

Novant Health Economic Impact & Community Benefit Study

MAY 2019



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I. Executive Summary – Novant Health Economic Impact Study

NOVANT HEALTH ECONOMIC IMPACT STUDY

Novant Health, Inc. (“Novant Health”) is a multi-state integrated healthcare delivery system including 15 hospitals, 14 outpatient surgery centers, 40 diagnostic imaging centers, 30 outpatient rehabilitation centers, and more than 580 physicians, corporate, and administrative offices. Spanning across several states with owned and operated facilities located in North Carolina, South Carolina, and Virginia with managed facilities in Georgia, and West Virginia, Novant Health is an important driver of employment and economic activity. The study uses standard economic modeling techniques to quantify Novant Health’s economic impact in North Carolina, Virginia, and metropolitan areas, and quantifies its community benefit activities such as charity care.

Economic Impact



Novant Health directly employed **25,923** people in 2018 and supported another **34,371** jobs across North Carolina and Virginia.

Jobs: Charlotte (28,884) • Greensboro-Winston-Salem (22,648) • Northern Virginia (2,792) • Rappahannock/Rapidan (1,081) • North Carolina (55,760) • Virginia (4,533)

Novant Health generated **\$5.0 billion** of economic activity and supported **\$4.8 billion** of additional output leading to a **\$9.8 billion** impact to the economy.

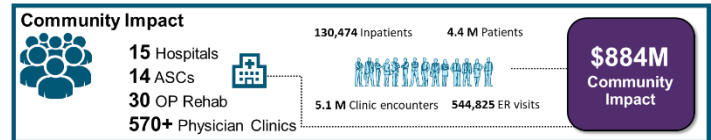
Economic Activity: Charlotte (\$4.9B) • Greensboro-Winston-Salem (\$3.5B) • Northern Virginia (\$524.8M) • Rappahannock/Rapidan (\$168.7M) • North Carolina (\$9.0B) • Virginia (\$784.7M)



Novant Health generated over **\$269.9 million** for state and local governments through tax revenue, and nearly **\$785.3 million** at the federal level.

Total Tax Revenue: Charlotte (\$578.5M) • Greensboro-Winston-Salem (\$438.8M) • Northern Virginia (\$65.6M) • Rappahannock/Rapidan (\$18.9M) • North Carolina (\$959.7M) • Virginia (\$95.4M)

Community Impact



Novant Health delivered over **\$883.7 million** in community benefits in 2018.

More than three-fourths (\$660M) of benefits came through unreimbursed care, with a further \$18.3 million committed to health professional education and over \$2.4 million in community health improvement services.

North Carolina (\$797M) • Virginia (\$86.6M)

Novant Health provided care to **4.4 million** unique patients with **5 million** inpatient and outpatient visits.

Total Inpatient Discharges: Charlotte (61,945) • Greensboro-Winston-Salem (51,047) • Northern Virginia (9,775) • Culpeper (3,274) • North Carolina (117,425) • Virginia (13,049)

Total Physician Encounters: Charlotte (2.7M) • Greensboro-Winston-Salem (1.9M) • Northern Virginia (206,575) • North Carolina (4.9M)

II. Introduction

A. Scope of Report and Analyses

Novant Health commissioned the Center for Healthcare Economics and Policy (“the Center”)¹ to undertake a quantitative evaluation and qualitative assessment of the health system’s economic impact on the states of North Carolina and Virginia and two regions in North Carolina – Greensboro-Winston-Salem-High Point and Charlotte-Concord Combined Statistical Areas (“CSAs”) – and two health regions in Virginia – Northern Virginia and Rappahannock/Rapidan health planning regions. In 2013 and 2016, the Center conducted economic impact studies of Novant Health on the state of North Carolina and the two CSAs.²

For this Study, the Center conducted a series of analyses to evaluate the total economic impact of Novant Health in North Carolina and Virginia. These analyses include:

- Input-output (“I/O”) analysis to quantify the economic impact of Novant Health’s operations and construction expenditures;
- Quantitative assessment of the range and volume of services provided by Novant Health facilities and personnel; and
- Evaluation of the community services and charitable care offered by Novant Health.

Economic Impact: The Study reports the economic and functional impact of Novant Health with regard to healthcare services, the populations and patients served (including Medicare and Medicaid populations), and the healthcare delivery system within North Carolina and Virginia. Quantification of the economic impact of a healthcare system involves an assessment of its delivery of care through a wide range of operations, including hospitals, outpatient clinics, rehabilitation facilities, diagnostic imaging centers, surgery centers, physician offices, administrative and corporate offices, and other resources used in the provision of care. Novant Health is a major employer in the regions in which it operates and a significant consumer of locally produced goods and services. Novant Health makes investments and expenditures to sustain and enhance the locations and scope of services involved in the provision of care, which stimulate the economy by employing workers in the construction sector, and by supporting local businesses that produce building materials and other important intermediate goods.

Community Benefit: The Study extends the assessment of community benefits in traditional economic impact studies to include broader benefits that account for the fact that healthcare is “local.” The Study recognizes that local community benefits involve population health and well-being and that these encompass economic vitality, quality of life, and socioeconomic factors, which are particularly relevant at the local level. Many important changes in healthcare and healthcare delivery with substantial community

¹ The Center for Healthcare Economics and Policy is a business unit within the Economics segment of FTI Consulting, Inc.

² Center for Healthcare Economics and Policy, “The Economic Impact of Novant Health in North Carolina,” (April 2013): https://www.novanthealth.org/Portals/92/novant_health/documents/about_us/news%20and%20information/Novant_Health_Economic_Impact_Study.pdf; and Center for Healthcare Economics and Policy, “The Economic Impact of Novant Health in North Carolina”, (July 2016): https://www.novanthealth.org/Portals/92/novant_health/documents/about_us/news%20and%20information/FTI-Ctr-2016-NHImpactStudy_July%205%202016.pdf. The views and opinions presented are solely those of the authors and the Center for Healthcare Economics and Policy and do not necessarily reflect the views of FTI Consulting, Inc., its management, its subsidiaries, its affiliates, its other professionals, or other organizations with which the authors are or have been affiliated.

benefit occur at the local level. This Study includes assessment of community benefits, starting with traditional community benefit measures and metrics, and evaluates these at the local, regional and system levels. The community benefits section supplements these traditional statistics and measures with key findings from Community Health Needs Assessments (CHNA) and implementation plans on factors affecting regional population health, needed care and services, and initiatives that are specific to the communities and populations served by the health system. These provide substantive insights and measures of the efforts underway to support community benefit, and also reflect important investments in infrastructure or initiatives by health systems. To the extent possible, this Study presents measures of scope, impact, and success.

Health Systems, Access and Value-Based Care: The Study focuses on Novant Health’s role in new forms of healthcare industry leadership and growth, including access and affordability to care. Health systems in the U.S. lead significant and needed transformative change in healthcare delivery; they represent important sources of efforts to improve health, access, cost, and quality for both patients and communities in which they operate.³ There is increasing recognition of the value of “systemness” from healthcare delivery organizations that invest in technologies, systems, data analytics, approaches to care coordination, clinically integrated networks, and alignment of care at the *system level* to address needs across and in the potentially numerous local regions in which they operate.⁴ A system-wide approach provides infrastructure and common methodologies across an entire system that can align care and incentives among system members for improved outcomes, reduced costs, improved patient experience, and sustainability of care. A system approach may evolve to include more integrated care delivery and associated investments, and efforts around quality and best practices.⁵ Novant Health is among the nation’s health system leaders in efforts to move toward improved care coordination and has many initiatives underway.

B. Overview of Novant Health

Formed in 1997 by the merger of Carolina Medicorp Inc. and Presbyterian Health Services, Novant Health Inc. (“Novant Health”) is a not-for-profit, integrated healthcare system serving patients and communities in North Carolina, South Carolina, and Virginia.⁶ The system consists of 15 hospitals, over 570 physician clinics, more than 2,500 employed providers (including physicians and advanced practice clinicians), 14 ambulatory surgical centers, 1 assisted living center, and other outpatient facilities including rehabilitation,

³ The majority of hospitals are in health systems in the U.S. See American Hospital Association, “Trends Affecting Hospitals and Health Systems,” *TRENDWATCH Chartbook* (2018), <https://www.aha.org/system/files/2018-07/2018-aha-chartbook.pdf>. Joining a system may improve patient care and improve outcomes for smaller hospitals. See Maria Castellucci, “Hospitals in systems fare better in value-based climate versus their independent peers,” *Modern Healthcare* 47 (2017), no. 23: S002.

⁴ A Kaiser Permanente study showed the importance of organizing a healthcare delivery system for collaborative action as well as health system roles in quality and efficiency. See “Improving Health Care Quality Through ‘Systemness,’” *Policy Brief, Kaiser Permanente Institute for Health Policy* (2008). Enthoven and Tollen examine integrated delivery system benefits. See Alain Enthoven and Laura Tollen, “Competition in health care: it takes systems to pursue quality and efficiency,” *Health Affairs* 24, <http://content.healthaffairs.org/content/early/2005/09/07/hlthaff.w5.420.Short> (Sept. 2005).

⁵ Wenke Hwang et al., “Effects of integrated delivery system on cost and quality,” *American Journal of Managed Care* 19 (2013) no. 5, 175-84, <https://www.pcpc.org/sites/default/files/resources/Effects%20of%20Integrated%20Delivery%20System%20on%20Cost%20and%20Quality.pdf>.

