3.3%	55	15.0%	6,259	22.4%	66,087	3.0%	53.6%	4.6%

Distance, Top Two Competitors

~15 miles **<1 miles**
Parkview Regional Medical Center Lutheran Hospital

EBITDA Margin**Net Revenue/Discharge**

Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 24. Deep Dive into Selected Hospitals- Indiana (continued)**Saint Joseph Hospital (Community)**

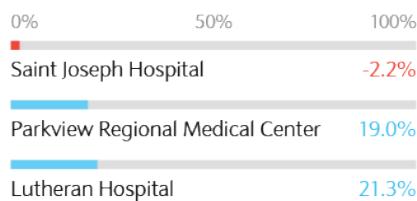
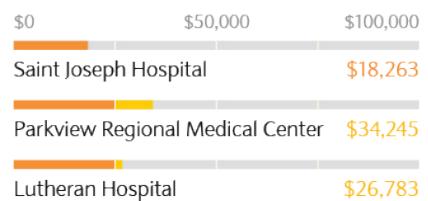
 Below county average Above county average

Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Unemployment rate	Zip civilian labor force %	Zip poverty rate
46804	1.0	Urban Core	3.2%	19	2.9%	27,245	7.3%	66,358	4.1%	56.0%	4.5%
46816	1.0	Urban Core	11.5%	37	5.6%	18,116	4.9%	34,989	12.2%	45.9%	16.9%
46809	1.0	Urban Core	7.9%	23	3.5%	8,947	2.4%	36,541	7.2%	51.5%	11.9%
46806	1.0	Urban Core	15.4%	9	1.4%	23,560	6.3%	27,449	11.2%	44.8%	33.4%
46808	1.0	Urban Core	11.2%	11	1.6%	19,309	5.2%	39,528	6.5%	53.9%	13.4%
46802	1.0	Urban Core	25.2%	4	0.6%	11,086	3.0%	31,340	12.4%	49.1%	34.7%
46805	1.0	Urban Core	7.3%	6	1.0%	21,306	5.7%	38,350	5.5%	51.9%	14.0%
46803	1.0	Urban Core	15.8%	7	1.0%	9,758	2.6%	20,837	16.8%	36.6%	47.3%
46807	1.0	Urban Core	12.1%	3	0.5%	16,072	4.3%	45,659	10.2%	56.7%	19.5%
46815	1.0	Urban Core	3.4%	10	1.6%	26,522	7.1%	55,073	7.5%	54.6%	4.7%

Distance, Top Two Competitors

~10 miles **~7 miles**

Parkview Regional Medical Center Lutheran Hospital

EBITDA Margin**Net Revenue/Discharge****Parkview Ortho Hospital (parkview)**

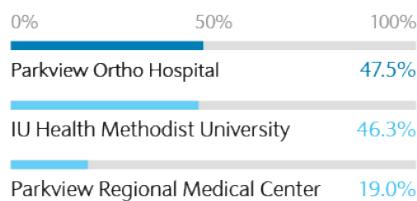
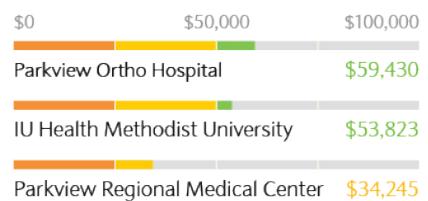
 Below county average Above county average

Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Unemployment rate	Zip civilian labor force %	Zip poverty rate
46804	1.0	Urban Core	2.6%	19	2.9%	27,245	7.3%	66,358	4.1%	56.0%	4.5%
46733	4.1	Other urban	4.3%	172	50.9%	18,777	52.9%	49,708	4.8%	48.5%	10.9%
46815	1.0	Urban Core	4.1%	10	1.6%	26,522	7.1%	55,073	7.5%	54.6%	4.7%
46825	1.0	Urban Core	5.8%	15	2.3%	27,931	7.5%	52,148	4.7%	59.1%	7.9%
46835	1.0	Urban Core	6.3%	21	3.2%	33,604	9.0%	60,287	3.6%	56.7%	5.7%
46845	1.0	Urban Core	8.6%	23	3.5%	22,117	5.9%	88,584	3.1%	52.8%	2.3%
46818	1.0	Urban Core	4.5%	66	10.1%	18,790	5.0%	58,330	5.4%	56.8%	8.4%
46774	1.0	Urban Core	5.8%	51	7.8%	16,008	4.3%	53,976	7.2%	54.9%	6.4%
46725	7.1	Other urban	6.5%	205	61.2%	23,080	68.4%	56,953	3.7%	49.4%	7.0%
46755	4.1	Other urban	4.7%	75	18.4%	15,062	31.7%	46,367	5.4%	49.7%	9.3%

Distance, Top Two Competitors

~15 miles **<1 miles**

IU Health Methodist University Parkview Regional Medical Center

EBITDA Margin**Net Revenue/Discharge**

Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 25. Deep Dive into Selected Hospitals - Indiana (continued)**Parkview Regional Medical Center (Parkview)**

Below county average Above county average

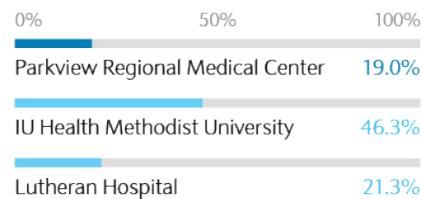
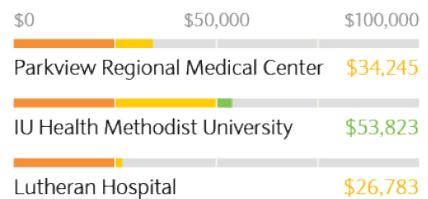
Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Unemployment rate	Zip	Zip civilian labor force %	Zip poverty rate
46816	1.0	Urban Core	40.6%	37	5.6%	18,116	4.9%	34,989	12.2%	45.9%	45.9%	16.9%
46806	1.0	Urban Core	48.7%	9	1.4%	23,560	6.3%	27,449	11.2%	44.8%	44.8%	33.4%
46808	1.0	Urban Core	43.6%	11	1.6%	19,309	5.2%	39,528	6.5%	53.9%	53.9%	13.4%
46805	1.0	Urban Core	67.4%	6	1.0%	21,306	5.7%	38,350	5.5%	51.9%	51.9%	14.0%
46815	1.0	Urban Core	69.3%	10	1.6%	26,522	7.1%	55,073	7.5%	54.6%	54.6%	4.7%
46825	1.0	Urban Core	58.3%	15	2.3%	27,931	7.5%	52,148	4.7%	59.1%	59.1%	7.9%
46835	1.0	Urban Core	65.5%	21	3.2%	33,604	9.0%	60,287	3.6%	56.7%	56.7%	5.7%
46845	1.0	Urban Core	64.8%	23	3.5%	22,117	5.9%	88,584	3.1%	52.8%	52.8%	2.3%
46774	1.0	Urban Core	66.4%	51	7.8%	16,008	4.3%	53,976	7.2%	54.9%	54.9%	6.4%
46725	7.1	Other urban	37.9%	205	61.2%	23,080	68.4%	56,953	3.7%	49.4%	49.4%	7.0%

Distance, Top Two Competitors

~131 miles ~16 miles

IU Health Methodist University

Lutheran Hospital

EBITDA Margin**Net Revenue/Discharge**

Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 26. Deep Dive into Selected Hospitals - Indiana (continued)

Bluffton, IN



Bluffton Regional Medical Center (Community)

■ Below county average ■ Above county average

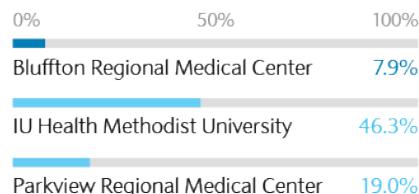
Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Unemployment rate	Zip civilian labor force %	Zip poverty rate
46714	7.1	Other urban	43.8%	129	35.0%	14,645	52.3%	45,769	2.8%	48.0%	10.0%
46733	4.1	Other urban	2.1%	172	50.9%	18,777	52.9%	49,708	4.8%	48.5%	10.9%
46777	2.0	Other urban	17.9%	55	15.0%	6,259	22.4%	66,087	3.0%	53.6%	4.6%
47359	10.3	Isolated rural	19.6%	60	36.5%	3,143	26.2%	40,888	7.6%	51.0%	5.3%
46792	10.2	Isolated rural	13.8%	101	26.3%	3,499	9.6%	54,283	2.2%	51.2%	5.2%
46711	7.0	Small rural core	9.6%	60	17.6%	7,698	21.7%	47,241	5.8%	43.5%	17.3%
47369	8.0	Other small rural	16.2%	34	8.9%	1,343	6.4%	43,750	2.0%	49.1%	10.5%
46766	9.0	Other small rural	42.4%	20	5.5%	685	2.4%	56,574	1.1%	79.0%	0.0%
47371	7.0	Small rural core	1.7%	218	56.9%	12,226	58.4%	45,605	6.2%	49.6%	8.1%
46770	2.0	Other urban	10.2%	53	14.3%	2,716	9.7%	64,038	1.4%	61.1%	7.7%

Distance, Top Two Competitors

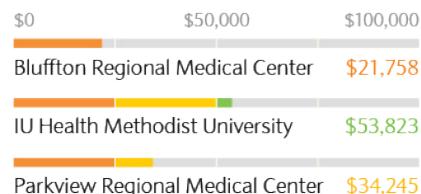
~110 miles ~34 miles

IU Health Methodist University Parkview Regional Medical Center

EBITDA Margin



Net Revenue/Discharge



Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 27. Deep Dive into Selected Hospitals - Indiana (continued)

Peru, IN



Dukes Memorial Hospital (Community)

■ Below county average ■ Above county average

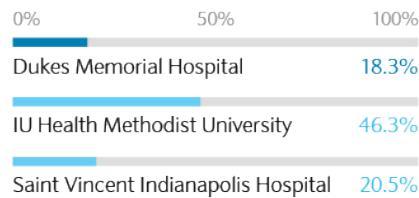
Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Zip unemployment rate	Zip civilian labor force %	Zip poverty rate
46970	4.1	Other urban	33.8%	185	49.5%	23,766	66.3%	42,829	10.1%	44.9%	11.8%
46926	6.0	Other large rural	33.3%	35	9.4%	1,708	4.8%	53,203	3.6%	47.4%	4.5%
46914	2.0	Other urban	20.8%	29	7.7%	4,908	13.7%	54,875	4.8%	11.6%	9.8%
46992	4.0	Large rural core	1.6%	162	39.3%	16,759	53.3%	48,068	5.2%	51.3%	9.4%
46911	10.2	Isolated rural	17.7%	40	10.6%	1,439	4.0%	62,120	3.3%	43.9%	2.3%
46958	4.1	Other urban	39.4%	0	0.1%	460	1.3%	49,570	0.0%	75.4%	0.0%
46975	9.0	Other small rural	1.6%	216	58.7%	14,691	73.2%	47,698	2.2%	48.8%	10.5%

Distance, Top Two Competitors

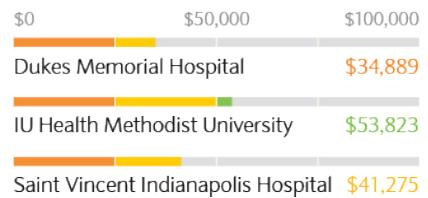
~73 miles ~67 miles

IU Health Methodist University Saint Vincent Indianapolis Hospital

EBITDA Margin



Net Revenue/Discharge



Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 28. Deep Dive into Selected Hospitals- Indiana (continued)

Warsaw, IN



Kosciusko Community Hospital (Community)

■ Below county average ■ Above county average

Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Unemployment rate	Zip civilian labor force %	Zip poverty rate
46580	4.0	Large rural core	44.6%	73	13.7%	21,338	26.9%	55,056	5.6%	51.8%	5.0%
46582	4.0	Large rural core	38.2%	57	10.7%	12,378	15.6%	63,333	3.6%	57.0%	8.3%
46590	4.0	Large rural core	57.7%	3	0.5%	4,908	6.2%	60,456	5.2%	61.6%	4.0%
46510	5.0	Other large rural	38.4%	67	12.6%	3,631	4.6%	54,564	4.2%	59.4%	10.3%
46562	5.0	Other large rural	27.6%	61	11.4%	4,788	6.0%	53,125	7.5%	50.2%	13.2%
46538	5.0	Other large rural	30.2%	31	5.8%	3,867	4.9%	70,058	2.0%	44.9%	4.6%
46555	7.1	Other urban	30.9%	9	1.7%	2,835	3.6%	50,570	3.1%	50.8%	4.3%
46567	7.1	Other urban	12.5%	56	10.5%	9,405	11.9%	56,563	5.1%	49.0%	7.6%
46962	7.2	Small rural core	9.0%	109	26.5%	9,728	30.9%	49,293	5.3%	47.0%	11.7%
46982	5.0	Other large rural	28.9%	42	7.8%	2,573	3.2%	47,633	4.5%	43.9%	15.2%

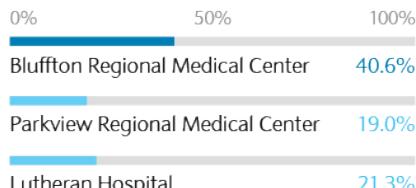
Distance, Top Two Competitors

~44 miles ~39 miles

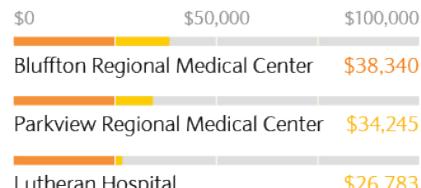
Parkview Regional Medical Center

Lutheran Hospital

EBITDA Margin



Net Revenue/Discharge

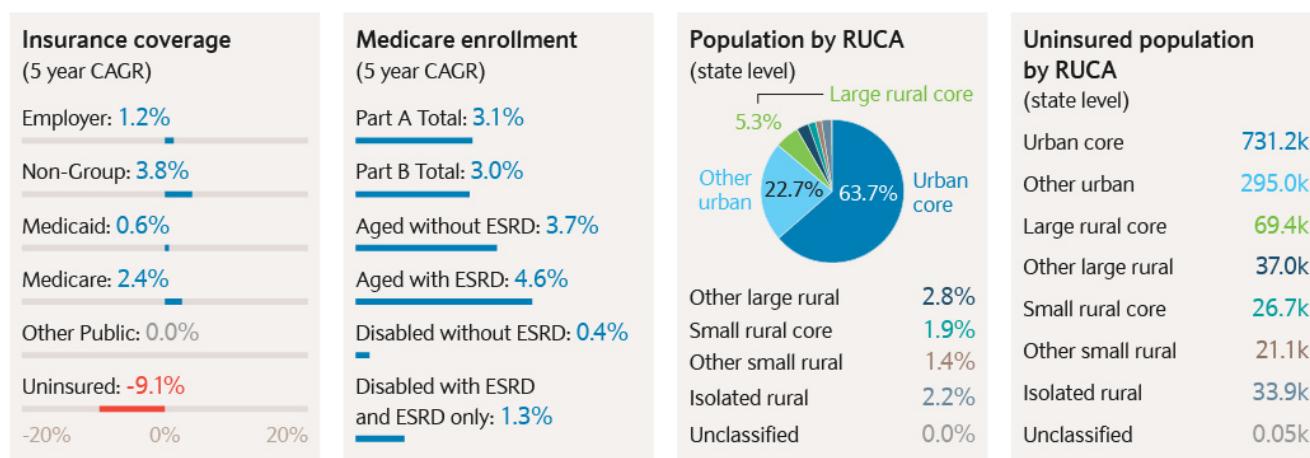


Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 29. Deep Dive into Selected Hospitals - North Carolina

North Carolina

Medicaid expansion	Not adopted	Primary Care Physicians per 100,000 population:	133
Population (rank, 50 states)	10.38mn (9th)	Median Age	38.8 (US: 37.8)
Population over 65 (% of total)	1.63mn (15.7%)	Household Median Income	\$50,320 (US: \$59,039)
Density	214 / sq mi	Household Median Income – Over age 65	\$38,466
Unemployment rate	3.9% (US: 3.6%)	Population Without Broadband Access – Non-Rural Areas	2.1%
Poverty rate	17.0%	Population Without Broadband Access – Rural Area	15.0%



Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 30. Deep Dive into Selected Hospitals - North Carolina (continued)

Asheville, NC

CBSA	Asheville, NC	City population	89.3k	Population by RUCA (county level)	Uninsured population by RUCA (county level)
CBSA population	424.9k	City population – Median age	38.6	Other 11.3% urban	Urban core 28.0k
County	Buncombe	City population – Over 65	15.5k		Other urban 3.6k
County population	257.6k	City density	1,989 / sq mi		
County population without broadband access	0.7k	City median household income	\$46,464	Urban core 88.7%	

CarePartners Rehabilitation Hospital (HCA)

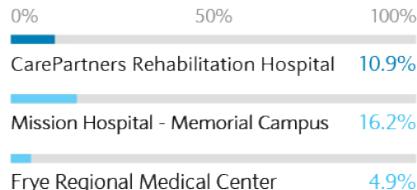
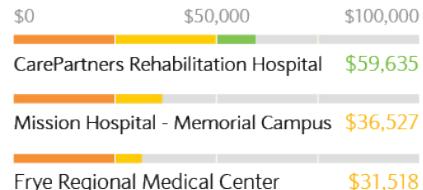
■ Below county average ■ Above county average

Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Zip unemployment rate	Zip civilian labor force %	Zip poverty rate
28734	8.0	Other small rural	1.9%	301	58.4%	27,040	77.9%	37,759	5.8%	39.5%	13.8%
28806	1.0	Urban Core	2.1%	38	5.8%	38,550	15.0%	43,311	4.6%	59.5%	10.7%
28803	1.0	Urban Core	2.6%	38	5.8%	28,693	11.1%	50,805	3.6%	60.8%	6.5%
28715	1.0	Urban Core	2.4%	78	11.9%	24,582	9.5%	50,925	4.1%	51.6%	10.1%
28787	1.0	Urban Core	3.3%	80	12.1%	19,718	7.7%	54,072	4.9%	49.2%	6.2%
28752	4.1	Other urban	1.2%	245	55.6%	30,600	67.8%	38,906	7.1%	42.5%	15.6%
28804	1.0	Urban Core	3.4%	27	4.0%	20,507	8.0%	55,125	6.0%	49.2%	8.1%
28805	1.0	Urban Core	3.6%	26	4.0%	17,620	6.8%	46,345	4.8%	52.5%	5.4%
28711	1.0	Urban Core	3.2%	100	15.2%	13,209	5.1%	43,899	5.0%	46.4%	3.0%
28712	2.0	Other urban	1.6%	126	33.2%	19,347	57.0%	42,591	7.7%	40.8%	12.4%

Distance, Top Two Competitors

~2 miles ~76 miles

Mission Hospital - Memorial Campus Frye Regional Medical Center

EBITDA Margin**Net Revenue/Discharge**

Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 31. Deep Dive into Selected Hospitals - North Carolina (continued)**Mission Hospital - Memorial Campus (HCA)**

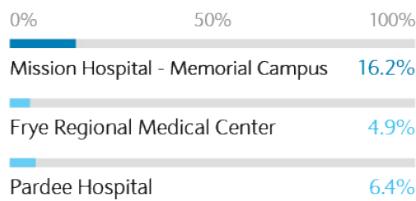
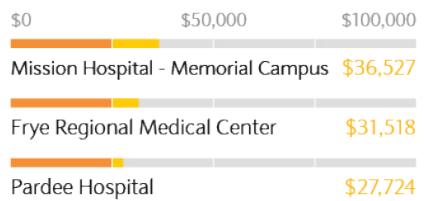
Below county average Above county average

Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Zip unemployment rate	Zip civilian labor force %	Zip poverty rate
28806	1.0	Urban Core	84.2%	38	5.8%	38,550	15.0%	43,311	4.6%	59.5%	10.7%
28803	1.0	Urban Core	82.0%	38	5.8%	28,693	11.1%	50,805	3.6%	60.8%	6.5%
28715	1.0	Urban Core	83.3%	78	11.9%	24,582	9.5%	50,925	4.1%	51.6%	10.1%
28787	1.0	Urban Core	84.0%	80	12.1%	19,718	7.7%	54,072	4.9%	49.2%	6.2%
28752	4.1	Other urban	42.0%	245	55.6%	30,600	67.8%	38,906	7.1%	42.5%	15.6%
28804	1.0	Urban Core	82.7%	27	4.0%	20,507	8.0%	55,125	6.0%	49.2%	8.1%
28805	1.0	Urban Core	80.1%	26	4.0%	17,620	6.8%	46,345	4.8%	52.5%	5.4%
28711	1.0	Urban Core	82.6%	100	15.2%	13,209	5.1%	43,899	5.0%	46.4%	3.0%
28753	2.0	Other urban	85.5%	264	58.7%	11,670	53.7%	37,510	5.9%	44.1%	8.4%
28714	2.0	Other urban	63.4%	291	93.1%	16,753	94.4%	38,449	8.7%	43.6%	15.4%

Distance, Top Two Competitors

~79 miles **~22 miles**

Frye Regional Medical Center	Pardee Hospital
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EBITDA Margin**Net Revenue/Discharge**

Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 32. Deep Dive into Selected Hospitals- North Carolina (continued)

Brevard, NC

CBSA	Brevard, NC	City population	7.8k	Population by RUCA (county level)	Uninsured population by RUCA (county level)
CBSA population	33.0k	City population – Median age	48.4	Isolated rural 6.0%	Other urban 4.8k
County	Transylvania	City population – Over 65	2.3k	Other urban 94.0%	Isolated rural 0.3k
County population	34.0k	City density	1,616 / sq mi		
County population without broadband access	3.0k	City median household income	\$40,232		

Transylvania Regional Hospital (HCA)

■ Below county average ■ Above county average

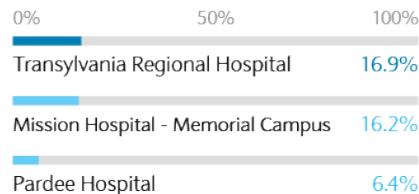
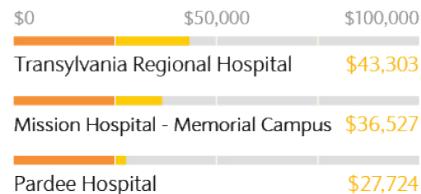
Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Unemployment rate	Zip rate	Zip civilian labor force %	Zip poverty rate
28712	2.0	Other urban	47.0%	126	33.2%	19,347	57.0%	42,591	7.7%	40.8%	12.4%	
28768	2.0	Other urban	44.2%	83	21.9%	6,813	20.1%	50,741	5.1%	47.5%	10.6%	
28772	10.2	Isolated rural	48.9%	13	3.3%	1,239	3.6%	57,951	4.1%	55.7%	5.2%	
28747	10.1	Other urban	38.6%	53	13.9%	2,198	6.5%	35,288	14.7%	46.7%	19.9%	
28766	2.0	Other urban	35.8%	6	1.5%	1,262	3.7%	63,092	1.2%	59.1%	0.0%	
28739	1.0	Urban Core	1.4%	67	18.0%	19,786	17.1%	51,738	3.0%	44.0%	8.2%	
28718	2.0	Other urban	40.0%	17	4.4%	553	1.6%	43,929	0.0%	33.8%	0.0%	
28774	10.1	Other urban	17.1%	45	12.0%	1,013	3.0%	58,966	0.0%	35.5%	7.1%	
28729	1.0	Urban Core	4.5%	4	1.2%	2,894	2.5%	49,089	4.6%	50.6%	4.5%	

Top Two Competitors

~29 miles ~18 miles

Mission Hospital - Memorial Campus

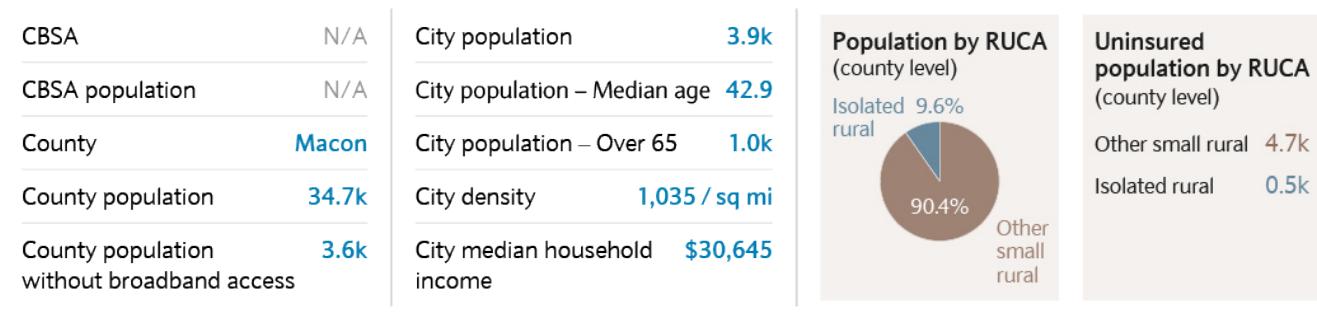
Pardee Hospital

EBITDA Margin**Net Revenue/Discharge**

Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 33. Deep Dive into Selected Hospitals - North Carolina (continued)

Franklin, NC



Angel Medical Center (HCA)

■ Below county average ■ Above county average

Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Unemployment rate	Zip	Zip civilian labor force %	Zip poverty rate
28713	10.0	Isolated rural	1.9%	136	25.8%	8,686	60.8%	34,854	10.5%	44.0%	11.5%	
28734	8.0	Other small rural	42.4%	301	58.4%	27,040	77.9%	37,759	5.8%	39.5%	13.8%	
28744	8.0	Other small rural	52.1%	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	
28763	8.0	Other small rural	42.9%	55	10.8%	2,725	7.8%	65,559	2.5%	52.6%	8.2%	
28741	10.0	Isolated rural	9.0%	87	16.9%	3,197	9.2%	62,072	1.8%	52.6%	7.3%	

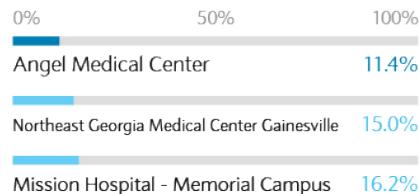
Distance, Top Two Competitors

~76 miles ~69 miles

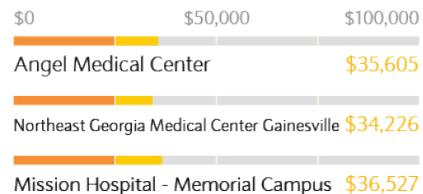
Northeast Georgia Medical Center Gainesville

Mission Hospital - Memorial Campus

EBITDA Margin



Net Revenue/Discharge



Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 34. Deep Dive into Selected Hospitals- North Carolina (continued)

Hickory, NC

CBSA Hickory-Lenoir-Morganton, NC	City population	40.2k	Population by RUCA (county level)	Uninsured population by RUCA (county level)
CBSA population	365.5k	City population – Median age	38.2	Urban core 17.0k
County	Catawba	City population – Over 65	6.5k	Other urban 4.6k
County population	158.0k	City density	1,352 / sq mi	
County population without broadband access	0.4k	City median household income	\$44,366	

Frye Regional Medical Center (LifePoint)

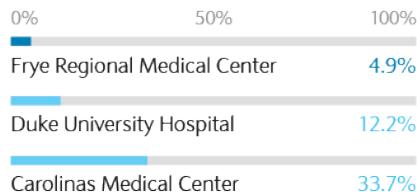
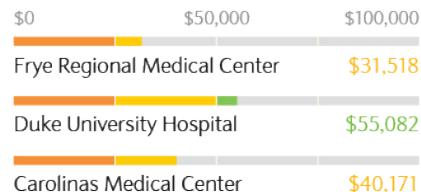
Below county average Above county average

Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Zip unemployment rate	Zip civilian labor force %	Zip poverty rate
28601	1.0	Urban Core	53.4%	46	11.6%	50,026	31.7%	49,168	8.1%	50.3%	11.0%
28602	1.0	Urban Core	54.0%	70	17.5%	28,981	18.3%	45,244	9.1%	50.6%	11.3%
28630	1.0	Urban Core	50.1%	60	12.7%	20,041	24.4%	47,868	6.8%	50.8%	12.2%
28645	1.0	Urban Core	16.9%	330	69.9%	47,703	58.2%	36,905	8.7%	43.6%	13.3%
28681	2.0	Other urban	34.1%	167	64.3%	25,910	69.5%	45,697	6.5%	47.4%	9.3%
28658	1.0	Urban Core	23.6%	74	18.5%	27,022	17.1%	44,213	6.8%	48.8%	9.3%
28638	1.0	Urban Core	32.8%	20	4.3%	12,302	15.0%	41,354	7.2%	41.6%	10.6%
28655	1.0	Urban Core	8.0%	318	62.7%	54,996	61.6%	41,957	8.2%	45.2%	14.6%
28613	1.0	Urban Core	23.1%	43	10.7%	22,759	14.4%	49,950	8.4%	50.1%	14.1%
28612	1.0	Urban Core	27.6%	84	16.5%	12,397	13.9%	36,669	10.1%	49.1%	13.5%

Distance, Top Two Competitors

~149 miles ~56 miles

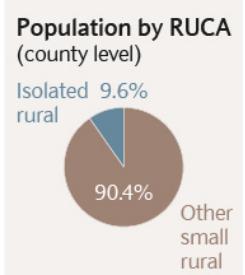
Duke University Hospital	Carolinas Medical Center
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EBITDA Margin**Net Revenue/Discharge**

Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 35. Deep Dive into Selected Hospitals- North Carolina (continued)

Highlands, NC

CBSA	N/A	City population	1.1k	 <p>Population by RUCA (county level)</p> <table border="1"> <tr> <td>Isolated rural</td> <td>9.6%</td> </tr> <tr> <td>Other small rural</td> <td>90.4%</td> </tr> </table>	Isolated rural	9.6%	Other small rural	90.4%	Uninsured population by RUCA (county level)
Isolated rural	9.6%								
Other small rural	90.4%								
CBSA population	N/A	City population – Median age	60.2	Other small rural 4.7k					
County	Macon	City population – Over 65	0.5k	Isolated rural 0.5k					
County population	34.7k	City density	177 / sq mi						
County population without broadband access	3.6k	City median household income	\$63,550						

Highlands-Cashiers Hospital (HCA)

■ Below county average ■ Above county average

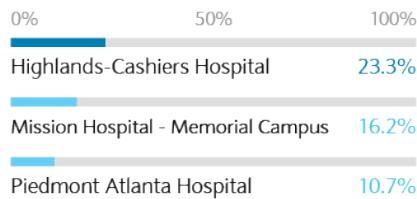
Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Median unemployment rate	Zip civilian labor force %	Zip poverty rate
28734	8.0	Other small rural	0.7%	301	58.4%	27,040	77.9%	37,759	5.8%	39.5%	13.8%
28717	10.0	Isolated rural	15.7%	51	10.4%	1,729	4.0%	45,174	0.0%	44.4%	13.9%
28741	10.0	Isolated rural	20.1%	87	16.9%	3,197	9.2%	62,072	1.8%	52.6%	7.3%