⁶ Novant Health also provides management and other shared service offerings to hospitals and health systems in West Virginia and Georgia.

diagnostic imaging centers, and urgent and express care locations.⁷ In 2018, Novant Health provided over 5 million medical group encounters and had over 130,400 inpatient discharges system-wide.

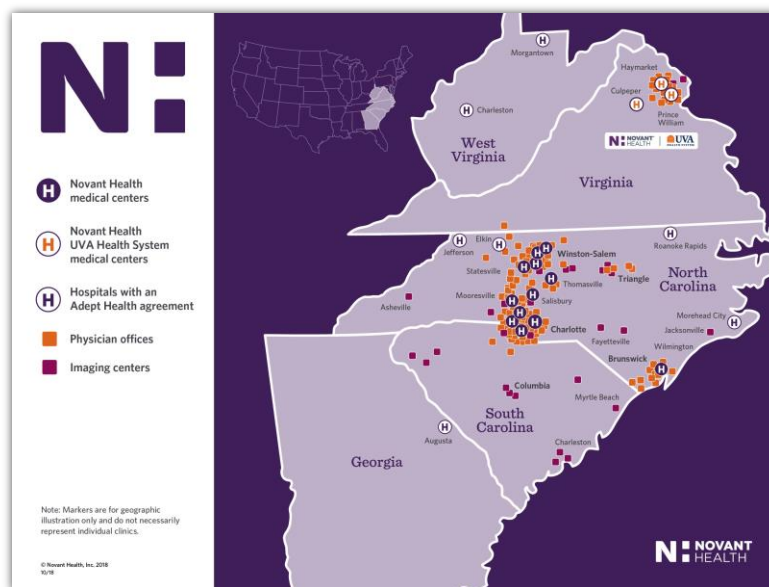
The Novant Health system today employs more than 28,700 people from a variety of different professional backgrounds and education levels. In addition to 15 hospitals with over 2,600 licensed beds (**Table 1**), Novant Health operates 14 outpatient surgery centers, 26 diagnostic imaging centers and 30 outpatient rehabilitation centers in the states of North Carolina and Virginia. The Novant Health medical group (NHMG) employs approximately 1,600 physicians and over 900 advanced practice clinicians who provide a wide range of inpatient and outpatient services in 76 specialties at more than 570 locations across the system.⁸ These facilities provide access to care for patients throughout North Carolina and Virginia, including major metropolitan centers of Charlotte, Winston-Salem, Culpeper, and Northern Virginia.

Table 1: Novant Health Hospitals in North Carolina & Virginia

Hospital Name	County	State	Licensed Beds
Novant Health Forsyth Medical Center	Forsyth	NC	859
Novant Health Presbyterian Medical Center	Mecklenburg	NC	636
Novant Health Rowan Medical Center	Rowan	NC	268
Novant Health Matthews Medical Center	Mecklenburg	NC	157
Novant Health Thomasville Medical Center	Davidson	NC	146
Novant Health Huntersville Medical Center	Mecklenburg	NC	91
Novant Health Brunswick Medical Center	Brunswick	NC	74
Novant Health Kernersville Medical Center	Forsyth	NC	50
Novant Health Charlotte Orthopedic Hospital	Mecklenburg	NC	48
Novant Health Clemmons Medical Center	Forsyth	NC	36
Novant Health Mint Hill Medical Center	Mecklenburg	NC	36
Novant Health Medical Park Hospital	Forsyth	NC	22
Novant Health UVA Health System Prince William Medical Center	Prince William	VA	130
Novant Health UVA Health System Culpeper Medical Center	Culpeper	VA	70
Novant Health UVA Health System Haymarket Medical Center	Prince William	VA	60

Figure 1 shows Novant Health’s multi-state presence.

Figure 1: Novant Health Facilities



⁷ 2018 Facility Overview Fact Sheet (internal document) provided by Novant Health.

⁸ Internal documents and data provided by Novant Health.

As part of its mission to provide convenient access to healthcare services that patients need, Novant Health has many locations, including facilities offering more specialized services. These include, but are not limited to: the Derrick L. Davis Cancer Center, the Maya Angelou Center for Women’s Health and Wellness, the Stroke & Neurosciences Center, and the Orthopedic Center at Novant Health Forsyth Medical Center; the Breast Center at Novant Health Rowan Medical Center; an oncology unit with surgical robotics, the Women’s Center, the Stroke & Neuroscience Center, the St. Jude Affiliate Clinic, and Novant Health Hemby Children’s Hospital at Novant Health Presbyterian Medical Center in Charlotte. In Virginia, Novant Health provides unique services at the Novant Health UVA Health System Caton Merchant House Assisted Living Center and Novant Health UVA Cancer Center – Lake Manassas. Many brick and mortar facilities, such as urgent care centers and community hospitals, enhance Novant Health’s ability to bring high quality care closer to members of smaller communities in North Carolina and Virginia. These lower cost facilities, smaller venues of care, and physician groups expand primary care services and other specialties to harder-to-reach areas.

Novant Health is a major provider of charitable care and community outreach services. The health system operates with a service mission of improving the health of the communities it serves “one person at a time.” Each facility conducts a Community Health Needs Assessment (CHNA) to identify critical health issues in its communities. Health issues are prioritized, and community members develop Community Benefit Implementation Plans (CBIP) with initiatives to address community needs.⁹

Novant Health is currently expanding and constructing new facilities to extend the reach of its quality care. Some of the major construction projects include: the completion of Novant Health Mint Hill Medical Center, construction of John M. and Claudia W. Belk Heart & Vascular Institute/Edward I. and Agnes B. Weisiger Cancer Institute, expansion of Novant Health Huntersville Medical Center, and renovation of Novant Health Presbyterian Medical Center. Novant Health has also undertaken substantial efforts to expand roles in healthcare industry leadership and growth, and increased access to and affordability of care; these are discussed in greater detail in Section III of the report.

In 2018, Novant Health provided approximately \$797 million of community benefit in North Carolina—among the highest of any health system in the state. This provision included the cost of programs serving patients, local citizens, and the uninsured and underserved individuals in the community. In Virginia, Novant Health provided approximately \$87 million of community benefit.

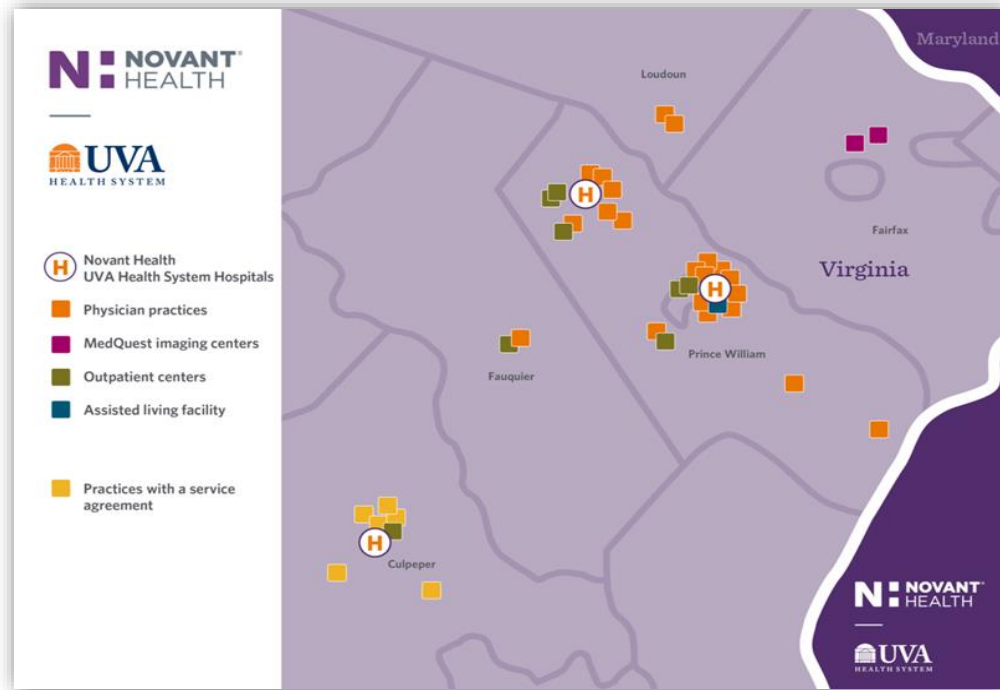
Affiliation with University of Virginia Health System

On January 1, 2016, Novant Health and UVA Health System closed on a joint operating partnership in Virginia to form Novant Health UVA Health System. Under the agreement, Novant Health’s Virginia facilities joined UVA Culpeper Hospital to form the regional health system. Novant Health has three

⁹ For more information on 2016-2018 Novant Health CHNAs and CBIPs, see Novant Health, “Engaging Our Communities,” <https://www.novanthealth.org/home/about-us/community-involvement/community-benefit.aspx>.

medical centers, six outpatient facilities, 32 physician clinics, and one assisted living facility in Virginia.¹⁰ Novant Health’s presence in Virginia consists of five contiguous counties: Prince William, Culpeper, Fairfax, Fauquier, and Loudoun counties.¹¹ **Figure 2** shows the map of Novant Health UVA Health System’s presence in Virginia.