Distance, Top Two Competitors

~70 miles ~129 miles

Mission Hospital - Memorial Campus Piedmont Atlanta Hospital

EBITDA Margin



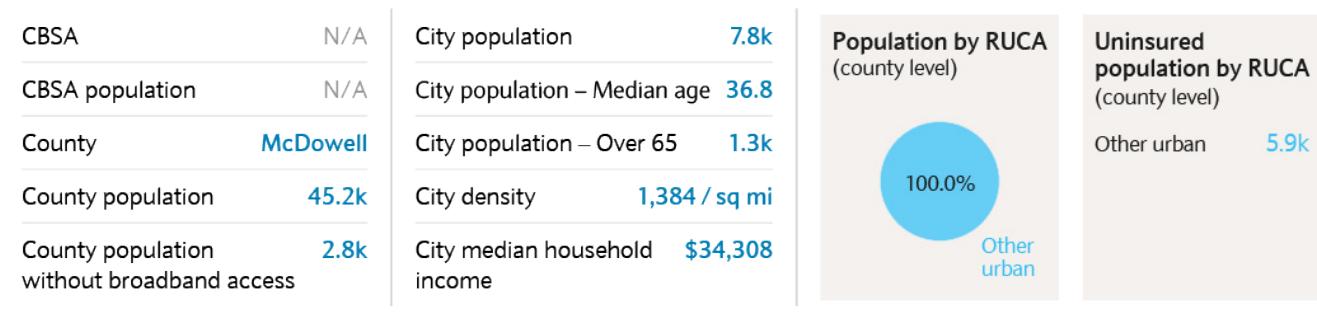
Net Revenue/Discharge



Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 36. Deep Dive into Selected Hospitals- North Carolina (continued)

Marion, NC



Mission Hospital McDowell (HCA)

■ Below county average ■ Above county average

Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Unemployment rate	Zip	Zip civilian labor force %	Zip poverty rate
28167	5.0	Other large rural	11.3%	71	12.6%	2,362	3.5%	31,719	1.6%	43.7%	29.3%	
28655	1.0	Urban Core	1.2%	318	62.7%	54,996	61.6%	41,957	8.2%	45.2%	14.6%	
28752	4.1	Other urban	36.7%	245	55.6%	30,600	67.8%	38,906	7.1%	42.5%	15.6%	
28761	5.1	Other urban	33.5%	108	24.6%	7,816	17.3%	41,260	9.6%	47.0%	12.6%	
28762	2.0	Other urban	32.6%	100	22.6%	6,857	15.2%	32,301	7.7%	41.8%	20.6%	

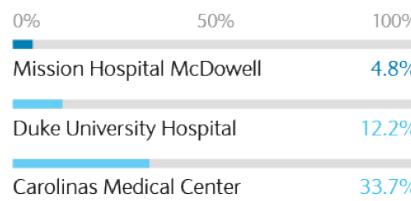
Distance, Top Two Competitors

~188 miles ~91 miles

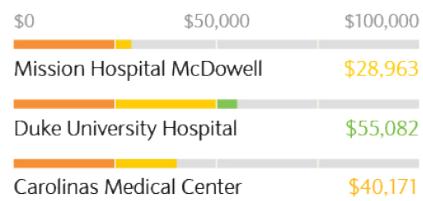
Duke University Hospital

Carolinas Medical Center

EBITDA Margin



Net Revenue/Discharge



Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 37. Deep Dive into Selected Hospitals- North Carolina (continued)

Sanford, NC

CBSA	Sanford, NC	City population	29.1k	Population by RUCA (county level)	Uninsured population by RUCA (county level)
CBSA population	57.9k	City population – Median age	34.8	Large rural core	Other urban
County	Lee	City population – Over 65	3.4k	51.2% 48.8%	5.4k
County population	60.4k	City density	1,205 / sq mi	Other urban	Large rural core 5.7k
County population without broadband access	0.6k	City median household income	\$45,417		

Central Carolina Hospital (LifePoint)

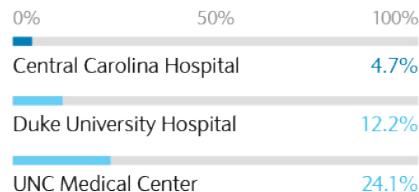
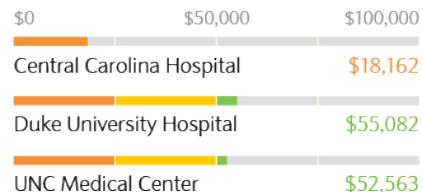
Below county average Above county average

Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Unemployment rate	Zip civilian labor force %	Zip poverty rate
27330	4.0	Large rural core	52.4%	206	80.6%	37,947	62.8%	48,056	6.2%	51.6%	12.7%
27332	5.1	Other urban	48.7%	105	41.2%	30,236	50.0%	55,842	9.8%	45.4%	11.1%
27505	5.1	Other urban	46.7%	57	22.3%	5,896	9.8%	48,737	9.4%	50.1%	12.1%
28326	2.0	Other urban	21.9%	116	19.6%	17,646	13.3%	58,237	12.0%	47.8%	10.9%
27331	4.0	Large rural core	54.3%	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified
27546	2.0	Other urban	8.5%	124	20.8%	19,471	14.7%	47,038	6.3%	44.3%	14.4%
27559	2.0	Other urban	24.0%	48	7.1%	2,288	3.2%	56,400	1.1%	43.7%	6.1%
27252	9.0	Other small rural	35.4%	43	6.3%	2,003	2.8%	54,375	11.6%	58.7%	23.9%
28368	5.1	Other urban	50.9%	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified
28390	1.0	Urban Core	3.7%	59	9.0%	19,942	6.0%	45,189	11.4%	47.3%	16.3%

Distance, Top Two Competitors

~54 miles **~36 miles**

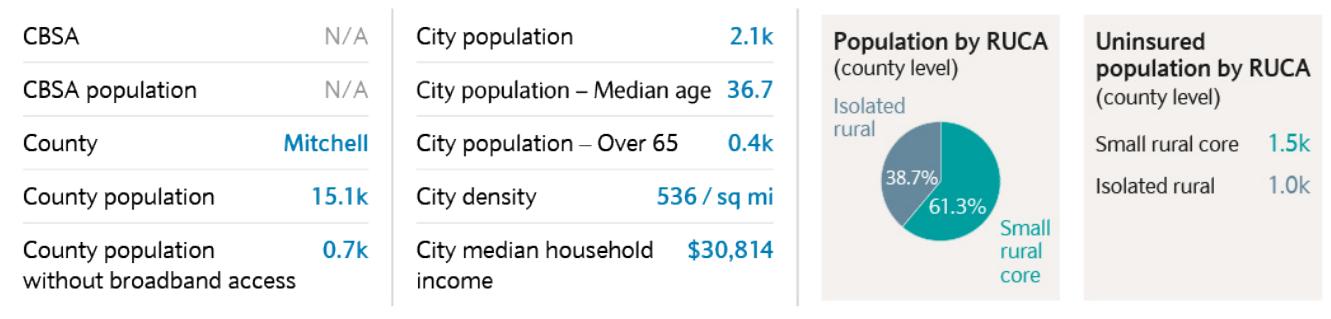
Duke University Hospital	UNC Medical Center
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EBITDA Margin**Net Revenue/Discharge**

Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 38. Deep Dive into Selected Hospitals - North Carolina (continued)

Spruce Pine, NC



Blue Ridge Regional Hospital (HCA)

■ Below county average ■ Above county average

Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Zip unemployment rate	Zip civilian labor force %	Zip poverty rate
28752	4.1	Other urban	0.9%	245	55.6%	30,600	67.8%	38,906	7.1%	42.5%	15.6%
28714	2.0	Other urban	24.0%	291	93.1%	16,753	94.4%	38,449	8.7%	43.6%	15.4%
28777	7.0	Small rural core	39.3%	68	30.8%	10,638	70.6%	43,216	3.5%	34.6%	9.5%
28705	10.3	Isolated rural	28.6%	126	57.0%	6,715	44.6%	40,649	5.9%	43.9%	10.1%
28740	10.1	Other urban	20.3%	55	17.7%	1,364	7.7%	33,678	0.6%	35.0%	20.6%
28657	10.0	Isolated rural	3.9%	160	64.7%	9,488	54.1%	34,914	3.3%	44.9%	11.3%
28755	2.0	Other urban	33.3%	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified

Distance, Top Competitor

~52 miles

Mission Hospital - Memorial Campus

EBITDA Margin



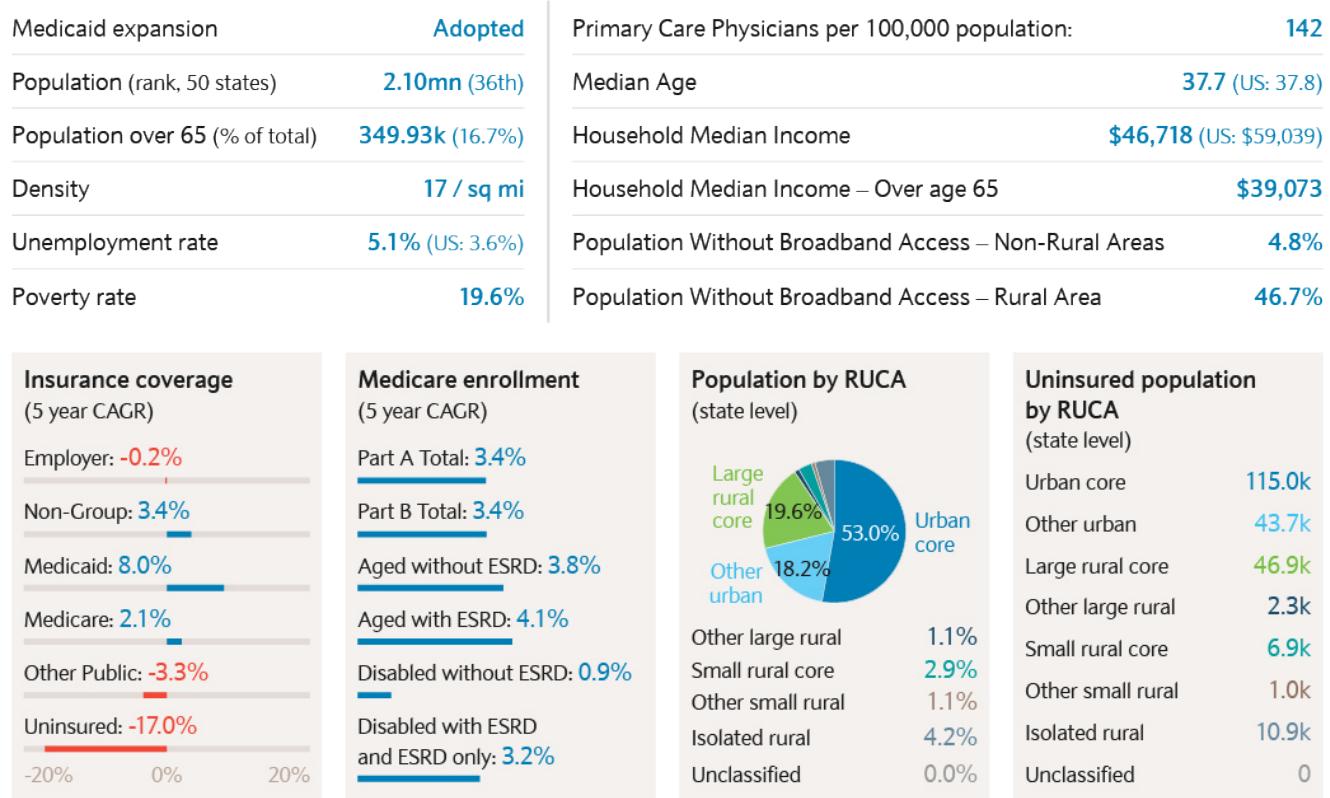
Net Revenue/Discharge



Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 39. Deep Dive into Selected Hospitals - New Mexico

New Mexico



Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 40. Deep Dive into Selected Hospitals - New Mexico (continued)

Carlsbad, NM

CBSA	Carlsbad-Artesia, NM	City population	28.4k	Population by RUCA (county level)	Uninsured population by RUCA (county level)
CBSA population	53.8k	City population – Median age	35.8	Other large rural	Large rural core
County	Eddy	City population – Over 65	3.8k	4.4%	4.5k
County population	57.0k	City density	982 / sq mi	95.6%	0.2k
County population without broadband access	0.1k	City median household income	\$62,932		

Carlsbad Medical Center (Community)

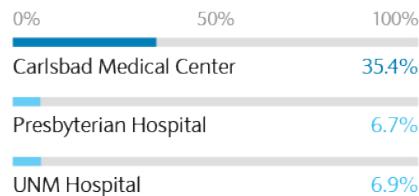
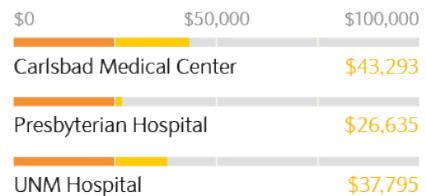
■ Below county average ■ Above county average

Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Unemployment rate	Zip	Zip civilian labor force %	Zip poverty rate
88210	4.0	Large rural core	5.1%	1,277	30.6%	17,217	30.2%	57,491	5.8%	50.4%	12.6%	
88220	4.0	Large rural core	49.1%	2,049	49.1%	33,725	59.2%	63,446	4.6%	52.5%	9.7%	
88221	4.0	Large rural core	48.6%	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	
88256	5.0	Other large rural	47.0%	488	11.7%	1,925	3.4%	37,361	5.8%	44.1%	17.0%	

Distance, Top Two Competitors

~279 miles **~279 miles**

Presbyterian Hospital UNM Hospital

EBITDA Margin**Net Revenue/Discharge**

Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 41. Deep Dive into Selected Hospitals - New Mexico (continued)

Hobbs, NM

CBSA	Hobbs, NM	City population	37.4k	Population by RUCA (county level)	Uninsured population by RUCA (county level)
CBSA population	64.7k	City population – Median age	31.1	Small 5.0% rural core	Large rural core 6.9k
County	Lea	City population – Over 65	3.9k	Isolated rural: 5.6%	Other large rural 0.03k
County population	68.8k	City density	1,980 / sq mi	Large rural core	Small rural core 0.4k
County population without broadband access	0.01k	City median household income	\$57,906		Isolated rural 0.4k

Lea Regional Medical Center (Community)

■ Below county average ■ Above county average

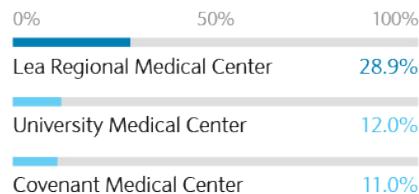
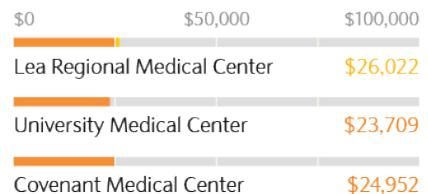
Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Unemployment rate	Zip civilian labor force %	Zip poverty rate
88220	4.0	Large rural core	2.0%	2,049	49.1%	33,725	59.2%	63,446	4.6%	52.5%	9.7%
88240	4.0	Large rural core	44.7%	625	14.2%	37,149	54.0%	57,901	6.0%	47.1%	15.1%
88242	4.0	Large rural core	40.2%	55	1.3%	6,141	8.9%	78,393	3.7%	57.6%	6.1%
88241	4.0	Large rural core	37.0%	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified
88260	4.0	Large rural core	8.5%	756	17.2%	14,343	20.9%	54,293	7.5%	45.3%	10.4%
88231	7.2	Small rural core	26.9%	367	8.4%	3,238	4.7%	65,536	6.1%	43.0%	14.4%
88252	10.0	Isolated rural	8.0%	885	20.1%	2,160	3.1%	53,147	5.1%	46.0%	8.0%

Distance, Top Two Competitors

~233 miles ~110 miles

University
Medical Center

Covenant
Medical Center

EBITDA Margin**Net Revenue/Discharge**

Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 42. Deep Dive into Selected Hospitals - New Mexico (continued)

Las Cruces, NM

CBSA	Las Cruces, NM	City population	101.0k	Population by RUCA (county level)	Uninsured population by RUCA (county level)
CBSA population	209.2k	City population – Median age	32.6	Other 15.4% urban	Urban core 21.0k
County	Doña Ana	City population – Over 65	15.0k	Isolated rural: 0.8%	Other urban 3.9k
County population	215.6k	City density	1,320 / sq mi	Urban core	Isolated rural 0.2k
County population without broadband access	N/A	City median household income	\$40,924		

MountainView Regional Medical Center (Community)

■ Below county average ■ Above county average

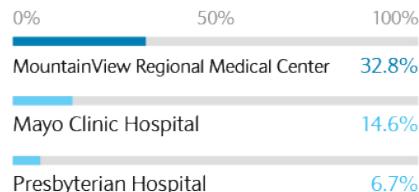
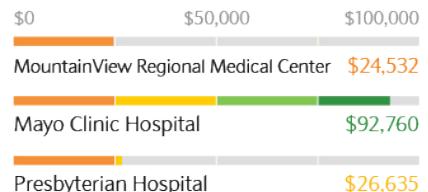
Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Zip unemployment rate	Zip civilian labor force %	Zip poverty rate
88001	1.0	Urban Core	39.3%	11	0.3%	37,484	17.4%	28,372	12.6%	49.5%	28.9%
88005	1.0	Urban Core	39.3%	49	1.3%	27,116	12.6%	44,876	9.1%	49.8%	13.4%
88011	1.0	Urban Core	48.2%	146	3.8%	27,698	12.8%	55,707	6.2%	50.2%	10.8%
88007	1.0	Urban Core	46.6%	372	9.8%	24,048	11.2%	45,415	6.5%	42.3%	16.1%
88012	1.0	Urban Core	46.2%	364	9.6%	25,961	12.0%	46,613	9.1%	48.2%	19.1%
88030	4.0	Large rural core	24.2%	2,576	86.9%	23,222	96.4%	28,208	11.5%	36.9%	27.5%
88021	1.0	Urban Core	11.3%	798	21.0%	18,421	8.5%	31,195	9.0%	46.5%	37.3%
88047	2.1	Other urban	33.5%	7	0.2%	1,967	0.9%	81,250	9.0%	69.1%	3.3%
87901	7.0	Small rural core	31.2%	807	19.3%	7,139	64.2%	28,681	10.3%	33.8%	17.8%
88310	4.0	Large rural core	10.7%	427	6.5%	35,776	54.4%	45,660	7.5%	45.3%	12.3%

Distance, Top Two Competitors

~377 miles ~223 miles

Mayo Clinic Hospital

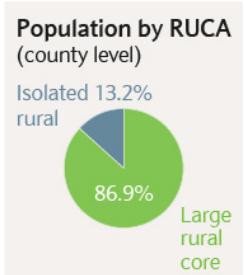
Presbyterian Hospital

EBITDA Margin**Net Revenue/Discharge**

Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 43. Deep Dive into Selected Hospitals- New Mexico (continued)

Roswell, NM

CBSA	Roswell, NM	City population	48.2k	 <p>Population by RUCA (county level)</p> <table border="1"> <tr> <td>Isolated</td><td>13.2%</td> </tr> <tr> <td>rural</td><td></td> </tr> <tr> <td colspan="2">Large rural core</td> </tr> <tr> <td>86.9%</td><td></td> </tr> </table>	Isolated	13.2%	rural		Large rural core		86.9%		Uninsured population by RUCA (county level)
Isolated	13.2%												
rural													
Large rural core													
86.9%													
CBSA population	65.7k	City population – Median age	34.3	Large rural core 6.7k									
County	Chaves	City population – Over 65	7.5k	Isolated rural 1.0k									
County population	64.9k	City density	1,616 / sq mi										
County population without broadband access	0.1k	City median household income	\$42,417										

Eastern New Mexico Medical Center (Community)

■ Below county average ■ Above county average

Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Unemployment rate	Zip civilian labor force %	Zip poverty rate
88203	4.0	Large rural core	55.4%	1,477	24.4%	31,561	48.7%	36,894	9.0%	41.7%	21.3%
88201	4.0	Large rural core	50.6%	2,289	37.7%	25,490	39.3%	48,632	3.2%	46.9%	11.7%
88230	10.2	Isolated rural	51.3%	246	4.1%	5,179	8.0%	38,582	5.2%	39.3%	17.8%
88202	4.0	Large rural core	51.8%	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified
88210	4.0	Large rural core	6.5%	1,277	30.6%	17,217	30.2%	57,491	5.8%	50.4%	12.6%
88232	10.2	Isolated rural	51.4%	187	3.1%	2,525	3.9%	40,875	9.7%	35.6%	16.4%
88220	4.0	Large rural core	2.2%	2,049	49.1%	33,725	59.2%	63,446	4.6%	52.5%	9.7%
88101	4.0	Large rural core	1.3%	532	37.9%	45,006	90.4%	42,052	8.1%	46.6%	19.5%
88130	4.0	Large rural core	1.9%	625	25.5%	18,651	99.0%	35,388	11.2%	43.4%	22.5%
88316	8.0	Other small rural	9.4%	1,069	22.1%	2,351	12.1%	41,188	0.0%	34.1%	12.9%

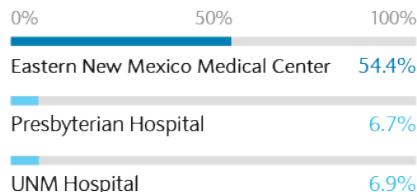
Distance, Top Two Competitors

~199 miles ~198 miles

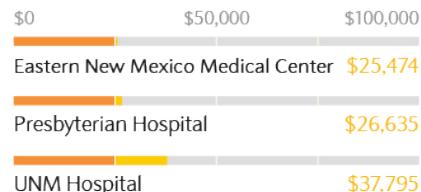
Presbyterian Hospital

UNM Hospital

EBITDA Margin



Net Revenue/Discharge

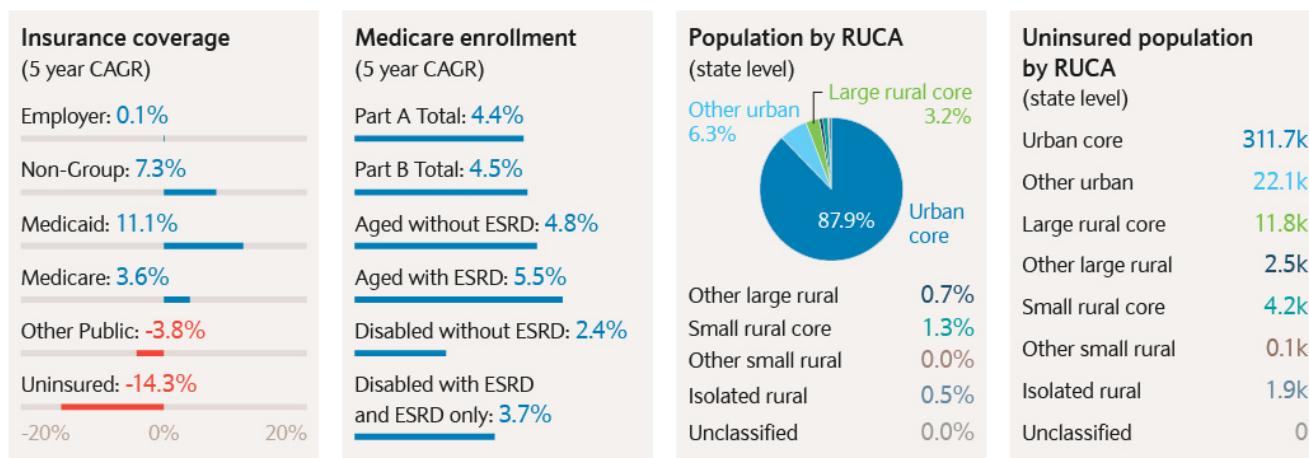


Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 44. Deep Dive into Selected Hospitals - Nevada

Nevada

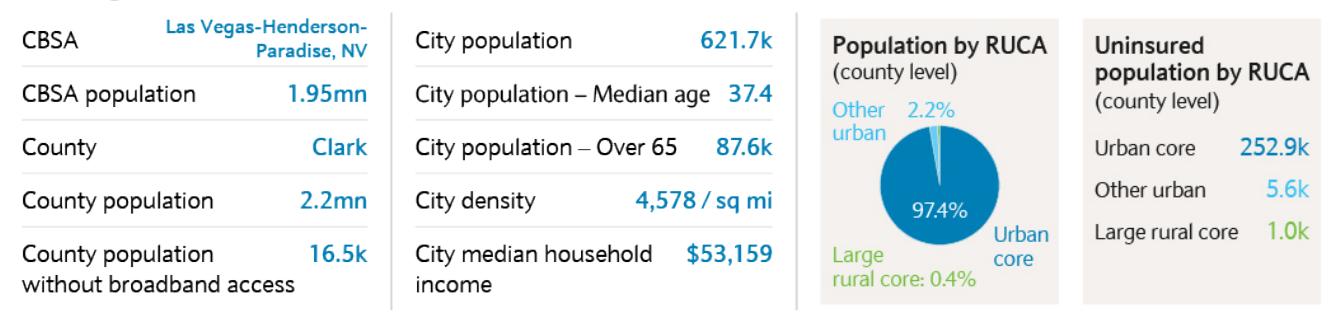
Medicaid expansion	Adopted	Primary Care Physicians per 100,000 population:	108
Population (rank, 50 states)	3.03 mn (32nd)	Median Age	38.0 (US: 37.8)
Population over 65 (% of total)	458.68k (15.1%)	Household Median Income	\$55,434 (US: \$59,039)
Density	28 / sq mi	Household Median Income – Over age 65	\$43,953
Unemployment rate	4.3% (US: 3.6%)	Population Without Broadband Access – Non-Rural Areas	0.6%
Poverty rate	13.1%	Population Without Broadband Access – Rural Area	30.2%



Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 45. Deep Dive into Selected Hospitals - Nevada (continued)

Las Vegas, NV



MountainView Hospital (HCA)

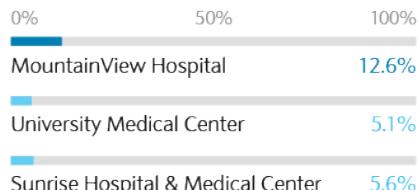
Below county average  Above county average 

Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Zip unemployment rate	Zip civilian labor force %	Zip poverty rate
89108	1.0	Urban Core	45.9%	9	0.1%	70,123	3.2%	44,602	10.8%	54.7%	14.7%
89134	1.0	Urban Core	29.8%	7	0.1%	24,040	1.1%	64,844	7.5%	37.4%	2.2%
89129	1.0	Urban Core	40.0%	10	0.1%	51,252	2.3%	67,866	6.5%	58.9%	6.6%
89031	1.0	Urban Core	30.8%	10	0.1%	60,589	2.7%	63,004	9.4%	56.3%	7.3%
89128	1.0	Urban Core	40.0%	6	0.1%	35,669	1.6%	55,840	8.0%	54.8%	10.6%
89032	1.0	Urban Core	33.7%	10	0.1%	40,297	1.8%	56,978	8.2%	54.8%	11.0%
89130	1.0	Urban Core	36.0%	8	0.1%	33,015	1.5%	65,485	8.8%	55.9%	6.6%
89107	1.0	Urban Core	21.3%	5	0.1%	36,282	1.6%	41,333	10.0%	49.5%	16.7%
89145	1.0	Urban Core	25.6%	5	0.1%	23,186	1.1%	56,424	7.4%	56.4%	9.1%
89149	1.0	Urban Core	24.5%	12	0.2%	31,143	1.4%	68,538	7.6%	63.0%	4.2%

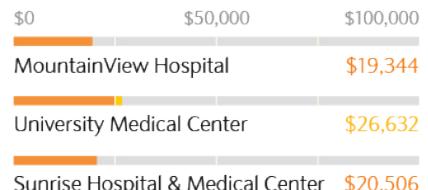
Distance, Top Two Competitors

~8 miles University Medical Center
~13 miles Sunrise Hospital & Medical Center

EBITDA Margin



Net Revenue/Discharge



Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 46. Deep Dive into Selected Hospitals- Nevada (continued)**Southern Hills Hospital & Medical Center (HCA)**

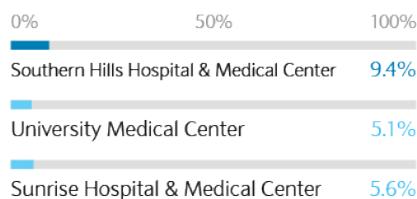
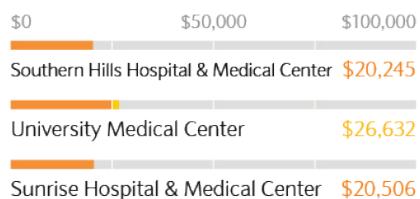
 Below county average Above county average

Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Unemployment rate	Zip civilian labor force %	Zip poverty rate
89134	1.0	Urban Core	3.7%	7	0.1%	24,040	1.1%	64,844	7.5%	37.4%	2.2%
89147	1.0	Urban Core	25.0%	7	0.1%	49,778	2.3%	52,796	7.4%	59.8%	9.0%
89148	1.0	Urban Core	36.5%	12	0.2%	39,712	1.8%	67,477	3.3%	68.3%	7.2%
89117	1.0	Urban Core	14.4%	9	0.1%	55,416	2.5%	54,216	6.5%	53.3%	11.6%
89135	1.0	Urban Core	22.8%	46	0.6%	24,144	1.1%	84,397	5.3%	52.7%	4.5%
89113	1.0	Urban Core	18.7%	11	0.1%	23,800	1.1%	65,337	3.6%	69.2%	6.6%
89103	1.0	Urban Core	7.5%	7	0.1%	50,519	2.3%	39,770	8.2%	58.0%	12.7%
89178	1.0	Urban Core	19.6%	19	0.2%	27,588	1.3%	79,846	4.2%	75.3%	3.5%
89048	4.1	Other urban	5.9%	77	0.4%	21,169	47.9%	41,726	13.8%	38.1%	13.6%
89139	1.0	Urban Core	10.6%	11	0.1%	30,477	1.4%	73,375	4.4%	71.6%	5.4%

Distance, Top Two Competitors

~16 miles **~14 miles**

University Medical Center	Sunrise Hospital & Medical Center
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EBITDA Margin**Net Revenue/Discharge****Sunrise Hospital & Medical Center (HCA)**

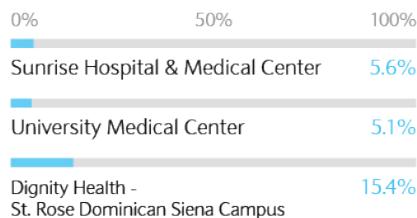
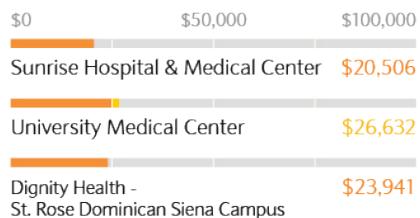
 Below county average Above county average

Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Unemployment rate	Zip civilian labor force %	Zip poverty rate
89121	1.0	Urban Core	26.8%	9	0.1%	64,096	2.9%	39,173	13.2%	52.0%	15.1%
89104	1.0	Urban Core	30.3%	6	0.1%	39,909	1.8%	34,792	10.5%	48.2%	17.8%
89110	1.0	Urban Core	27.7%	11	0.1%	70,994	3.2%	44,947	9.8%	50.1%	19.1%
89101	1.0	Urban Core	27.5%	5	0.1%	46,055	2.1%	24,023	12.5%	37.8%	27.1%
89119	1.0	Urban Core	21.9%	13	0.2%	49,445	2.2%	32,879	9.9%	58.8%	20.9%
89122	1.0	Urban Core	17.5%	9	0.1%	45,720	2.1%	46,560	10.4%	57.2%	13.2%
89169	1.0	Urban Core	40.6%	3	0.0%	23,304	1.1%	30,960	11.4%	50.3%	26.8%
89142	1.0	Urban Core	27.5%	5	0.1%	33,731	1.5%	48,978	10.0%	56.0%	13.1%
89030	1.0	Urban Core	10.5%	9	0.1%	53,928	2.4%	32,533	11.8%	37.9%	28.8%
89115	1.0	Urban Core	12.9%	25	0.3%	58,794	2.7%	35,395	13.3%	44.9%	25.3%