Figure 2: Novant Health UVA Health Systems Facilities in Virginia



¹⁰ The medical centers include: Novant Health UVA Health System Prince William Medical Center, Novant Health UVA Health System Haymarket Medical Center, and Novant Health UVA Health System Culpeper Medical Center. The six outpatient facilities are: Prince William Surgery Center, Haymarket Surgery Center, Culpeper Surgery Center, Novant Health UVA Health System Imaging – Centreville, Novant Health Imaging Tyson’s Corner, and Novant Health UVA Health System Cancer Center – Lake Manassas. The assisted living center is Novant Health UVA Health System Caton Merchant House.

¹¹ The Novant Health UVA Health System also has facilities in Manassas City which is an independent city bordered by Prince William County.

III. Role of Health Systems in Improving Access to & Affordability of Care

Many health systems are leading transformative changes in the delivery and organization of healthcare, with increased efforts to deliver value-based care with new care models and payment approaches. These systems tend to have a broader reach across regions and cover a range of delivery locations including hospital, outpatient, and physician services. New models of care, supported by a range of initiatives and value-based contracting, can yield substantial benefits including more patient-centered care delivery that reduces total cost of care and improves outcomes.¹² The most successful health systems seek to make investments in infrastructure, scale and scope of operations, and in a range of resources to devise and implement delivery system and payment approach reforms.¹³

Leading health systems may use Integrated Delivery System (IDS) models for transformational change and to reduce fragmentation of care delivery.¹⁴ These benefits are well-documented. Creation of systems with common approaches and a system-wide approach can lead to significant improvements in quality and efficiency. Systems can provide easier access to capital to improve or add locations of care, new technologies, or investments across communities served by a system.¹⁵ The healthcare literature provides studies demonstrating how system-wide management and clinical expertise applied across an organization can lead to improved care coordination, service enhancements and newer models of care. The literature indicates that industry leading systems operating at scale can lead to improved care, outcomes, and reduced total cost of care. Focus on total cost of care instead of unit price or unit cost represents an important industry shift toward assessing the value delivered by a health system as part of value-based purchasing.¹⁶

A health system's impact on health and well-being of the communities it serves also includes the community benefits from strategic efforts, increasingly in collaboration with other community stakeholders, and initiatives and priority activities that address the social determinants of health, health

¹² Anthony Shih et al., "Organizing the U.S. Health Care Delivery System for High Performance," Commission on a High Performance Health System, *The Commonwealth Fund* (August 2008), and Zirui Song et al., "The 'Alternative Quality Contract,' Based on a Global Budget, Lowered Medical Spending and Improved Quality," *Health Affairs* 31, no. 8 (2012): 1885-1894, <https://doi.org/10.1377/hlthaff.2012.0327>, James H. Landman et al., "What is driving total cost of care? An analysis of factors influencing total cost of care in the U.S. healthcare markets," *HFMA, Leavitt Partners, and McManis Consulting* (2018), <https://leavittpartners.com/wp-content/uploads/2018/06/Total-Cost-of-Care-Full-Report-2018.pdf>.

¹³ Alex Kacik, "Health systems see returns on risk-based reimbursement," *Modern Healthcare* (July 15, 2017), <http://www.modernhealthcare.com/article/20170715/NEWS/170719933>.

¹⁴ Douglas McCarthy and Kimberly Mueller, "Organizing for Higher Performance: Case Studies of Organized Delivery Systems, Series Overview, Findings, and Methods," *The Commonwealth Fund*, http://www.doctorsandmanagers.net/adjuntos/204.1-1288_McCarthy_Overview_report_final.pdf (July 2009). "Geisinger Health System: Achieving the Potential of System Integration Through Innovation, Leadership, 32 Measurement, and Incentives."

¹⁵ Relative to small stand-alone hospitals, large hospitals may have better access to capital and can more readily adopt required or beneficial improvements. Catherine DesRoches et al., "Adoption of Electronic Health Records Grows Rapidly, But Fewer than Half of US Hospitals had at least a Basic System in 2012," *Health Affairs* 32, no. 8 (2013 Aug.): 1478-1485.

¹⁶ "Total cost of care" represents a measure of aggregate costs of care delivery for a population, including costs at physician, outpatient, and hospital levels. It provides a measure of shorter as well as longer term impact and benefits of changes to healthcare delivery. See, Landman, et al. "What Is Driving Total Cost of Care? An Analysis of Factors Influencing Total Cost of Care in U.S. Healthcare Markets," *Healthcare Financial Management Association* (2018), <https://www.hfma.org/tco/> and HealthPartners, "Total Cost of Care and Total Resources Use White Paper: A Measurement Approach to Achieve the Triple Aim" (2013), http://www.healthpartners.com/ucm/groups/public/@hp/@public/documents/documents/dev_057649.pdf. See also Gail R. Wilensky, "Bending and Stretching the Health Care Cost Curve," *4 Business Economics* 163 (2011); Richard V. Burkhauser et al., "The Importance of the Meaning and Measurement of 'Affordable' in the Affordable Care Act," *Nat'l Bureau of Econ. Research, Inc.*, NBER Working Paper No. 17279 (2011), <http://www.nber.org/papers/w17279>.

behaviors, and access to care.¹⁷ We use these two key dimensions – **Dynamic Role of Health Systems** and **Increasing Access and Affordability of Care** in this section to review several aspects of Novant Health’s activities and investments as a leading and innovative healthcare system.¹⁸

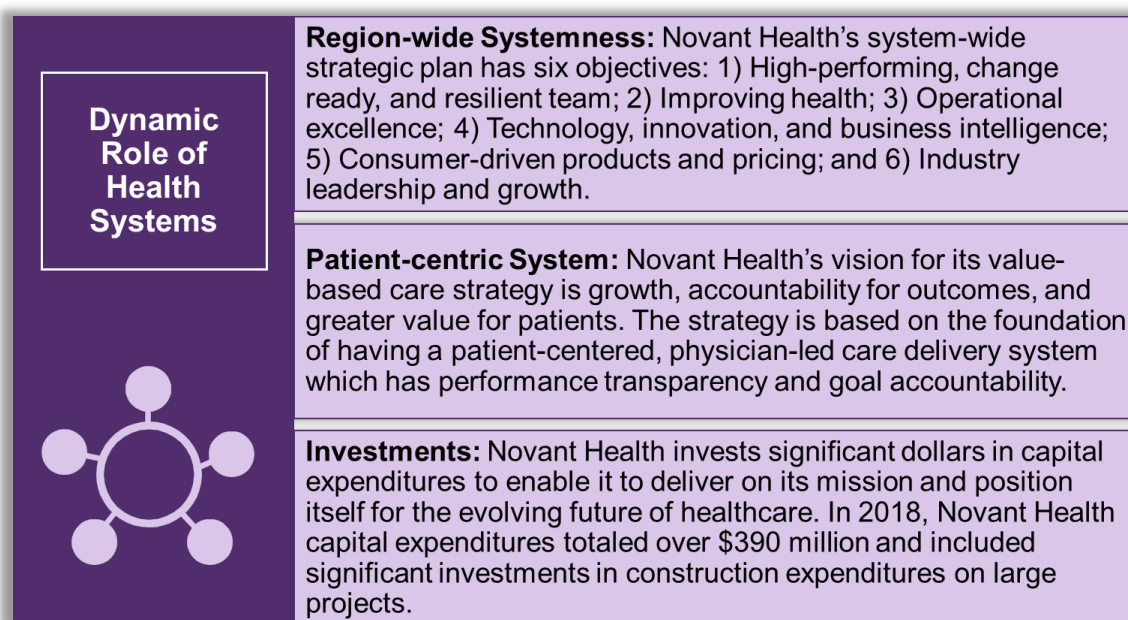
A. Dynamic Role of Health Systems in Leading Industry Change

This section focuses on the roles and methods by which Novant Health serves as an industry leader in healthcare delivery and change. Novant Health has developed and implemented approaches that apply a “system” approach across a diverse and extensive set of operations in North Carolina and Virginia, as well as other states. Novant Health’s approach embodies “systemness” principles and integrated care delivery aligned around a patient-centric model of care. Its approach includes significant investments in technology, facilities, and community activities to support value-enhancing care delivery across a broad region. In addition, Novant Health has undertaken efforts to lead healthcare transformation with its own workforce to implement several strategies to lower healthcare costs and create a healthier workforce in communities in which Novant Health operates. These initiatives have already resulted in significant savings.¹⁹



Dynamic Role of Health Systems

Figure 3: Novant Health’s Role as Industry Leader



¹⁷ See Sara Rosenbaum, "Hospitals as Community Hubs: Integrating Community Benefit Spending, Community Health Needs Assessment, and Community Health Improvement," (2016) and Gary J. Young, et al., "Provision of community benefits by tax-exempt US hospitals," *New England Journal of Medicine* 368, no. 16 (2013): 1519-1527.

¹⁸ The 2013 and 2016 Economic Impact Studies evaluated related aspects of Novant Health’s activities, such as care coordination.

¹⁹ For a description, see Novant Health, “Bend your company’s healthcare cost curve,” https://www.novanthealth.org/Portals/92/novant_health/documents/campaigns/corp%20health/CorpHealth-Whitepaper.pdf.