Distance, Top Two Competitors

~3 miles **~11 miles**

University Medical Center	Dignity Health - St. Rose Dominican Siena Campus
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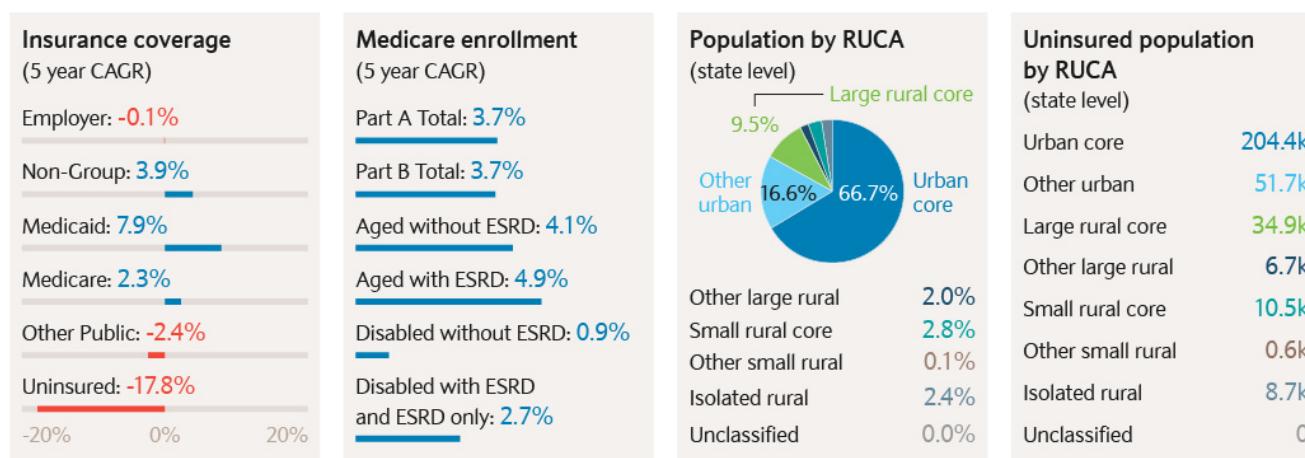
EBITDA Margin**Net Revenue/Discharge**

Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 47. Deep Dive into Selected Hospitals - Oregon

Oregon

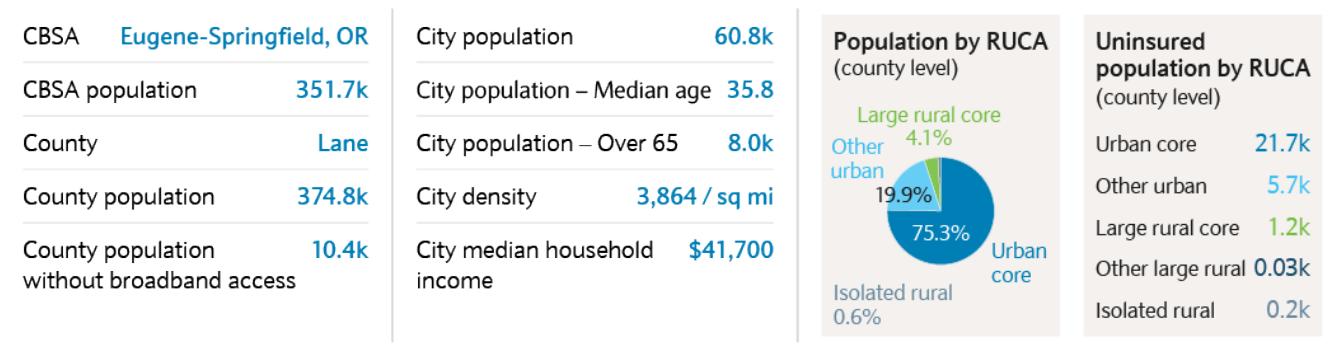
Medicaid expansion	Adopted	Primary Care Physicians per 100,000 population:	145
Population (rank, 50 states)	4.19mn (27th)	Median Age	39.3 (US: 37.8)
Population over 65 (% of total)	708.87k (16.9%)	Household Median Income	\$56,119 (US: \$59,039)
Density	44 / sq mi	Household Median Income – Over age 65	\$42,587
Unemployment rate	4.4% (US: 3.6%)	Population Without Broadband Access – Non-Rural Areas	0.2%
Poverty rate	7.1%	Population Without Broadband Access – Rural Area	17.3%



Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 48. Deep Dive into Selected Hospitals - Oregon (continued)

Springfield, OR



McKenzie-Willamette Medical Center (Quorum)

Below county average Above county average

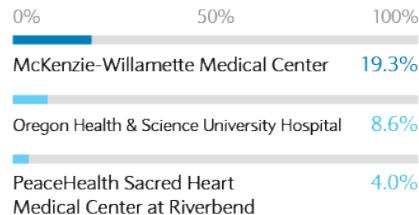
Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Zip unemployment rate	Zip civilian labor force %	Zip poverty rate
97478	1.0	Urban Core	40.5%	163	3.6%	37,011	9.9%	52,379	8.5%	52.9%	11.1%
97477	1.0	Urban Core	34.2%	12	0.3%	36,874	9.8%	40,322	8.8%	54.0%	16.3%
97402	1.0	Urban Core	14.8%	69	1.5%	50,342	13.4%	43,432	7.4%	55.2%	12.3%
97401	1.0	Urban Core	17.0%	9	0.2%	40,521	10.8%	34,377	6.7%	54.3%	10.1%
97405	1.0	Urban Core	15.4%	152	3.3%	44,645	11.9%	64,136	6.8%	54.4%	6.0%
97404	1.0	Urban Core	15.3%	10	0.2%	32,255	8.6%	57,695	6.6%	52.0%	11.2%
97448	2.0	Other urban	19.9%	143	3.1%	12,244	3.3%	50,934	7.6%	50.1%	8.5%
97424	2.0	Other urban	10.1%	230	5.1%	17,594	4.7%	41,350	8.6%	43.5%	12.0%
97408	1.0	Urban Core	16.2%	50	1.1%	11,711	3.1%	61,064	9.2%	54.6%	8.5%
97463	7.1	Other urban	34.4%	43	0.9%	3,877	1.0%	38,278	13.2%	41.7%	16.7%

Distance, Top Two Competitors

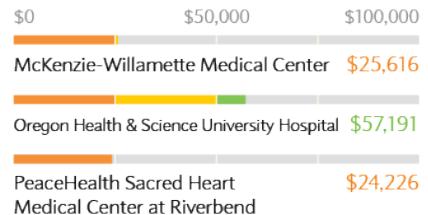
~110 miles ~3 miles

Oregon Health & Science University Hospital PeaceHealth Sacred Heart Medical Center at Riverbend

EBITDA Margin



Net Revenue/Discharge

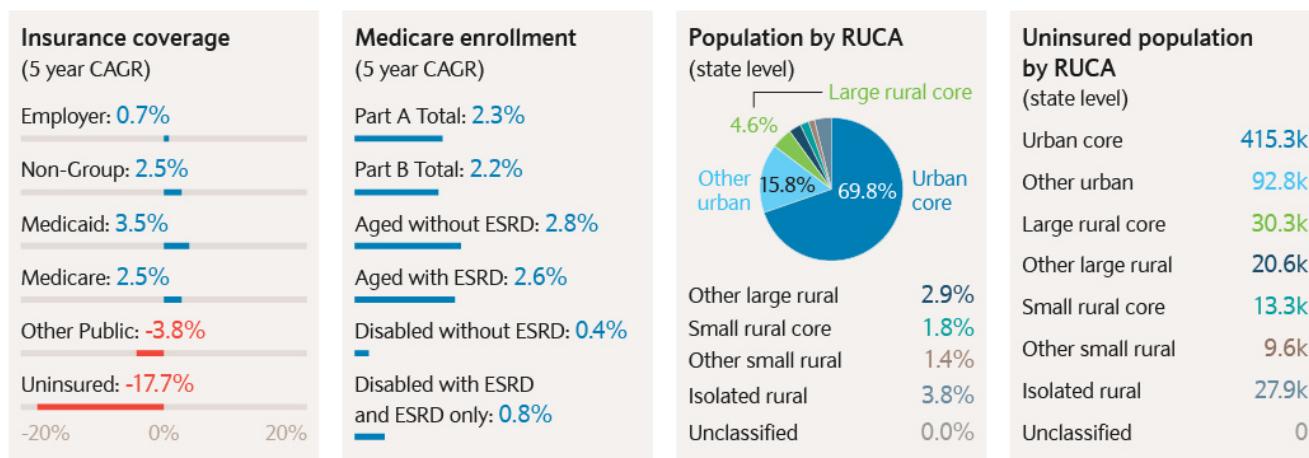


Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 49. Deep Dive into Selected Hospitals - Michigan

Michigan

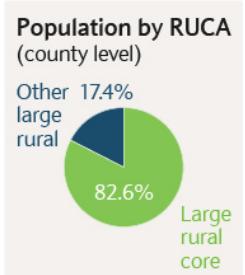
Medicaid expansion	Adopted	Primary Care Physicians per 100,000 population:	201
Population (rank, 50 states)	10.00mn (10th)	Median Age	39.8 (US: 37.8)
Population over 65 (% of total)	1.67mn (16.7%)	Household Median Income	\$52,668 (US: \$59,039)
Density	177 / sq mi	Household Median Income – Over age 65	\$40,784
Unemployment rate	4.0% (US: 3.6%)	Population Without Broadband Access – Non-Rural Areas	0.8%
Poverty rate	27.6%	Population Without Broadband Access – Rural Area	22.4%



Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 50. Deep Dive into Selected Hospitals - Michigan (continued)

Marquette, MI

CBSA	Marquette, MI	City population	20.1	 <p>Population by RUCA (county level) Other 17.4% Large rural core 82.6%</p>	Uninsured population by RUCA (county level)
CBSA population	67.1k	City population – Median age	39.1		Large rural core 3.2k
County	Marquette	City population – Over 65	3.5		Other large rural 0.7k
County population	66.5k	City density	1,819 / sq mi		
County population without broadband access	5.4k	City median household income	\$53,750		

UP Health System - Marquette (LifePoint)

■ Below county average ■ Above county average

Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Zip unemployment rate	Zip civilian labor force %	Zip poverty rate
49855	4.0	Large rural core	85.7%	201	11.1%	33,561	50.5%	46,887	5.9%	50.2%	7.8%
49849	4.0	Large rural core	61.7%	284	15.7%	12,242	18.4%	48,381	5.2%	43.2%	9.8%
49841	5.0	Other large rural	80.1%	192	10.6%	7,016	10.6%	45,221	10.1%	44.7%	15.0%
49829	4.0	Large rural core	32.6%	65	5.6%	17,347	48.2%	36,880	6.4%	45.7%	14.1%
49866	4.0	Large rural core	63.5%	146	8.0%	8,034	12.1%	55,077	5.4%	47.1%	6.2%
49837	4.0	Large rural core	37.1%	69	5.9%	9,795	27.2%	55,014	5.9%	47.6%	6.4%
49862	7.2	Small rural core	73.1%	164	17.9%	5,025	55.1%	40,741	6.6%	37.5%	8.5%
49854	8.0	Other small rural	46.5%	518	44.2%	6,469	80.4%	36,500	14.2%	36.8%	17.5%
49878	5.0	Other large rural	44.4%	467	39.9%	3,583	10.0%	48,370	9.5%	39.2%	9.1%
49946	10.0	Isolated rural	42.9%	272	30.2%	4,040	47.9%	42,380	4.9%	38.1%	8.8%

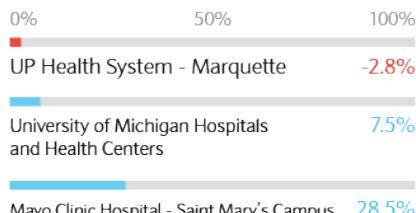
Distance, Top Two Competitors

~440 miles ~409 miles

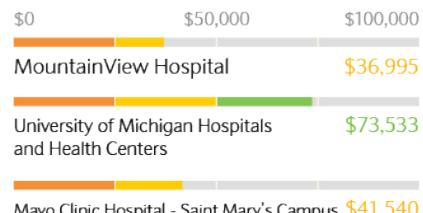
University of Michigan Hospitals and Health Centers

Mayo Clinic Hospital - Saint Mary's Campus

EBITDA Margin



Net Revenue/Discharge

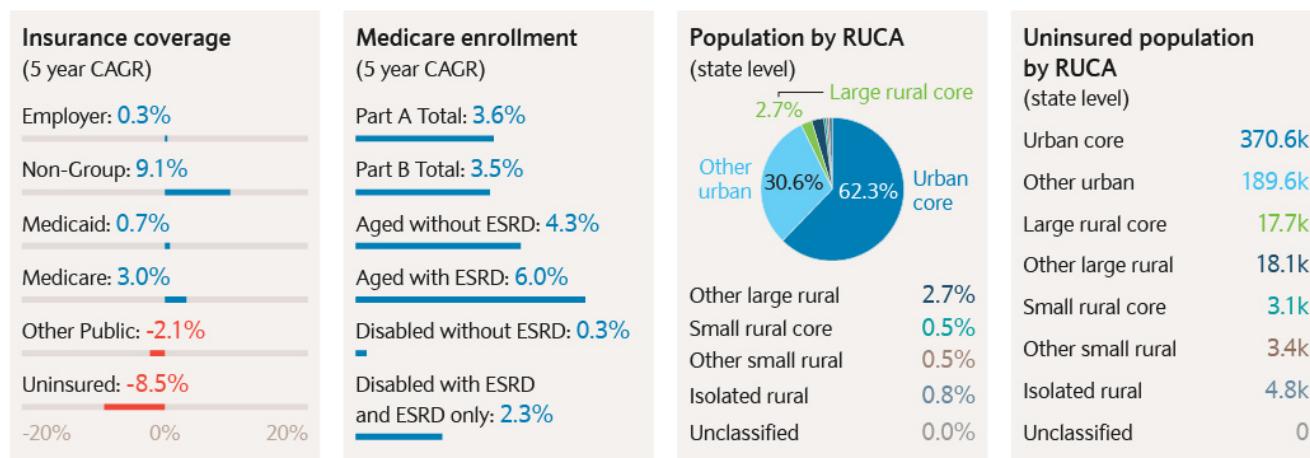


Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 51. Deep Dive into Selected Hospitals - South Carolina

South Carolina

Medicaid expansion	Not adopted	Primary Care Physicians per 100,000 population:	129
Population (rank, 50 states)	5.08mn (23rd)	Median Age	39.4 (US: 37.8)
Population over 65 (% of total)	865.82k (17.0%)	Household Median Income	\$48,781 (US: \$59,039)
Density	169 / sq mi	Household Median Income – Over age 65	\$39,325
Unemployment rate	3.2% (US: 3.6%)	Population Without Broadband Access – Non-Rural Areas	4.9%
Poverty rate	13.8%	Population Without Broadband Access – Rural Area	25.1%



Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 52. Deep Dive into Selected Hospitals- South Carolina (continued)

Columbia, SC

CBSA	Columbia, IN	City population	132.2k	Population by RUCA (county level)	Uninsured population by RUCA (county level)
CBSA population	767.6k	City population – Median age	28.3	Other urban 5.7%	Urban core 38.9k
County	Richland	City population – Over 65	12.8k	Urban core 94.3%	Other urban 2.4k
County population	411.6k	City density	1,000 / sq mi		
County population without broadband access	45.5k	City median household income	\$43,650		

Providence Health (LifePoint)

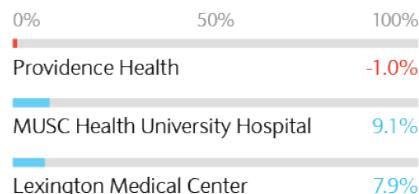
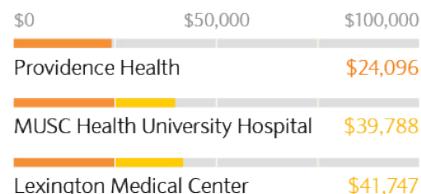
Below county average Above county average

Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Unemployment rate	Zip	Zip civilian labor force %	Zip poverty rate
29223	1.0	Urban Core	30.1%	26	3.4%	50,141	12.2%	51,151	6.6%	54.2%	12.8%	
29203	1.0	Urban Core	18.8%	63	8.4%	39,843	9.7%	30,514	15.8%	48.3%	29.8%	
29204	1.0	Urban Core	29.3%	6	0.9%	19,952	4.8%	38,422	11.4%	46.4%	17.2%	
29229	1.0	Urban Core	25.7%	21	2.7%	44,229	10.7%	70,887	6.7%	55.0%	6.0%	
29209	1.0	Urban Core	20.5%	52	6.8%	33,324	8.1%	51,149	7.7%	52.4%	9.7%	
29206	1.0	Urban Core	31.0%	9	1.1%	17,788	4.3%	74,493	4.2%	51.1%	5.8%	
29016	1.0	Urban Core	33.2%	86	11.4%	16,393	4.0%	80,925	6.5%	68.9%	6.0%	
29045	1.0	Urban Core	20.0%	70	9.6%	21,871	33.6%	63,737	4.9%	55.9%	7.5%	
29205	1.0	Urban Core	23.5%	7	0.9%	24,822	6.0%	47,588	4.9%	58.5%	16.9%	
29061	2.0	Other urban	24.2%	89	11.8%	13,717	3.3%	55,490	5.7%	56.7%	13.7%	

Distance, Top Two Competitors

~120 miles **~6 miles**

MUSC Health University Hospital	Lexington Medical Center
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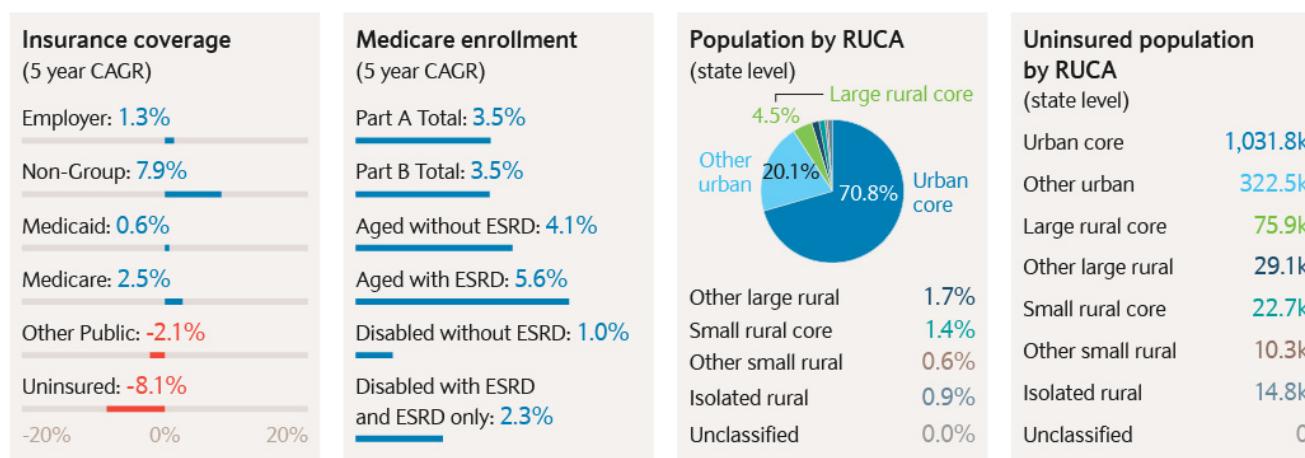
EBITDA Margin**Net Revenue/Discharge**

Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 53. Deep Dive into Selected Hospitals - Georgia

Georgia

Medicaid expansion	Not adopted	Primary Care Physicians per 100,000 population:	122
Population (rank, 50 states)	10.52mn (8th)	Median Age	36.8 (US: 37.8)
Population over 65 (% of total)	1.40mn (13.3%)	Household Median Income	\$52,977 (US: \$59,039)
Density	183 / sq mi	Household Median Income – Over age 65	\$39,938
Unemployment rate	3.9% (US: 3.6%)	Population Without Broadband Access – Non-Rural Areas	1.3%
Poverty rate	18.5%	Population Without Broadband Access – Rural Area	9.9%



Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 54. Deep Dive into Selected Hospitals - Georgia (continued)

Columbus, GA

CBSA	Columbus, GA-AL	City population	198.7k	Population by RUCA (county level)	Uninsured population by RUCA (county level)
CBSA population	294.9k	City population – Median age	33.7	Other urban 3.2%	Urban core 27.0k
County	Muscogee	City population – Over 65	24.3k		Other urban 0.9k
County population	194.1k	City density	919 / sq mi		
County population without broadband access	3.2k	City median household income	\$43,239	Urban core 96.8%	

Saint Francis Hospital (LifePoint)

Below county average Above county average

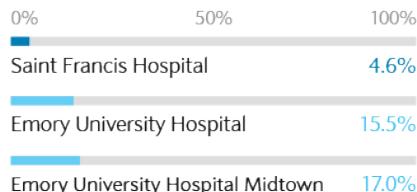
Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Zip unemployment rate	Zip civilian labor force %	Zip poverty rate
31907	1.0	Urban Core	47.8%	23	10.6%	55,332	28.5%	40,370	9.5%	46.2%	16.7%
31904	1.0	Urban Core	47.7%	29	13.3%	32,871	16.9%	46,730	10.3%	47.3%	17.2%
31909	1.0	Urban Core	53.0%	18	8.4%	35,177	18.1%	57,915	6.3%	52.6%	8.9%
31906	1.0	Urban Core	44.1%	7	3.2%	21,757	11.2%	30,322	13.2%	43.9%	26.5%
36869	1.0	Urban Core	43.4%	75	11.7%	18,751	32.9%	34,656	11.9%	47.8%	18.2%
31903	1.0	Urban Core	38.7%	10	4.6%	20,128	10.4%	23,145	16.6%	40.3%	36.9%
36867	1.0	Urban Core	39.3%	13	2.0%	22,210	38.9%	41,925	7.7%	52.0%	15.7%
36870	1.0	Urban Core	39.2%	24	4.0%	18,783	11.6%	56,680	8.8%	51.7%	7.9%
36877	1.0	Urban Core	34.5%	41	6.8%	11,414	7.1%	50,770	7.0%	54.2%	11.0%
31808	2.0	Other urban	46.7%	52	24.0%	6,679	3.4%	87,770	3.6%	57.1%	6.9%

Distance, Top Two Competitors

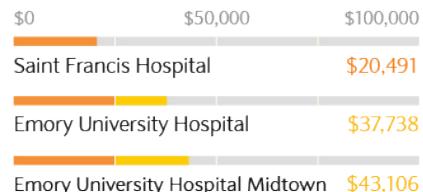
~108 miles ~105 miles

Emory University Hospital Emory University Hospital Midtown

EBITDA Margin



Net Revenue/Discharge

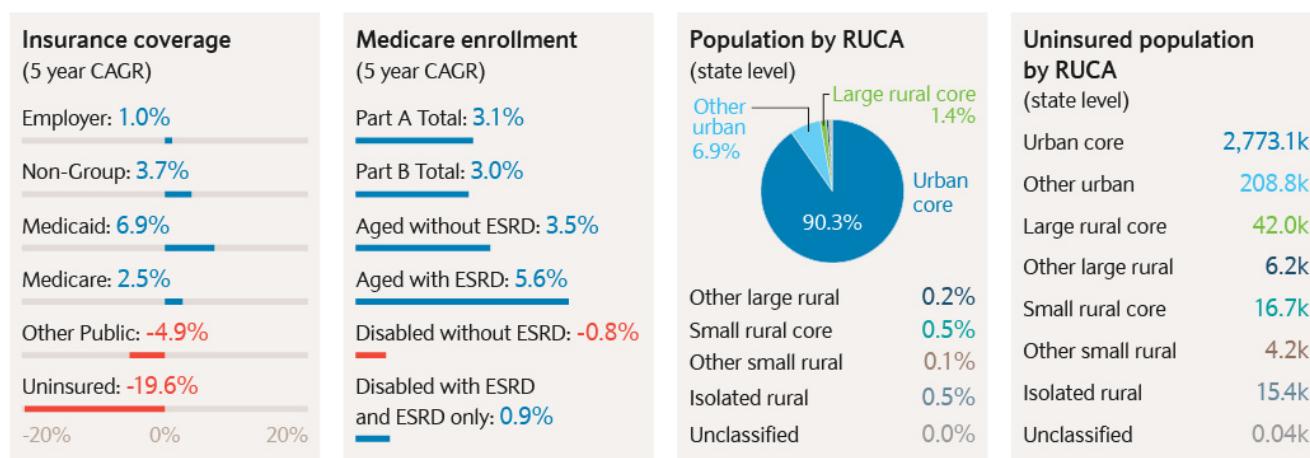


Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 55. Deep Dive into Selected Hospitals - California

California

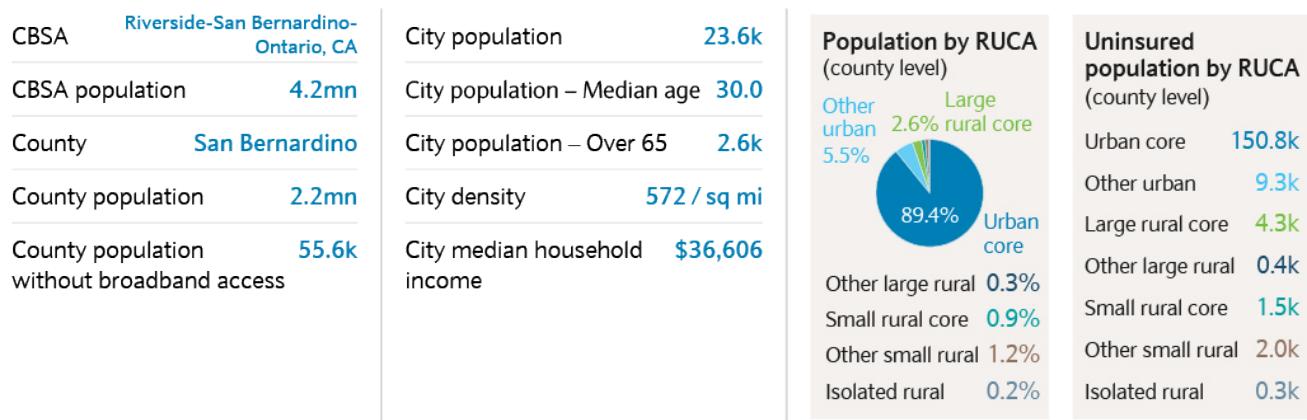
Medicaid expansion	Adopted	Primary Care Physicians per 100,000 population:	138
Population (rank, 50 states)	39.56mn (1st)	Median Age	36.5 (US: 37.8)
Population over 65 (% of total)	5.50mn (13.9%)	Household Median Income	\$67,169 (US: \$59,039)
Density	254 / sq mi	Household Median Income – Over age 65	\$49,126
Unemployment rate	4.2% (US: 3.6%)	Population Without Broadband Access – Non-Rural Areas	1.6%
Poverty rate	15.5%	Population Without Broadband Access – Rural Area	35.2%



Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 56. Deep Dive into Selected Hospitals - California (continued)

Barstow, CA



Barstow Community Hospital (Quorum)

Below county average Above county average

Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Median unemployment rate	Zip	Zip civilian labor force %	Zip poverty rate
92311	4.0	Large rural core	44.2%	248	1.2%	31,894	1.5%	41,757	12.3%	42.8%	27.8%	
92365	6.0	Other large rural	57.6%	173	0.9%	2,637	0.1%	54,630	16.3%	33.0%	12.7%	
92312	4.0	Large rural core	42.2%	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	
92398	6.0	Other large rural	32.5%	28	0.1%	1,379	0.1%	61,055	12.8%	61.6%	19.4%	
92342	2.0	Other urban	5.9%	105	0.5%	6,379	0.3%	72,872	11.0%	41.2%	9.3%	
92327	2.0	Other urban	41.9%	28	0.1%	632	0.0%	35,905	0.0%	33.7%	38.2%	
92347	4.0	Large rural core	44.4%	147	0.7%	1,692	0.1%	43,750	4.4%	16.0%	6.6%	

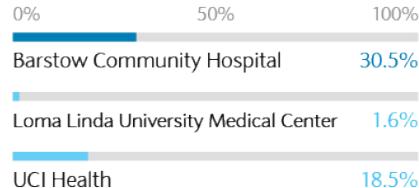
Distance, Top Two Competitors

~76 miles ~110 miles

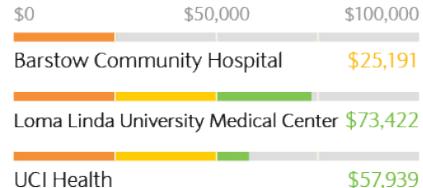
Loma Linda University Medical Center

UCI Health

EBITDA Margin



Net Revenue/Discharge

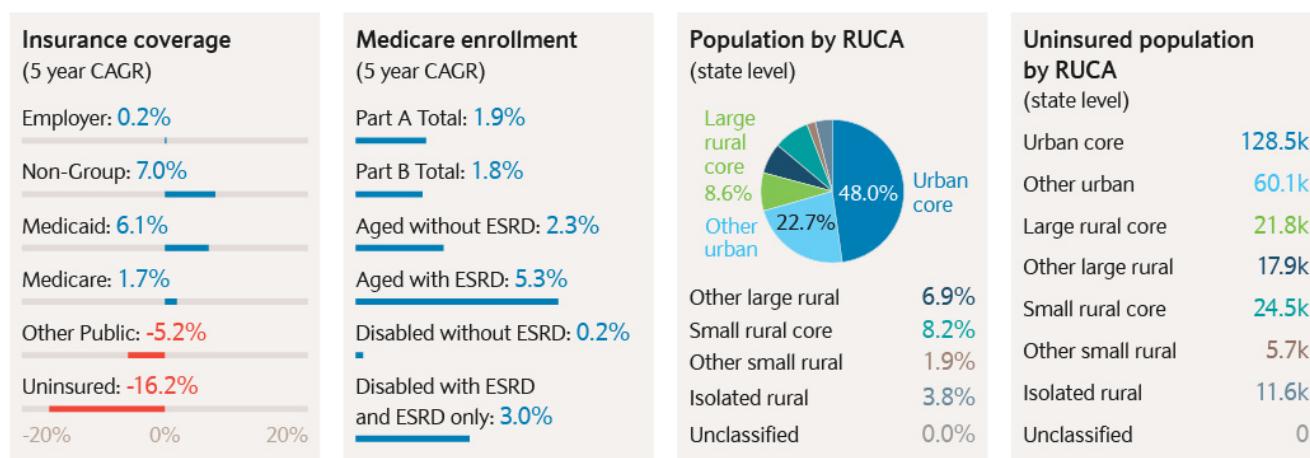


Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 57. Deep Dive into Selected Hospitals - Arkansas

Arkansas

Medicaid expansion	Adopted	Primary Care Physicians per 100,000 population:	121
Population (rank, 50 states)	3.01mn (33th)	Median Age	38.1 (US: 37.8)
Population over 65 (% of total)	497.02k (16.5%)	Household Median Income	\$43,813 (US: \$59,039)
Density	58 / sq mi	Household Median Income – Over age 65	\$34,467
Unemployment rate	3.8% (US: 3.6%)	Population Without Broadband Access – Non-Rural Areas	1.8%
Poverty rate	19.1%	Population Without Broadband Access – Rural Area	28.8%



Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 58. Deep Dive into Selected Hospitals - Arkansas (continued)

Forrest City, AR

CBSA	Forrest City, AR	City population	14.7k	Population by RUCA (county level)	Uninsured population by RUCA (county level)
CBSA population	28.3k	City population – Median age	35.0	Isolated rural 8.5%	Other urban 2.3k
County	Saint Francis	City population – Over 65	1.6k		Isolated rural 0.2k
County population	25.9k	City density	896 / sq mi		
County population without broadband access	N/A	City median household income	\$30,845		

Forrest City Medical Center (Quorum)