Region-wide Systemness

Since Novant Health operates across multiple regions and states, it established a unifying set of strategic imperatives to define goals and priorities for the organization. The cornerstone of its vision is strong physician partnerships that provide mutual support for a system of care focused on delivering quality and satisfaction for its patients. Novant Health's system-wide strategic plan includes six objectives that cover all of its operations as a regional system serving many communities:²⁰

- **High-performing, change ready, and resilient team:** Have a culture that is known for its resilience and innovation. Novant Health's diverse and inclusive teams will have the mindset, tools, and skills to anticipate and manage rapid change, thereby ensuring the ability to grow and thrive as a system.
- **Improving health:** Provide the highest quality care and value through a remarkable patient experience to each individual patient, while partnering with others and developing a system of care that focuses on keeping the community healthy.
- **Operational excellence:** Deliver outcomes to exceed patients' expectations of a remarkable patient experience.
- **Technology, innovation, and business intelligence:** Optimize and expand technology and business intelligence capabilities to provide actionable information to drive organizational results.
- **Consumer-driven products and pricing:** Develop products, pricing, and partnerships that anticipate the needs of patients, employers, communities, and payers.
- **Industry leadership and growth:** Provide industry leadership and advocacy, and build strong community relationships as Novant Health grows locally and into a multi-state "super-regional" system.

Patient-centric System

Novant Health's vision for its value-based care strategy includes growth, accountability for outcomes, and greater value for patients. The strategy is based on the foundation of having a patient-centered, physician-led care delivery system with performance transparency and goal accountability. Novant Health's strategy includes network development, data exchange and analytics, evidence-based protocols and clinical pathways, population health management and patient engagement, contracts that drive value across the system and performance management. Its focus on value-based payment has increased significantly in terms of participation in programs and contracting.²¹ Novant Health continues to invest in new capabilities to reduce episodic care, increase access to care, and lower patient costs. In addition, Novant Health has developed further its Clinically Integrated Network of physicians and providers and enhanced a robust ambulatory and physician network to include more satellite facilities and outpatient care.²²

Prioritizing value-based care has already shown noticeable results. Novant Health experienced significant reductions in Skilled Nursing Facility (SNF) discharges and costs, and also gains in the form of reduced

²⁰ Internal document provided by Novant Health.

²¹ "Moody's Investors Service – Novant Health Update," presentation, Nov. 6, 2018, p.59 (internal document) provided by Novant Health.

²² Novant Health, "Novant Health Clinically Integrated Network," <https://www.novanthealth.org/physician-services/novant-health-physician-network/nhcin.aspx>.

readmission rates and improved care for patients with high-risk chronic conditions.²³ Additionally, the North Carolina Accountable Care Organization (ACO) generated the 3rd largest savings of ACOs new to MSSP in 2017.²⁴ Investments of these new capabilities are demonstrated by recent telehealth initiatives in neuroscience and behavioral health service lines:

- In neurosciences, telestroke capabilities allow Novant Health to extend care beyond stroke centers at Novant Health Forsyth Medical Center and Novant Health Presbyterian Medical Center.
- Facility-based telebehavioral health (teleBH) provides therapist triage, psych consultation, and disposition services.
- On Demand Video Visits are open to any individuals and can be accessed via the MyChart application. Initial panel has 18 symptoms.²⁵

Care Connections

Care Connections represents the *virtual* component of Novant Health’s population health strategy. It “includes more than 200 skilled professionals including nurses, social workers, pharmacists, pharmacy technicians, dietitians, educators, wellness coaches, and service representatives who work collaboratively to provide holistic care for patients in a virtual space.”²⁶ In an effort to proactively connect patients and providers to each other to help patients stay healthy, Novant Health offers many services through this virtual care model (**Table 2**). The Care Connections platform enables increased care coordination and improves health outcomes.

Table 2: Virtual Care Services

Outbound contacts	Inbound contacts
-Condition management for chronic conditions	-Physician coverage and 24/7 triage for clinics
-Medication management	-Answering service for clinics
-Discharge follow-up from hospitals & ERs	-Clinic appointment scheduling
-Wellness coaching	-Physician referral line for transferring patients from outlying communities to tertiary care facility
-Annual well check and age appropriate screening reminders	-24/7 consumer triage line
-Transitioning from hospital to skilled nursing or home with home health	-24/7 team member triage line
-Psychosocial needs	-Class registrations

Novant Health has broadened its care coordination outreach to additional patient populations, including patients who are:

- Participating in the Bundled Payment for Care Improvement project through the Centers for Medicare and Medicaid;
- Referred by their provider;

²³ For background, see Terry Reilly, “Changing the way providers are paid,” *WilmingtonBiz* (Nov. 2, 2018), http://www.wilmingtonbiz.com/health_care/2018/11/02/changing_the_way_providers_are_paid/18184.

²⁴ See also, Novant Health, “Medicare Shared Savings Program,” <https://www.nhmssp.org>.

²⁵ MyChart is a patient portal accessible through the Internet or mobile device, which enables real-time, online patient access to medical records, scheduling, test results, personal medical information and other services. In addition, through MyChart, patients can participate in video visits and e-visits with their healthcare provider, request prescription refills, receive reminders for health checkups, and access various medical information and resources.

²⁶ Internal documents and data provided by Novant Health.

- At high risk for hospitalization or readmission following discharge; or
- Experiencing issues with chronic conditions such as chronic obstructive pulmonary disease, diabetes and heart failure.²⁷

Under these initiatives, clinical team members contact patients by phone to review hospital discharge instructions, perform medication reconciliation, schedule follow-up appointments, and ensure that patients have medications filled and that follow-up services such as home health or medical equipment are available. Clinical team members also work telephonically with identified patients around more complex care needs and psychosocial needs, and to engage the provider as needed.²⁸

In addition to care coordination outreach services, designated RNs and service representatives also offer 24/7 triage and class registration services for patients as well as many triage, referral, and call service functions for clinics across the system's footprint. Novant Health's virtual call center is available to consumers and providers 24/7/365 days a year.

Capital Expenditure

Over the past four years (2015 – 2018), Novant Health's investment in capital expenditure totaled over \$1.1 billion, \$390 million of which was expended in 2018. Of the \$390 million spent in 2018, \$190 million was related to construction projects. The construction expenditures include several large projects that demonstrate Novant Health's commitment to growth and access to healthcare. These include investments for several large capital projects in the Charlotte CSA, such as the completion of Novant Health Mint Hill Medical Center; construction of John M. and Claudia W. Belk Heart & Vascular Institute/Edward I. and Agnes B. Weisiger Cancer Institute, expansion of Novant Health Huntersville Medical Center, and renovation of Novant Health Presbyterian Medical Center.²⁹

Mint Hill Medical Center opened on October 1, 2018 as Novant Health's 15th hospital. It is a 145,000 square foot, 36-bed hospital with four operating rooms and a 16-bay emergency department, and currently employs about 250 people. The entire project cost \$125 million, including the land purchase and is a major investment in Mint Hill as well as neighboring communities located in Mecklenburg, Cabarrus, Stanly, and Union counties.³⁰ Novant Health tailored the hospital design to support new healthcare trends towards outpatient care.³¹ Next door is a 67,000 square foot medical office building which opened in November 2016. Originally, it offered pediatrics, primary care, and OB/GYN services. Its service offerings expanded in 2017 to include pulmonology, heart and vascular, orthopedic, sports medicine, and urgent care services.

²⁷ Novant Health, "Industry Insights," *Novant Health* (March 2016). See https://www.novanthealth.org/Portals/92/novant_health/documents/about_us/news%20and%20information/NH_Industry_Insights_March2016.pdf.

²⁸ Ibid.

²⁹ Expenditures for capital projects are incorporated in 2018 construction revenues provided by Novant Health.

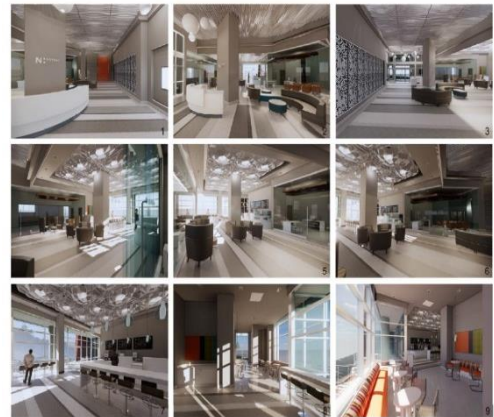
³⁰ Ed Berti, "Novant Health's newest community hospital a world class facility," *The Mint Hill Times* (September 19, 2018), <https://www.minthilltimes.com/featured/novant-healths-newest-community-hospital-a-world-class-facility/>.

³¹ Caroline Hudson, "Photos: A look inside Novant Health's \$80M Mint Hill Medical Center," *Charlotte Business Journal* (September 18, 2018), <https://www.bizjournals.com/charlotte/news/2018/09/12/photos-a-look-inside-novant-healths-80m-mint-hill.html>.



In late 2017, Novant Health broke ground to build the John M. and Claudia W. Belk Heart & Vascular Institute/Edward I. and Agnes B. Weisiger Cancer Institute. The 7-story, 263,000 square-foot outpatient institute will be located next to Novant Health Presbyterian Medical Center and connect via an enclosed over-street sky walk.³² The new facility will provide an integrated approach to outpatient care. Patients will benefit from having oncologists and cardiologists in the same space. Cardio-oncology is an emerging field designed to prevent or limit the damage of heart tissue during cancer treatments. Specialists will “interact more and that will improve the patient experience” and the proximity to doctors’ offices will allow for greater coordination of care.³³ The outpatient institute will also include a Pediatric Specialty Complex to address pediatric oncology and cardiology. The project was originally announced in 2014 with a lead gift of \$10 million from the family of retailer John Belk. Since then, Novant Health Presbyterian Medical Center Foundation’s GroundBreaking campaign raised another \$30 million donations through community donations. The family of Ed Weisiger was another major donor.³⁴

The Huntersville Medical Center expansion involves construction of a 60,000 square foot wing with an additional 48 patient rooms, an operating room, and renovations to several hospital areas. The project also calls for renovating the hospital’s newborn nursery area, doubling the neonatal intensive care unit area, and building a new well-baby nursery. The nursery upgrades will double the number of Level III NICU beds to four.³⁵ Total construction costs are estimated at \$50 million. Expansion efforts began in early 2018 with an expected completion in the spring of 2019. Upon completion, Huntersville Medical Center will be a 139-bed hospital.³⁶



Novant Health’s flagship medical center in Charlotte, Novant Health Presbyterian Medical Center, is undergoing a major renovation which includes infrastructure upgrades and patient room renovations.

³² Steve Cranford, “Novant cancer and heart clinic set to launch,” *Crain Communications* (January 6, 2017), <https://charlotte.craigslist.com/article/news/novant-cancer-and-heart-clinic-set-launch>.

³³ Ibid.

³⁴ Ibid.

³⁵ Deon Roberts, “Novant to begin \$50M expansion of Huntersville hospital soon,” *The Charlotte Observer* (October 17, 2017), <https://www.charlotteobserver.com/news/business/article179161476.html>.

³⁶ “Novant Health celebrates topping ceremony at Huntersville Medical Center,” *Herald Citizen* (July 11, 2018), http://www.lakenormanpublications.com/herald_citizen/novant-health-celebrates-topping-ceremony-at-huntersville-medical-center/article_7dc462e6-8528-11e8-ae19-3b163854208b.html.

Efforts will include floors 3, 4, 5, and 6, as well as the A, B, and C towers. Total cost of project is estimated at \$78 million. Construction began in 2018 with an expected completion in 2022.

Awards & Accolades

Novant Health has received many awards and accolades highlighting its commitment to high-quality care. Novant Health continues to be recognized by *Becker's Hospital Review* as one of the “52 Great Health Systems to Know” in the United States.³⁷ In 2018, *U.S. News & World Report* regionally ranked Novant Health Presbyterian Medical Center and Novant Health Forsyth Medical Center as 11th and 14th in North Carolina, respectively. Novant Health Presbyterian Medical Center was rated “high performing” in the orthopedics specialty and four procedures – colon cancer surgery, heart failure, hip replacement, and knee replacement. Novant Health Forsyth Medical Center was rated “high performing” in four conditions/procedures as well – chronic obstructive pulmonary disease (COPD), heart failure, hip replacement, and knee replacement.³⁸ Additionally, 14 of Novant Health’s 15 medical centers have received accreditation by the Joint Commission. As of 2018, eight facilities received accreditation from the National Accreditation Program for Breast Centers. In 2017, Novant Health ranked as a top 5 workplace for women and diverse managers. It was named fourth best organization in the nation and second among U.S. hospital systems by Diversity MBA Magazine rankings.³⁹ In 2019, Novant Health ranked 38th nationally as Best Employers for Diversity by Forbes magazine.⁴⁰

Centers for Medicare and Medicaid Services (CMS) established the Health Equity Award in 2018 to recognize organizations “demonstrating a commitment to health equity by reducing disparities among the CMS beneficiaries they serve, particularly among racial and ethnic minorities, individuals with disabilities, sexual and gender minorities, and those living in rural areas.”⁴¹ Novant Health was one of the two recipients for the award in its introductory year. CMS recognized Novant Health’s efforts to reduce pneumonia readmission rates after the disparity was discovered. Through opportunities identified by a multi-disciplinary team, the disparity for African-American patients who were readmitted with a diagnosis of pneumonia decreased by 50% (from 4% to 2%) compared to other populations served.⁴²

B. Increasing Access to Care

Health systems play important roles in their communities extending beyond their delivery of care in hospitals, clinics, and physician offices to individual and collaborative efforts to improve access,

³⁷ “52 great health systems to know | 2017,” *Becker's Hospital Review* (May 18, 2017), <https://www.beckershospitalreview.com/lists/50-great-health-systems-to-know-2017.html>.

³⁸ *U.S. News & World Report*, “Best Hospitals in North Carolina,” <https://health.usnews.com/best-hospitals/area/nc>.

³⁹ Novant Health, “Novant Health ranked a top 5 workplace for women and diverse managers,” <https://www.novanthealth.org/home/about-us/newsroom/press-releases/newsid33987/1635/novant-health-ranked-a-top-5-workplace-for-women-and-diverse-managers.aspx>.

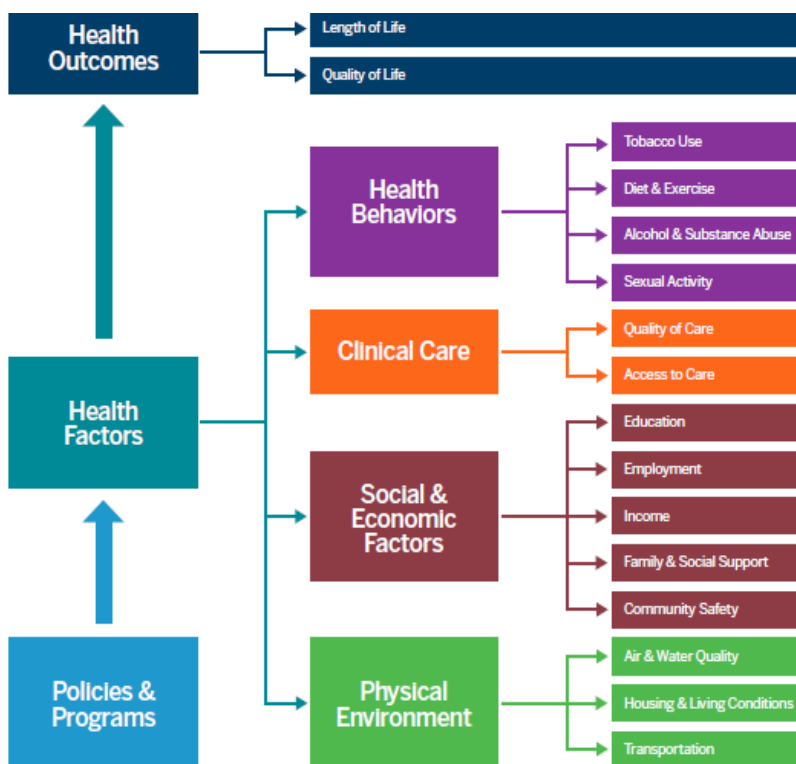
⁴⁰ *Forbes*, “The Best Employers for Diversity 2019,” <http://www.forbes.com/lists/best-employers-diversity/#7d090a466468>.

⁴¹ Centers for Medicare & Medicaid Services, “CMS Health Equity Awards,” <https://www.cms.gov/About-CMS/Agency-Information/OMH/equity-initiatives/equity-awards.html>.

⁴² *Ibid.*

affordability, and value of care.⁴³ Improving the health of a region requires identifying the key drivers of an individual community's health needs (e.g., chronic conditions and behaviors) and the resources available in the community to address them, which include both health systems and supporting community resources.⁴⁴ The Population Health Model depicted in **Figure 4** shows a well-known population health framework useful for assessing health and well-being as well as community needs, for core metrics to track change and improvement at each level of the community, and for evaluating strategies for needed change at the local level.⁴⁵

Figure 4: Population Health Model⁴⁶



⁴³ “A nationally representative online survey [found that] hospitals and health systems are investing in health-related social needs, and that leadership support is high: 80 percent of hospital respondents reported that leadership is committed to establishing and developing processes to systematically address social needs as part of clinical care.” See “Social determinants of health: How are hospitals and health systems investing in and addressing social needs?” *Deloitte* (2017), <https://www2.deloitte.com/content/dam/Deloitte/us/Documents/life-sciences-health-care/us-lshc-addressing-social-determinants-of-health.pdf>.

⁴⁴ “It is now widely recognized that the health outcomes of populations often are determined more by social factors than by medical care. Much of the most innovative recent work on social determinants and population health demonstrates the value of partnerships across sectors, with health care systems partnering with community-based organizations ranging from housing authorities to nutrition support programs and beyond. These partnerships have proven themselves to be essential to populations enrolled in alternative payment models such as accountable care organizations (ACOs), and ACO leaders are beginning to recognize the need to integrate services both within and without the health care sector. Thus, health care systems are exploring how to collaborate with social service providers to keep patients away from costly care and improve health outcomes.” See Lauren Taylor et al., “Defining the Health Care System’s Role in Addressing Social Determinants and Population Health,” *Health Affairs* (2016), <https://www.healthaffairs.org/doi/10.1377/hblog20161117.057601/full/>.

⁴⁵ IOM, “Vital signs: Core metrics for health and health care progress,” *The National Academies Press* (2015), <http://www.nationalacademies.org/hmd/Reports/2015/Vital-Signs-Core-Metrics.aspx>.

⁴⁶ Graphic developed by County Health Rankings & Roadmaps, <http://www.countyhealthrankings.org/our-approach>.