■ Below county average ■ Above county average

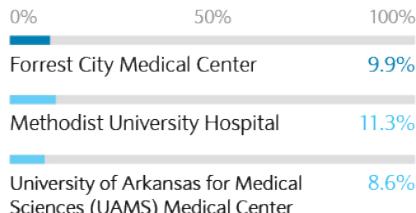
Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Zip unemployment rate	Zip civilian labor force %	Zip poverty rate
72335	4.1	Other urban	19.8%	159	25.1%	20,121	77.6%	34,713	10.3%	32.8%	21.1%
72360	7.0	Small rural core	13.4%	324	53.8%	6,466	70.5%	25,647	15.9%	39.2%	22.5%
72372	10.2	Isolated rural	16.8%	126	19.9%	1,945	7.5%	41,037	8.9%	47.8%	11.9%
72301	1.0	Urban Core	1.8%	19	3.1%	26,069	53.5%	30,182	10.4%	39.2%	25.2%
72336	4.1	Other urban	16.4%	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified
72396	7.2	Small rural core	2.4%	268	43.4%	13,734	81.4%	43,941	7.1%	44.2%	14.0%
72326	5.1	Other urban	12.1%	83	13.1%	2,267	8.7%	33,485	7.4%	27.0%	23.5%
72021	7.1	Other urban	5.6%	181	29.8%	4,348	61.4%	31,926	10.4%	40.1%	19.6%
72368	5.0	Other large rural	13.4%	142	23.5%	1,228	13.4%	39,550	3.1%	34.7%	2.0%

Distance, Top Two Competitors

~47 miles ~96 miles

Methodist University Hospital University of Arkansas for Medical Sciences (UAMS) Medical Center

EBITDA Margin



Net Revenue/Discharge

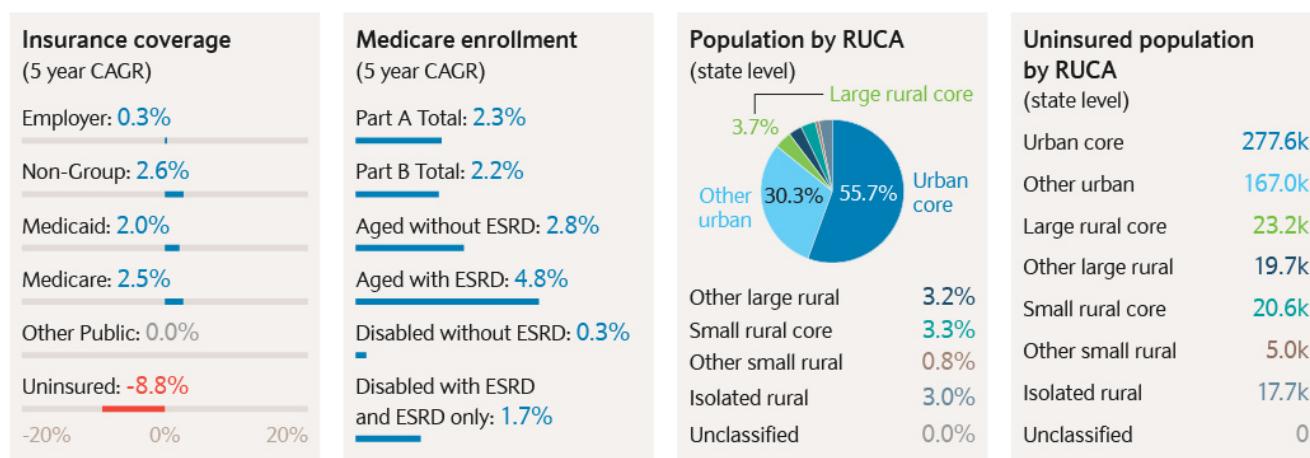


Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 59. Deep Dive into Selected Hospitals - Alabama

Alabama

Medicaid expansion	Not adopted	Primary Care Physicians per 100,000 population:	123
Population (rank, 50 states)	4.89mn (24th)	Median Age	38.9 (US: 37.8)
Population over 65 (% of total)	803.22k (16.4%)	Household Median Income	\$46,472 (US: \$59,039)
Density	97 / sq mi	Household Median Income – Over age 65	\$36,595
Unemployment rate	3.7% (US: 3.6%)	Population Without Broadband Access – Non-Rural Areas	1.6%
Poverty rate	16.8%	Population Without Broadband Access – Rural Area	25.5%



Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 60. Deep Dive into Selected Hospitals - Alabama (continued)

Florence, AL

CBSA Florence-Muscle Shoals, AL	City population	39.8k	Population by RUCA (county level)	Uninsured population by RUCA (county level)
CBSA population	147.1k	City population – Median age	37.1	Urban core 5.3k Other urban 5.3k
County Lauderdale	92.5k	City population – Over 65	7.3k	
County population without broadband access	20.4k	City density	1,526 / sq mi	
		City median household income	\$37,843	

North Alabama Medical Center (LifePoint)

Below county average Above county average

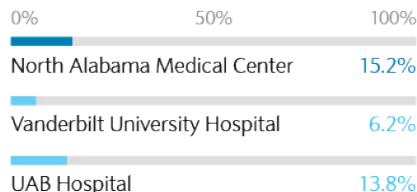
Zip code	RUCA code	RUCA classification	Market share	Land area (sq mile)	Land area - % of county	Population in zip code	Population in zip code - % of county population	Median income in zip code	Zip unemployment rate	Zip civilian labor force %	Zip poverty rate
35630	1.0	Urban Core	66.0%	25	3.8%	32,629	35.3%	32,702	7.0%	47.0%	19.5%
35633	2.0	Other urban	68.8%	209	31.3%	20,877	22.6%	53,401	6.1%	47.6%	7.9%
35634	2.0	Other urban	69.2%	62	9.2%	9,711	10.5%	65,731	6.6%	47.0%	9.8%
35645	1.0	Urban Core	67.2%	86	12.9%	14,060	15.2%	57,748	5.3%	45.3%	4.2%
35674	1.0	Urban Core	18.9%	190	32.0%	18,475	33.9%	49,532	7.3%	44.0%	12.9%
35661	1.0	Urban Core	24.9%	56	9.4%	16,617	30.5%	52,331	5.7%	48.9%	7.9%
35652	3.0	Other urban	47.5%	84	12.6%	8,190	8.9%	46,804	6.2%	45.2%	8.3%
35565	7.0	Small rural core	13.7%	278	45.3%	13,485	56.8%	31,781	8.0%	39.5%	17.0%
35653	2.0	Other urban	21.3%	143	22.6%	11,150	35.4%	41,868	7.6%	42.3%	24.4%
35660	1.0	Urban Core	22.0%	6	1.1%	9,042	16.6%	33,463	6.9%	40.7%	21.4%

Distance, Top Two Competitors

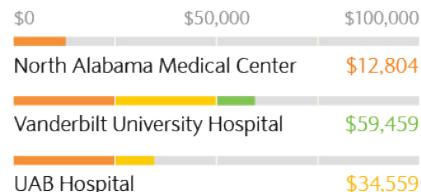
~120 miles ~117 miles

Vanderbilt University Hospital UAB Hospital

EBITDA Margin



Net Revenue/Discharge



Source: AHD.com, KFF, FCC, The USDA, census.gov, zip-codes.com, incomebyzipcode.com, Rural Health Research Center, Barclays Research

FIGURE 61. Hospital Group CMI

Hospital Group	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Community	1.3948	1.4178	1.4292	1.4704	1.5025
Lifepoint	1.3332	1.3537	1.3552	1.3954	1.4091
Quorum	1.2261	1.2185	1.2133	1.2441	1.2758
HCA	1.5418	1.5552	1.5440	1.5781	1.6030
Universal Health	1.4944	1.5320	1.5436	1.6035	1.5897
Tenet	1.5380	1.5481	1.5297	1.5888	1.5821

Source: AHD.com, Barclays Research

FIGURE 62. Hospital Group Discharge

Hospital Group	Medicare	Medicaid	Other
Universal Health	31.11%	7.61%	61.28%
Tenet	27.36%	5.11%	67.53%
Quorum	37.54%	24.22%	38.24%
Lifepoint	41.27%	12.02%	46.71%
HCA	33.50%	6.18%	60.32%
Community	36.03%	17.47%	46.50%

Source: AHD.com, Barclays Research

FIGURE 63. Deep Dive and Selected Hospital Statistics

Hospital Group	Hospital Name	RUCA Classification	Discharge		Days of Care		Charges	
			Percent of Hospital	Percent of Group	Percent of Hospital	Percent of Group	Percent of Hospital	Percent of Group
Community	Bluffton Regional Medical Center	Other urban	65%	0%	65%	0%	64%	0%
		Small rural core	5%	0%	5%	0%	5%	0%
		Other small rural	4%	0%	4%	0%	4%	0%
		Isolated rural	10%	0%	10%	0%	10%	0%
		All other ZIP Codes	17%	0%	16%	0%	17%	0%
	Bluffton Regional Medical Center Total		100%	0%	100%	0%	100%	0%
	Carlsbad Medical Center	Large rural core	89%	0%	89%	0%	89%	0%
		Other large rural	4%	0%	4%	0%	4%	0%
		All other ZIP Codes	7%	0%	7%	0%	7%	0%
	Carlsbad Medical Center Total		100%	0%	100%	0%	100%	0%
	Dukes Memorial Hospital	Large rural core	2%	0%	2%	0%	3%	0%
		Other urban	81%	0%	81%	0%	78%	0%
		Other large rural	4%	0%	5%	0%	4%	0%
		Other small rural	2%	0%	2%	0%	2%	0%
		Isolated rural	2%	0%	2%	0%	2%	0%
		All other ZIP Codes	9%	0%	9%	0%	12%	0%
	Dukes Memorial Hospital Total		100%	0%	100%	0%	100%	0%
	Dupont Hospital	Urban Core	55%	0%	56%	0%	52%	0%
		Large rural core	3%	0%	3%	0%	3%	0%
		All other ZIP Codes	41%	0%	41%	0%	44%	0%
	Dupont Hospital Total		100%	0%	100%	0%	100%	0%
	Eastern New Mexico Medical Center	Large rural core	82%	1%	79%	0%	81%	0%
		Other small rural	1%	0%	1%	0%	1%	0%
		Isolated rural	8%	0%	7%	0%	8%	0%
		All other ZIP Codes	10%	0%	13%	0%	10%	0%
	Eastern New Mexico Medical Center Total		100%	1%	100%	1%	100%	1%
	Kosciusko Community Hospital	Large rural core	52%	0%	55%	0%	52%	0%
		Other urban	8%	0%	7%	0%	8%	0%
		Other large rural	16%	0%	15%	0%	15%	0%
		Small rural core	3%	0%	3%	0%	3%	0%
		All other ZIP Codes	21%	0%	20%	0%	21%	0%
	Kosciusko Community Hospital Total		100%	1%	100%	0%	100%	0%
	Lea Regional Medical Center	Large rural core	86%	0%	86%	0%	88%	0%
		Small rural core	3%	0%	3%	0%	3%	0%
		Isolated rural	1%	0%	1%	0%	1%	0%

Hospital Group	Hospital Name	RUCA Classification	Discharge		Days of Care		Charges	
			Percent of Hospital	Percent of Group	Percent of Hospital	Percent of Group	Percent of Hospital	Percent of Group
Lea Regional Medical Center Total	Lutheran Hospital	All other ZIP Codes	10%	0%	11%	0%	8%	0%
		Urban Core	24%	1%	23%	1%	20%	1%
		Other urban	12%	0%	12%	0%	13%	0%
		All other ZIP Codes	65%	2%	65%	2%	67%	3%
Lutheran Hospital Total			100%	3%	100%	4%	100%	4%
MountainView Regional Medical Center Total	MountainView Regional Medical Center	Urban Core	59%	1%	58%	1%	53%	1%
		Large rural core	10%	0%	11%	0%	13%	0%
		Other urban	2%	0%	2%	0%	1%	0%
		Small rural core	4%	0%	4%	0%	4%	0%
		All other ZIP Codes	26%	0%	26%	1%	28%	0%
MountainView Regional Medical Center Total			100%	2%	100%	2%	100%	2%
Rehabilitation Hospital of Fort Wayne Total	Rehabilitation Hospital of Fort Wayne	Urban Core	12%	0%	12%	0%	11%	0%
		Other urban	8%	0%	9%	0%	9%	0%
		All other ZIP Codes	80%	0%	79%	0%	80%	0%
			100%	0%	100%	0%	100%	0%
Saint Joseph Hospital Total	Saint Joseph Hospital	Urban Core	54%	0%	45%	0%	52%	0%
		All other ZIP Codes	46%	0%	55%	1%	48%	0%
			100%	1%	100%	1%	100%	1%
HCA	Angel Medical Center	Other small rural	81%	0%	81%	0%	76%	0%
		Isolated rural	3%	0%	3%	0%	5%	0%
		All other ZIP Codes	16%	0%	16%	0%	19%	0%
	Angel Medical Center Total		100%	0%	100%	0%	100%	0%
	Blue Ridge Regional Hospital	Other urban	40%	0%	40%	0%	40%	0%
		Small rural core	31%	0%	33%	0%	33%	0%
		Isolated rural	22%	0%	21%	0%	21%	0%
		All other ZIP Codes	7%	0%	7%	0%	6%	0%
	Blue Ridge Regional Hospital Total		100%	0%	100%	0%	100%	0%
	CarePartners Rehabilitation Hospital	Urban Core	29%	0%	27%	0%	27%	0%
		Other urban	6%	0%	6%	0%	6%	0%
		Other small rural	4%	0%	5%	0%	5%	0%
		All other ZIP Codes	61%	0%	63%	0%	63%	0%
	CarePartners Rehabilitation Hospital Total		100%	0%	100%	0%	100%	0%
	Highlands-Cashiers Hospital	Other small rural	8%	0%	9%	0%	10%	0%
		Isolated rural	51%	0%	53%	0%	52%	0%
		All other ZIP Codes	41%	0%	38%	0%	38%	0%

Hospital Group	Hospital Name	RUCA Classification	Discharge		Days of Care		Charges	
			Percent of Hospital	Percent of Group	Percent of Hospital	Percent of Group	Percent of Hospital	Percent of Group
	Highlands-Cashiers Hospital Total		100%	0%	100%	0%	100%	0%
	Mission Hospital - Memorial Campus	Urban Core	32%	1%	30%	1%	27%	0%
		Other urban	9%	0%	9%	0%	9%	0%
		All other ZIP Codes	59%	1%	61%	1%	64%	1%
	Mission Hospital - Memorial Campus Total		100%	2%	100%	2%	100%	1%
	Mission Hospital McDowell	Urban Core	3%	0%	2%	0%	3%	0%
		Other urban	88%	0%	87%	0%	86%	0%
		Other large rural	1%	0%	2%	0%	1%	0%
		All other ZIP Codes	8%	0%	10%	0%	10%	0%
	Mission Hospital McDowell Total		100%	0%	100%	0%	100%	0%
	MountainView Hospital	Urban Core	61%	1%	59%	1%	57%	1%
		All other ZIP Codes	39%	1%	41%	1%	43%	1%
	MountainView Hospital Total		100%	1%	100%	1%	100%	2%
	Southern Hills Hospital & Medical Center	Urban Core	53%	0%	50%	0%	51%	0%
		Other urban	2%	0%	2%	0%	2%	0%
		All other ZIP Codes	45%	0%	48%	0%	47%	0%
	Southern Hills Hospital & Medical Center Total		100%	1%	100%	1%	100%	1%
	Sunrise Hospital & Medical Center	Urban Core	49%	1%	48%	1%	46%	1%
		All other ZIP Codes	51%	1%	52%	1%	54%	1%
	Sunrise Hospital & Medical Center Total		100%	1%	100%	1%	100%	2%
	Transylvania Regional Hospital	Urban Core	3%	0%	3%	0%	4%	0%
		Other urban	81%	0%	79%	0%	78%	0%
		Isolated rural	6%	0%	7%	0%	7%	0%
		All other ZIP Codes	11%	0%	11%	0%	11%	0%
	Transylvania Regional Hospital Total		100%	0%	100%	0%	100%	0%
Quorum	Barstow Community Hospital	Large rural core	71%	2%	71%	2%	71%	3%
		Other urban	4%	0%	3%	0%	4%	0%
		Other large rural	10%	0%	9%	0%	9%	0%
		All other ZIP Codes	16%	0%	17%	0%	16%	1%
	Barstow Community Hospital Total		100%	3%	100%	2%	100%	4%
	Forrest City Medical Center	Urban Core	5%	0%	6%	0%	6%	0%
		Other urban	42%	1%	35%	1%	43%	0%
		Other large rural	3%	0%	2%	0%	3%	0%
		Small rural core	18%	0%	16%	0%	15%	0%
		Isolated rural	5%	0%	4%	0%	6%	0%
		All other ZIP Codes	27%	0%	37%	1%	28%	0%