Health system activity across this spectrum often includes collaboration with other community stakeholders and may be set out in Community Health Needs Assessments and associated implementation plans.⁴⁷ Health systems are also engaging in broader roles to improve health, access, and outcomes in their health system activities and investments, including value-based care models that focus on outcomes and benefits.⁴⁸ These often require significant investment and ongoing activity by the health system.⁴⁹ Novant Health recognizes the essential role of social determinants of health (“SDOH”) in community benefits and care:

“Social determinants of health, or nonmedical social needs, strongly influence health outcomes. These are defined by the American Academy of Family Physicians as the conditions under which people are born, grow, live, work and age. It is important to have a full picture of a patient in order to provide appropriate clinical support. When you think about a person’s well-being, clinical care only accounts for 10 percent of the total pie. The rest of the pie is a person’s genes (10 percent), physical environment (10 percent) and health behaviors (30 percent), while the largest piece is related to social and economic factors (40 percent). This shows that demographics and clinical information alone may not provide the full picture. A patient’s health is complex and can include nonclinical factors that influence their health, their utilization of services, the amount of services they need and the additional assistance available to them.”⁵⁰

Several of Novant Health’s initiatives are specifically attuned to SDOH:

On-line Platform pilot: This provides team members and patients “who are identified as having social needs to receive referrals to free and reduced cost programs in real time. The platform empowers individuals

⁴⁷ “The ACA’s hospital readmission penalties forced health care organizations to reconsider their role and self-interest in addressing deficits in social determinants of health in the community. Many learned that paying attention to the reality of people’s lives at home can reduce readmissions and utilization generally and that community-based organizations and nonmedical personnel such as social workers and community health workers can be more efficient than medical personnel in engaging upstream with patients who have complex conditions. Several high-profile health systems have opted to use community benefit spending as an opportunity to address social determinants of health. Nevertheless, substantial funding from hospitals or health plans for social determinants remain rare.” See Len M. Nichols and Lauren A. Taylor, “Social Determinants As Public Goods: A New Approach To Financing Key Investments In Healthy Communities,” *Health Affairs* (August 2018), <https://www.healthaffairs.org/doi/10.1377/hlthaff.2018.0039>.

⁴⁸ “Tax-exempt hospitals and local and state public health agencies have a crucial opportunity to improve overall population health through the IRS’ CHNA and implementation strategy requirements. In an era of transformative change, these partnerships are important and worth pursuing to find new opportunities for innovative and sustainable strategies to improve community health. Public health and the broader health care system can work together to surmount their challenges and promote access to vertically integrated delivery systems to improve population health. As health systems become increasingly integrated, public health agencies can play a critical role in ensuring that this integration increases access to care and services and improves population health. State health departments and hospitals should work together to ensure that integration efforts go beyond clinical services and include community-based prevention efforts.” See José T. Montero, et al, “Improved Population Health Through More Dynamic Public Health and Health Care System Collaboration,” *National Academy of Sciences (IOM) Discussion Paper* (2015), <http://nam.edu/wp-content/uploads/2015/06/DynamicPHCCollaboration.pdf>.

⁴⁹ “New value-based payment models such as alternative payment models, accountable care models such as accountable care organizations (ACOs) and patient-centered medical homes, and Medicare Shared Savings are moving towards payment for outcomes rather than process measures, as well as benchmarks for “total cost of care.” Since better results on the SDOH are associated with better health outcomes, will payment models evolve to jointly reward health care organizations and communities for outcomes such as lower tobacco, obesity and/or diabetes prevalence, or improved health school graduation rates?” See Sanne Magnan, “Social Determinants of Health 101 for Health Care: Five Plus Five,” *National Academy of Sciences (IOM) Discussion Paper* (2017), <http://nam.edu/social-determinants-of-health-101-for-health-care-five-plus-five/>.

⁵⁰ Novant Health, “Industry Insights,” (Sept. 2018), https://www.novanthealth.org/Portals/92/novant_health/documents/abotutus/viewpoints/NH-345950_Industry_Insights_Sept2018_FINAL.pdf.

and those helping them to go online and search any zip code for a list of community resources. It includes details about eligibility, how best to connect with each provider, or learn more about the resources in the community that are available to them... and includes access to AuntBertha.com, the largest social services locator in the United States.”⁵¹

Project CARE: Project CARE – which stands for Congregational Approach to Risk reduction and Empowerment – provides fitness and nutrition classes to Winston-Salem’s African-American population who are at high risk of chronic diseases. The program inspired residents to set long-term health goals and learn new lifestyle practices that encourage wellness. “In 2017, Project CARE served 419 people from 13 different African-American congregations. Of that number, 100 percent of congregations saw a decrease in average blood pressure and total cholesterol levels, and 89 percent of congregations saw an improvement in their average overall wellness score.”⁵²

Solomon House Diabetes Prevention Program: Through partnership with Cabarrus Health Alliance, Novant Health educators provided recipes and exercise programs to the Huntersville, North Carolina’s Spanish-speaking populations to improve their exercise routine and diet.⁵³

Kids Cook with Heart: This program is a partnership between Novant Health and American Heart Association. Novant Health dietitians taught middle schoolers food choices and cooking skills and how they affect heart health.⁵⁴

Open Minds: Novant Health UVA Health System co-sponsored this forum to provide mental health and substance misuse-related education, referral resources, and access to mental health professionals and providers.⁵⁵

The next section addresses Novant Health’s efforts to increase access to and affordability of care to residents of its many communities. These include new and innovative models, technologies, and locations to enhance the availability and ease of access to care for residents; significant investments within each of the communities to connect residents and care givers/leaders to overcome impediments to obtaining care;⁵⁶ and ongoing efforts to address one of the highest priority chronic conditions – diabetes – and to measure success with sound metrics and outcomes. Novant Health’s initiatives include focus on its own workforce and communities to improve health, reduce productivity costs, and enhance wellbeing of employees.

⁵¹ Ibid.

⁵² Novant Health, “Community Benefit Report 2017,” *Novant Health* (2018), https://www.novanthealth.org/Portals/92/novant_health/documents/about_us/community/NH-287682_CommunityReport_2017_July18_18_FINAL.pdf.

⁵³ Ibid.

⁵⁴ Ibid.

⁵⁵ Ibid.

⁵⁶ “Innovations in care delivery, including the patient-centered medical home model, chronic disease care management, accountable care organizations, hot-spotting and shared savings, and consumer-directed health technologies, can help advance population health if they are more widely understood and implemented with community support.” See José T. Montero, et al, “Improved Population Health Through More Dynamic Public Health and Health Care System Collaboration,” *National Academy of Sciences (IOM) Discussion Paper* (February 6, 2015), <http://nam.edu/wp-content/uploads/2015/06/DynamicPHHCCollaboration.pdf>.



Increasing Access & Affordability of Care

Figure 5: Novant Health's Efforts on Access and Affordability of Care



Novel Locations to Access Care

To combat the ongoing trend of rising costs, Novant Health has increased its efforts to improve access to care through open scheduling, utilizing new technologies, and providing novel locations to access physician care. Beyond the traditional facility-based model, Novant Health has engaged patients through a variety of avenues such as community-center style clinics, pop-up clinics, and additional corporate clinics. Other novel initiatives include:

- Taking healthcare on the move by launching mobile primary care units that will go into areas previously excluded from high-quality healthcare.
- In 2019, Novant Health plans to take mobile units even further by launching mobile food pharmacies.
- Specialized services can be accessed through digital channels in the clinics. For example, Novant Health Mint Hill Medical Center will provide patients with easy access to behavioral health physicians via telehealth platforms if no specialist is available at a given time.
- Utilizing E- and video visits to save trips to the physician's office, while still providing high quality care.
- Partnership with GoHealth to expand access to urgent care centers.

Partnership with GoHealth

In October 2018, Novant Health announced a joint venture partnership with GoHealth. Novant Health views GoHealth as an innovator in the urgent care sector and the partnership is a key component in increasing access and affordability to care. Novant Health-GoHealth Urgent Care centers provide convenient and cost-effective alternatives to costlier, more time-consuming emergency room visits and are available for most illnesses and non-life threatening injuries.⁵⁷ Patients using Novant Health-GoHealth Urgent Care centers experience the same integrated health record, with full access to Novant Health’s online portal, MyChart, as they do throughout the Novant Health network.⁵⁸ Currently, there are ten Novant Health-GoHealth Urgent Care centers in North Carolina (five each in the Charlotte and Greensboro-Winston-Salem markets, respectively) with plans to open more over the next 12-18 months.⁵⁹

Bending the Cost Curve

Novant Health has tackled a critical aspect of healthcare costs by providing care at a lower cost. In 2016, Novant Health spent less per member per month to provide healthcare for its team members and dependents as part of its self-funded plan. To reduce absenteeism and boost productivity, Novant Health initiated programs to motivate primary care visits, preventive screenings, compliance with medications, coordinated care after hospitalizations, and participation in wellness programs. Programs and resources include on-site clinics and accessible care options, designed to improve access to care as well as improve productivity. By the end of 2016 for its own team members, Novant Health experienced lower than expected costs by \$10 million and had \$1.4 million in total savings. Novant Health also provides corporate health services for outside companies which include services such as tobacco cessation, weight management, stress management, mobile mammography, educational programs, and health coaching.⁶⁰

Remarkable You – Know Your Numbers

One of Novant Health’s main system-wide initiatives is the ***Remarkable You*** program. The goal of this program is to educate the community on three key “numbers that may save [their] lives” –A1C count, blood pressure, and body-mass-index (BMI).⁶¹ Through free screenings and regular doctor visits, these chronic conditions may be reversed with early treatment.⁶² Over a 3-year program, Novant Health was successfully

⁵⁷ Novant Health, “Novant Health and GoHealth Urgent Care announce partnership to develop a large urgent care network across North Carolina,” <https://www.novanthealth.org/home/about-us/newsroom/press-releases/newsid33987/1976/novant-health-and-gohealth-urgent-care-announce-partnership-to-develop-a-large-urgent-care-network-across-north-carolina.aspx>.

⁵⁸ “Novant Health partnership to bring new urgent-care centers to Charlotte,” *Charlotte Business Journal* (October 8, 2018), <https://www.bizjournals.com/charlotte/news/2018/10/08/novant-health-partnership-to-bring-new-urgent-care.html>.

⁵⁹ “Novant Health-GoHealth Urgent Care,” <https://www.gohealthuc.com/nc>.

⁶⁰ Novant Health, “Bend your company’s healthcare cost curve,” https://www.novanthealth.org/Portals/92/novant_health/campaigns/corp%20health/CorpHealth-Whitepaper.pdf.

⁶¹ Novant Health, “Remarkable You – Know the Numbers,” <https://www.novanthealth.org/home/about-us/remarkable-you/your-wellness.aspx>.

⁶² Patient screenings represent one aspect of health systems’ efforts to address health and social needs. “Social determinants of health: How are hospitals and health systems investing in and addressing social needs?” *Deloitte* (2017), <https://www2.deloitte.com/content/dam/Deloitte/us/Documents/life-sciences-health-care/us-lshc-addressing-social-determinants-of-health.pdf>.

able to uncover over 6,000 patients who were unknowingly living with undiagnosed diabetes. Many of those patients have since chosen to receive treatment at Novant Health facilities.⁶³

As a health priority, Novant Health has dedicated a team to combating the growth of diabetes in their communities. They have launched multiple programs and pilots to provide resources aimed at prevention and treatment. Novant Health offers free hemoglobin A1C tests, health education classes to orient patients toward living healthier lifestyles, diabetes support groups to share care experiences and best practices, and community outreach teams to screen people through faith-based organizations.⁶⁴ Over 960 people were members of free diabetes support groups and 3,611 community members were educated on diabetes prevention. Health education classes took place at a variety of settings to reach a greater number of patients, including senior centers, community clinics, fitness centers, and Novant Health facilities. Over 4,500 team member hours were spent on diabetes prevention and management. Through its commitment to combating diabetes, Novant Health has sustained above the 90th percentile in multiple metrics – blood sugar control, lipid control, and blood pressure control.⁶⁵

Digital Products (New Technology)

Novant Health is investing in new technology and technologists to improve the patient experience and outcomes. They are tackling consumer engagement through an Omnichannel approach for a seamless patient experience by developing digitally direct patient and physical channels. Medical records, appointments, virtual visits, prescriptions, billing, and check-in can all be managed through a mobile application. Remote providers can connect with each other to provide immediate and coordinated care. Novant Health is also harnessing the power of Artificial Intelligence to improve quality and speed for clinical outcomes and system operations. Through enhanced information, providers can develop personalized treatments based on the patient's unique factors.

Diversity & Inclusion

Novant Health operates in multiple regions in North Carolina and Virginia. Novant Health has prioritized diversity and inclusion under its “high-performing, change ready, and resilient team” strategic imperative in response to changing local and global demographics in the workplace and marketplace. It believes high-performing businesses that are “inclusive” and have “managed talent” are more likely to be change-ready and can identify and build innovative leaders.⁶⁶ Novant Health provides care to a diverse community and tailors its care to each community. It focuses investments to support each of its unique regions. In 2016, its patient population was made up of 37% minorities (18% Black/African-American, 11% Latinos, 5% Asian & Pacific Islander/Non-Latinos, and 3% All Others).

⁶³ Emily Rappleye, “How Novant Health CEO Cart Armato’s Type 1 diabetes changed the lives of more than 6,000 patient,” *Becker’s Hospital Review* (December 19, 2018), <https://www.beckershospitalreview.com/hospital-management-administration/how-novant-health-ceo-carl-armato-s-type-1-diabetes-changed-the-lives-of-more-than-6-000-patients.html>.

⁶⁴ “Introduction to Novant Health” presentation to JP Morgan in 2019 (internal document) provided by Novant Health.

⁶⁵ Ibid.

⁶⁶ Ibid.

To address population-specific health issues, more than 300 Novant Health team members participate in 10 Business Resource Groups (BRGs) – Generation to Generation, Pride (LGBTQ), Black/African-American, Asian, Veterans, Latinos/Hispanics, Coexist, Women Physicians, Persons with Abilities, and Women.⁶⁷

Novant Health has received several national recognitions for its diversity and inclusion initiatives:⁶⁸

- Forbes recently ranked Novant Health No. 38 on its annual ranking of the country’s top employers for diversity out of 500 employers nationwide and the No. 1 employer in the state of North Carolina.⁶⁹
- Inaugural Health Equity Award from the Centers for Medicare and Medicaid for the groundbreaking work focused on closing the disparity gap for African-Americans with readmissions for pneumonia.⁷⁰
- Fourteen of our acute care facilities have been recognized as “Leaders in LGBTQ Healthcare Equity” by the Human Rights Campaign Foundation’s Health Equality Index.⁷¹

In addition, Novant Health has a robust supplier diversity program which was established in 2006. Creating a broad supplier network is a key priority for its diversity and inclusion initiatives. The program includes two tiers: Tier 1 suppliers provide products directly to the Novant Health organization, and Tier 2 suppliers may provide goods and services through Tier 1 companies. Novant Health partners with diverse businesses and contractors certified as being owned by women; people with disabilities; people who are LGBT; veterans; and ethnic minorities, including African-Americans, Asian-Pacific Americans, Native Americans, and Hispanics. Since establishing the supplier diversity program, Novant Health has partnered with over 400 diverse suppliers, representing an investment of more than \$600 million.⁷²

⁶⁷ Ibid.

⁶⁸ See Section IIIA for additional awards.

⁶⁹ Forbes, “The Best Employers for Diversity 2019,” <http://www.forbes.com/lists/best-employers-diversity/#7d090a466468>.

⁷⁰ Centers for Medicare & Medicaid Services, “CMS Health Equity Awards,” <https://www.cms.gov/About-CMS/Agency-Information/OMH/equity-initiatives/equity-awards.html>.

⁷¹ Human Rights Campaign Foundation, “Healthcare Equality Index 2018,” https://assets2.hrc.org/files/assets/resources/HEI-2018-FinalReport.pdf?_ga=2.236071170.2027919943.1554242502-1115194287.1554242502.

⁷² Novant Health, “Our supplier partnerships,” <https://www.novanthealth.org/home/about-us/diversity--inclusion/supplier-diversity/supplier-partnerships.aspx>.

IV. Economic Impact of Novant Health

A. Economic Impact of Health Systems

Hospitals and health systems with their wide array of facilities and resources play lead roles in many local communities, creating a major source of economic activity and employment. Hospitals purchase goods and services from other businesses which creates a “ripple effect” of additional economic activity in the community.⁷³ According to the American Hospital Association (“AHA”) and the most recent data, hospitals spent more than \$903 billion on goods and services from other businesses and paid \$430 billion on wages and salaries in 2016.⁷⁴ They are one of the largest sources of private sector jobs in the U.S. as of 2014.⁷⁵ In 2018 in North Carolina alone, AHA estimates that 174,235 hospital jobs stimulated 402,378 jobs, paying a total of more than \$21 billion in wages.⁷⁶ According to data from the U.S. Bureau of Labor Statistics, job growth in healthcare was the strongest in years 2006-2016 at a 2.3% annual rate and healthcare is also projected to be the strongest area of employment growth between years 2016-2026 at a 1.9% annual rate.⁷⁷ Healthcare-related jobs are among the fastest growing occupations in the U.S. Bureau of Labor Statistics projections made in 2018 with three healthcare-related jobs ranking in the top five.⁷⁸

Quantification of the economic impact of a healthcare system such as Novant Health in North Carolina and Virginia involves an assessment of its delivery of care through hospitals, outpatient clinics, rehabilitation facilities, diagnostic imaging centers, surgery centers, physician offices, administrative and corporate offices, and other resources used in the provision of care. Novant Health is a major employer, particularly in North Carolina, and a significant consumer of locally produced goods and services. In addition, investments and expenditures made by Novant Health to sustain and extend the provision of care across locations and services in the future stimulate the economy now by employing workers in the construction sector, and by supporting local businesses that produce building materials and other important intermediate goods.

B. Implementation of Economic Impact Analysis

This report utilizes standard input-output (I/O) modeling to quantify the various levels of economic impacts caused by the activities of Novant Health.⁷⁹ I/O modeling provides a means to account for the different

⁷³American Hospital Association, “Hospitals Are Economic Anchors in Their Communities,” (2017) <http://www.aha.org/content/17/17econcontribution.pdf>.

⁷⁴American Hospital Association, “Trends Affecting Hospitals and Health Systems, Chapter 6: The Economic Contribution of Hospitals,” https://www.aha.org/system/files/2018-05/2018-AHA-Chartbook_0.pdf (accessed March 2019).

⁷⁵American Hospital Association, “Hospitals are Economic Anchors in their Communities.” <https://www.aha.org/system/files/content/17/17econcontribution.pdf> (accessed March 2019).