Hospital Group	Hospital Name	RUCA Classification	Discharge		Days of Care		Charges	
			Percent of Hospital	Percent of Group	Percent of Hospital	Percent of Group	Percent of Hospital	Percent of Group
	Forrest City Medical Center Total		100%	2%	100%	2%	100%	1%
	McKenzie-Willamette Medical Center	Urban Core	62%	8%	64%	7%	59%	7%
		Other urban	8%	1%	8%	1%	8%	1%
		All other ZIP Codes	29%	4%	28%	3%	33%	4%
	McKenzie-Willamette Medical Center Total		100%	13%	100%	11%	100%	11%
Lifepoint	Central Carolina Hospital	Urban Core	1%	0%	1%	0%	1%	0%
		Large rural core	43%	1%	44%	0%	43%	1%
		Other urban	44%	1%	43%	0%	45%	1%
		Other small rural	1%	0%	1%	0%	1%	0%
		All other ZIP Codes	10%	0%	10%	0%	10%	0%
	Central Carolina Hospital Total		100%	1%	100%	1%	100%	1%
	Frye Regional Medical Center	Urban Core	66%	2%	62%	2%	68%	3%
		Other urban	8%	0%	7%	0%	7%	0%
		All other ZIP Codes	26%	1%	31%	1%	25%	1%
	Frye Regional Medical Center Total		100%	3%	100%	4%	100%	4%
North Alabama Medical Center	North Alabama Medical Center	Urban Core	43%	2%	41%	2%	41%	1%
		Other urban	27%	1%	26%	1%	26%	1%
		Small rural core	3%	0%	3%	0%	3%	0%
		All other ZIP Codes	28%	1%	30%	1%	30%	1%
	North Alabama Medical Center Total		100%	4%	100%	4%	100%	4%
	Providence Health	Urban Core	48%	1%	49%	2%	41%	1%
		Other urban	3%	0%	3%	0%	2%	0%
		All other ZIP Codes	49%	1%	48%	2%	56%	2%
	Providence Health Total		100%	3%	100%	3%	100%	3%
	Saint Francis Hospital	Urban Core	65%	3%	65%	3%	64%	2%
Saint Francis Hospital		Other urban	2%	0%	2%	0%	2%	0%
		All other ZIP Codes	33%	1%	32%	2%	33%	1%
	Saint Francis Hospital Total		100%	4%	100%	5%	100%	3%
	UP Health System - Marquette	Large rural core	46%	1%	43%	1%	42%	1%
		Other large rural	9%	0%	7%	0%	8%	0%
		Small rural core	3%	0%	3%	0%	3%	0%
		Other small rural	3%	0%	4%	0%	4%	0%
		Isolated rural	2%	0%	2%	0%	2%	0%
		All other ZIP Codes	38%	1%	41%	1%	41%	1%
	UP Health System - Marquette Total		100%	3%	100%	3%	100%	3%

Source: AHD.com, Rural Health Research Center, Barclays Research

Summary of Ratings**Bloomberg Barclays U.S. Credit Index**

	Old	New
U.S. HG Healthcare	Market Weight	Market Weight
HCA INC	Market Weight	Market Weight

Bloomberg Barclays U.S. High Yield 2% Issuer Capped Credit Index

	Old	New
U.S. HY Healthcare	Market Weight	Market Weight
CYH 11 06/30/23	Underweight	Underweight
CYH 5 1/8 08/01/21	Overweight	Overweight
CYH 6 1/4 03/31/23	Underweight	Overweight
CYH 6 7/8 02/01/22	Underweight	Underweight
CYH 8 03/15/26		Overweight
CYH 8 1/8 06/30/24	Underweight	Underweight
CYH 8 5/8 01/15/24	Underweight	Overweight
HCA 6 1/4 02/15/21	Overweight	Market Weight
HCA 5 3/8 02/01/25	Market Weight	Market Weight
HCA 5 3/8 09/01/26	Market Weight	Market Weight
HCA 5 5/8 09/01/28	Market Weight	Market Weight
HCA 5 7/8 02/01/29	Market Weight	Market Weight
HCA 5 7/8 02/15/26	Market Weight	Market Weight
HCA 5 7/8 05/01/23	Market Weight	Market Weight
HCA 7.5 02/15/2022	Market Weight	Market Weight
QHC 11 5/8 04/15/23	Underweight	Underweight
THC 4 1/2 04/01/21	Market Weight	Market Weight
THC 4 3/4 06/01/20	Market Weight	Market Weight
THC 4 3/8 10/01/21	Market Weight	Market Weight
THC 4 5/8 07/15/24	Market Weight	Market Weight
THC 5 1/8 05/01/25	Market Weight	Market Weight
THC 6 1/4 02/01/27	Market Weight	Market Weight
THC 6 10/01/20	Market Weight	Market Weight
THC 6 3/4 06/15/23	Market Weight	Market Weight
THC 6 7/8 11/15/31	Overweight	Overweight
THC 7 08/01/25	Market Weight	Market Weight
THC 8 1/8 04/01/22	Market Weight	Market Weight
UHS 4 3/4 08/01/22	Market Weight	Market Weight
UHS 5 06/01/26	Market Weight	Market Weight

Source: Barclays Research

Analyst(s) Certification(s):

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Primary Issuers/Bonds

CHS/COMMUNITY HEALTH SYSTEMS INC, CD/J/K/M

CYH 5 1/8 08/01/21, Overweight (USD 97.75, 03-Jun-2019)

Valuation Methodology: Overweight: Extending maturity may force the company to consider covenant restrictions, which may limit options for the 2022 notes. Furthermore, while the covenants are flexible, we believe any spin, sale or unfriendly maneuvers may limit CYH's options to address its 2021 first lien notes.

Risks that May Impede Achievement of the Rating: Asset sales do not close, results deteriorate faster than expected, company files before 2020.

CYH 8 03/15/26, Overweight (USD 95.50, 03-Jun-2019)

Valuation Methodology: We are initiating with an overweight on these notes for the same reason why we have an OW on the other 1st lien bonds , we believe CYH operates a number of facilities in strong localized markets and the create is more attractive relative to the rest of the structure.

Risks that May Impede Achievement of the Rating: Timing of a new secured deal, if the company cannot close on asset sales, weak results.

CYH 11 06/30/23, Underweight (USD 79.75, 03-Jun-2019)

CYH 6 1/4 03/31/23, Overweight (USD 94.75, 03-Jun-2019)

CYH 6 7/8 02/01/22, Underweight (USD 67.50, 03-Jun-2019)

CYH 8 1/8 06/30/24, Underweight (USD 73.50, 03-Jun-2019)

CYH 8 5/8 01/15/24, Overweight (USD 99.50, 03-Jun-2019)

Valuation Methodology: We upgraded these bonds as we believe a number of concerns are priced in , we believe CYH operates a number of facilities in strong localized markets and the create is more attractive relative to the rest of the structure.

Risks that May Impede Achievement of the Rating: Timing of a new secured deal, if the company cannot close on asset sales, weak results.

HCA HEALTHCARE INC, A/CD/CE/D/J/K/L/M/N

HCA 6 1/4 02/15/21, Market Weight (USD 104.25, 03-Jun-2019)

Valuation Methodology: Fundamentally, we are positive on the credit, HCA's market share, strong FCF and liquidity and asset value but these notes trade closer to fair value

Risks that May Impede Achievement of the Rating: Downgrade, higher secured debt ratio, delays in normalizing acquisition margins, tighter regulations

QUORUM HEALTH CORP, CD/J/K/M

QHC 11 5/8 04/15/23, Underweight (USD 86.38, 03-Jun-2019)

Valuation Methodology: Our rating reflects that we believe the risk/reward is not attractive and there are better relative value options (although less yield) with fewer complexities. QUOHEA remains one of the most challenging credits in our coverage universe. We believe the yield is very attractive, and we are aware of the asset sale opportunity based on the numerous mathematical interpretations; however, there is little margin for error and the near-term risks support our Underweight rating. Furthermore, there may be better ways to position for upside on a leveraged credit if the turnaround is credible.

Risks that May Impede Achievement of the Rating: The company's asset sales exceed expectations, core operating volumes improve, and QHC is able to terminate TSA relationship.

Materially Mentioned Issuers/Bonds

HCA INC, Market Weight, A/CD/D/J/K/L/M/N

Representative Bond: HCA 4 1/2 02/15/27 (USD 103.63, 03-Jun-2019)

Representative Bond: HCA 4 1/4 10/15/19 (USD 100.25, 03-Jun-2019)

Representative Bond: HCA 4 3/4 05/01/23 (USD 105.00, 03-Jun-2019)

Representative Bond: HCA 5 03/15/24 (USD 106.75, 03-Jun-2019)

Representative Bond: HCA 5 1/2 06/15/47 (USD 105.50, 03-Jun-2019)

Representative Bond: HCA 5 1/4 04/15/25 (USD 107.75, 03-Jun-2019)

Representative Bond: HCA 5 1/4 06/15/26 (USD 107.50, 03-Jun-2019)

Representative Bond: HCA 5.875 03/15/2022 (USD 107.25, 03-Jun-2019)

Representative Bond: HCA 6.5 02/15/2020 (USD 102.25, 03-Jun-2019)

HCA 5 3/8 02/01/25, Market Weight (USD 104.75, 03-Jun-2019)

HCA 5 3/8 09/01/26, Market Weight (USD 104.25, 03-Jun-2019)

HCA 5 5/8 09/01/28, Market Weight (USD 104.50, 03-Jun-2019)

HCA 5 7/8 02/01/29, Market Weight (USD 106.25, 03-Jun-2019)

HCA 5 7/8 02/15/26, Market Weight (USD 106.25, 03-Jun-2019)

HCA 5 7/8 05/01/23, Market Weight (USD 106.50, 03-Jun-2019)

HCA 7.5 02/15/2022, Market Weight (USD 109.75, 03-Jun-2019)

REGIONALCARE HOSPITAL PARTNERS HOLDINGS INC / LIFEPONT HEALTH INC, A/CD/D/J/K/L/M

RGCARE 9 3/4 12/01/26 (USD 105.75, 03-Jun-2019)

TENET HEALTHCARE CORP, A/CD/CE/D/J/K/L/M

THC 8 1/8 04/01/22, Market Weight (USD 104.75, 03-Jun-2019)

THC 4 5/8 07/15/24, Market Weight (USD 99.38, 03-Jun-2019)

THC 5 1/8 05/01/25, Market Weight (USD 98.88, 03-Jun-2019)

THC 6 1/4 02/01/27, Market Weight (USD 101.75, 03-Jun-2019)

THC 7 08/01/25, Market Weight (USD 98.00, 03-Jun-2019)

THC 6 3/4 06/15/23, Market Weight (USD 99.25, 03-Jun-2019)

THC 6 7/8 11/15/31, Overweight (USD 90.25, 03-Jun-2019)

THC 4 1/2 04/01/21, Market Weight (USD 100.75, 03-Jun-2019)

THC 4 3/4 06/01/20, Market Weight (USD 101.00, 03-Jun-2019)

THC 4 3/8 10/01/21, Market Weight (USD 101.00, 03-Jun-2019)

THC 6 10/01/20, Market Weight (USD 102.88, 03-Jun-2019)

UNIVERSAL HEALTH SERVICES INC, CD/CE/J/K/M/N

UHS 4 3/4 08/01/22, Market Weight (USD 100.25, 03-Jun-2019)

UHS 5 06/01/26, Market Weight (USD 101.75, 03-Jun-2019)

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For sectors rated against the Bloomberg Barclays U.S. High Yield 2% Issuer Capped Credit Index, the Bloomberg Barclays Pan-European High Yield 3% Issuer Capped Credit Index excluding Financials, the Bloomberg Barclays Pan-European High Yield Finance Index or the Bloomberg Barclays EM Asia USD High Yield Corporate Credit Index, the analyst expects the six-month total return of the sector to exceed the six-month total return of the relevant index.

Market Weight (MW):

For sectors rated against the Bloomberg Barclays U.S. Credit Index, the Bloomberg Barclays Pan-European Credit Index, the Bloomberg Barclays EM Asia USD High Grade Credit Index or the Bloomberg Barclays EM USD Corporate and Quasi-Sovereign Index, the analyst expects the six-month excess return of the sector to be in line with the six-month excess return of the relevant index.

For sectors rated against the Bloomberg Barclays U.S. High Yield 2% Issuer Capped Credit Index, the Bloomberg Barclays Pan-European High Yield 3% Issuer Capped Credit Index excluding Financials, the Bloomberg Barclays Pan-European High Yield Finance Index or the Bloomberg Barclays EM Asia USD High Yield Corporate Credit Index, the analyst expects the six-month total return of the sector to be in line with the six-month total return of the relevant index.

Underweight (UW):

For sectors rated against the Bloomberg Barclays U.S. Credit Index, the Bloomberg Barclays Pan-European Credit Index, the Bloomberg Barclays EM Asia USD High Grade Credit Index or the Bloomberg Barclays EM USD Corporate and Quasi-Sovereign Index, the analyst expects the six-month excess return of the sector to be less than the six-month excess return of the relevant index.

For sectors rated against the Bloomberg Barclays U.S. High Yield 2% Issuer Capped Credit Index, the Bloomberg Barclays Pan-European High Yield 3% Issuer Capped Credit Index excluding Financials, the Bloomberg Barclays Pan-European High Yield Finance Index or the Bloomberg Barclays EM Asia USD High Yield Corporate Credit Index, the analyst expects the six-month total return of the sector to be less than the six-month total return of the relevant index.

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Sectors in European High Grade Research are defined using the sector definitions of the Bloomberg Barclays Pan-European Credit Index and are rated against the Bloomberg Barclays Pan-European Credit Index.

Sectors in Industrials and Utilities in European High Yield Research are defined using the sector definitions of the Bloomberg Barclays Pan-European High Yield 3% Issuer Capped Credit Index excluding Financials and are rated against the Bloomberg Barclays Pan-European High Yield 3% Issuer Capped Credit Index excluding Financials.

Sectors in Financials in European High Yield Research are defined using the sector definitions of the Bloomberg Barclays Pan-European High Yield Finance Index and are rated against the Bloomberg Barclays Pan-European High Yield Finance Index.

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For all High Grade issuers covered in the US, Europe or Asia, and for all issuers in Latin America and EEMEA, the credit rating system is based on the analyst's view of the expected excess return over a six-month period of the issuer's index-eligible corporate debt securities* relative to the expected excess return of the relevant sector, as specified on the report.

Overweight (OW): The analyst expects the six-month excess return of the issuer's index-eligible corporate debt securities to exceed the six-month expected excess return of the relevant sector.

Market Weight (MW): The analyst expects the six-month excess return of the issuer's index-eligible corporate debt securities to be in line with the six-month expected excess return of the relevant sector.

Underweight (UW): The analyst expects the six-month excess return of the issuer's index-eligible corporate debt securities to be less than the six-month expected excess return of the relevant sector.

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Overweight (OW): The analyst expects the six-month total return of the debt security subject to this rating to exceed the six-month expected total return of the relevant sector.

Market Weight (MW): The analyst expects the six-month total return of the debt security subject to this rating to be in line with the six-month expected total return of the relevant sector.

Underweight (UW): The analyst expects the six-month total return of the rated debt security subject to this rating to be less than the six-month expected total return of the relevant sector.

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Market Weight (MW):

The analyst expects the six-month excess return of the country's index eligible bonds to be in line with the six-month excess return of the Bloomberg Barclays EM USD Sovereign Index.

Underweight (UW):

The analyst expects the six-month excess return of the country's index eligible bonds to be less than the six-month excess return of the Bloomberg Barclays EM USD Sovereign Index.

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BRCF2242