⁷⁶Ibid.

⁷⁷Bureau of Labor Statistics, “Employment Projections: 2016-26 Summary, Table 2.1,” *Occupational Outlook Handbook*, <https://www.bls.gov/emp/tables/employment-by-major-industry-sector.htm> (accessed March 2019).

⁷⁸Bureau of Labor Statistics, “Employment Projections: Fastest Growing Occupations 2016-26,” *Occupational Outlook Handbook*, <https://www.bls.gov/ooh/fastest-growing.htm> (accessed March 2019).

⁷⁹Developed by Nobel Prize winner Wassily Leontief in the mid-1900s, I/O modeling takes into account that changes in demand for the output of one industry will have impacts throughout an economy, causing changes in demand for other linked industries. See R. Bess, and Z. Ambargis, “Input-Output Models for Impact Analysis: Suggestions for Practitioners Using RIMS II Multipliers,” *U.S. Bureau of Economic Analysis* (March 2011), <https://www.bea.gov/system/files/papers/WP2012-3.pdf> (accessed March 2019).

sizes of industries and their specific multipliers, allowing for meaningful estimations of the indirect and induced impacts set out in the schematic in the Technical Appendix.⁸⁰

This report uses the IMPLAN (“IMPact analysis for PLANning”) economic modeling software from MIG (“Minnesota IMPLAN Group”) to quantify the operational and construction impacts of Novant Health. IMPLAN is a software package for regional I/O modeling and economic forecasting that was developed in a 1979 collaboration between the USDA Forest Service and the University of Minnesota. The software package uses publicly provided data to generate complete estimates of the values of the direct, indirect, and induced impacts for key economic indicators, including employment, labor income, value added, output, and tax revenues shown in the Technical Appendix.⁸¹ The IMPLAN economic modeling software has been used in a number of applications, including the evaluation of economic impact of general acute care hospitals on state and local economies.⁸²

C. Economic Impact Analysis Using IMPLAN Software

Expenditures on or by Novant Health during calendar year 2018 are the primary inputs for the assessment of the economic impact of Novant Health using the I/O model. In particular, the estimation of operational impact uses expenditures on healthcare services at Novant Health, while the estimation of construction impact uses Novant Health capital expenditures on construction projects.

Novant Health provided the Center with proprietary data and publicly available documents to inform the economic impact analysis and to use as inputs into the I/O model. Internal strategic planning documents from Novant Health provided other data such as annual capital expenditures on construction projects. This report also provides additional customization of the IMPLAN model to incorporate supplementary inputs. The Center added employee head counts and employee compensation numbers to provide more complete estimates of the total economic impact calculations. **Table 3** provides a state-level summary of Novant Health inputs to the IMPLAN model. These include net operating revenues; salaries, wages and benefits; and capital expenditures for construction for all Novant Health hospitals, surgery centers, outpatient and rehabilitation centers, physician offices, imaging centers, and administrative and corporate offices in North Carolina and Virginia.

⁸⁰ The I/O modeling technique permits economists in a structured way to identify and track the flow of expenditures between households, businesses and governments in a defined locality or geographic area and to estimate the overall impact of specific activities. Underlying I/O models are location- and industry-specific matrices based on estimates of the strength and magnitude of the relationship between each pair of industries in the economy. The model tracks dollars exchanged between agents in the local economy, thereby estimating the value of economic activity generated by a particular industry within a predefined geographic area. Although I/O modeling has limitations, it has been implemented by academic economists, public policy experts, governments and businesses in a number of different industries to estimate economic impacts.

⁸¹ These data come from the U.S. Bureau of Labor Statistics (Covered Employment and Wages program, Consumer Expenditure Survey), the U.S. Bureau of Economic Analysis (Regional Economic Information System program, Benchmark I/O Account of the U.S.), the U.S. Census Bureau (County Business Patterns program, Decennial Census and Population Surveys, Economic Censuses and Surveys) and the U.S. Department of Agriculture (USDA Census). The data are compiled at the zip-code level and can be combined at the county level to specify unique and substantive geographic units of analysis. See “IMPLAN Data Sources,” *IMPLAN*, http://implan.com/index.php?option=com_content&view=article&id=250 (accessed March, 2019).

⁸² The use of IMPLAN modeling is a common technique to estimate the economic impacts of healthcare providers within a defined geography. State hospital associations have used IMPLAN modeling to estimate the impact of the acute care hospital industry on economic indicators.

Table 3: State-Level Inputs to IMPLAN Model, 2018

Impact Type	North Carolina	Virginia
Employment Headcount	23,843	2,080
Net Operating Revenue	\$ 4,515,501,254	\$ 411,322,038
Salaries, Wages & Benefits	\$ 2,125,361,807	\$ 166,837,006
Capital Expenditure for Construction	\$ 190,390,391	\$ 8,297,488

IMPLAN uses the inputs from **Table 3** to estimate industry-specific impacts that reflect each industry's unique supply and demand chains and needs. The model uses the North American Industry Classification System (NAICS) to attribute appropriate industry-specific multiplier values.⁸³ Novant Health provides a range of services across the healthcare spectrum, and it was necessary to match each Novant Health activity to a specific industry NAICS code for the IMPLAN model. **Table 4** groups the services offered by Novant Health into the seven corresponding NAICS codes used in the analysis.

Table 4: Types of Novant Health Facilities and Associated North American Industrial Classification System (NAICS) Codes⁸⁴

Novant Facility Type	NAICS Definition	NAICS Code
Pharmacy	Pharmacies and Drug Stores	446000
Corporate Offices	Corporate, Subsidiary, and Regional Managing Offices	550000
Physician Offices/Medical Groups	Office of Physicians (except Mental Health Specialists)	621100
Ambulatory Surgical Centers	Freestanding Ambulatory Surgical and Emergency Centers	621400
Rehabilitation Facilities	Vocational Rehabilitation Services	621400
Imaging Centers	Diagnostics Imaging Centers	621500
Acute Care Hospitals	General Medical and Surgical Hospitals	622000
Assisted Living Facilities	Nursing and Community Care Facilities	623A00

⁸³ NAICS was developed under the auspices of the Office of Management and Budget (OMB), and adopted in 1997 to replace the Standard Industrial Classification (SIC) system. It was developed jointly by the U.S. Economic Classification Policy Committee (ECPC), Statistics Canada, and Mexico's Instituto Nacional de Estadística y Geografía, to allow for a high level of comparability in business statistics among the North American countries. The 2012 NAICS comprises 19,255 six-digit codes, categorized into 20 over-arching sector groupings. See U.S. Census website at <http://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart=2012> (accessed March 2019).

⁸⁴ NAICS is reviewed every five years for updates. The most recent version of NAICS was updated in 2017. See Office of Management and Budget, "NAICS Update Process Fact Sheet," *Office of Management and Budget*, http://www.census.gov/eos/www/naics/reference_files_tools/NAICS_Update_Process_Fact_Sheet.pdf. (accessed March 2019).

The Center estimated the economic impacts of Novant Health’s activities on five distinct geographies: the state of North Carolina, the Greensboro-Winston-Salem-High Point CSA, the Charlotte-Concord CSA, the state of Virginia, Northern Virginia, and Rappahannock/Rapidan HPA.⁸⁵ For each of these geographies, the Center recalculated the IMPLAN inputs from **Table 3** using relevant data from only the specific Novant Health facilities that operate within that geography.

D. Results of Economic Impact Analysis

Summary of the Economic Impact in North Carolina

Table 5 summarizes the results of the Center’s economic impact analysis for the state of North Carolina. The results show that 55,760 jobs, more than \$3.6 billion in labor income, and more than \$9.0 billion in output are attributable to the activities (operations and construction) of Novant Health. These impacts extend beyond the boundaries of the Charlotte-Concord and Greensboro-Winston-Salem-High Point urban areas, positively affecting populations in rural areas. In Charlotte-Concord CSA, Novant Health’s activities generated 28,884 jobs and \$4.9 billion in output; in Greensboro-Winston-Salem-High Point CSA, Novant Health’s activities generated 22,648 jobs and \$3.5 billion in output. Outside of the two major North Carolina CSAs, Novant Health’s activities in other areas of North Carolina generated nearly 4,228 jobs and \$600 million in output. Further detail on the two types of impacts in each of the regions is provided in subsequent sections below.

⁸⁵ According to U.S. Census 2017 population estimates, Charlotte-Concord CSA has a population of 2,584,937 and Greensboro-Winston-Salem-High Point CSA has a population of 1,639,944. See U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates (accessed March 2019). Charlotte-Concord CSA used to be called Charlotte-Gastonia-Salisbury CSA in U.S. Census 2009 CSA delineation. U.S. Census 2013 CSA delineation dropped Anson County from this CSA and changed its name to Charlotte-Concord CSA. This study uses U.S. Census 2017 CSA delineation, which has the same delineation as the 2013 and 2015 CSA delineation for Greensboro-Winston-Salem-High Point CSA and Charlotte-Concord CSA. The state of North Carolina consists of 100 counties, all of which are included in the state-level analysis. The Greensboro-Winston-Salem-High Point CSA includes 10 North Carolina counties: Alamance, Davidson, Davie, Forsyth, Guilford, Randolph, Rockingham, Stokes, Surry and Yadkin. The Charlotte-Concord, NC-SC CSA includes nine North Carolina counties: Cabarrus, Cleveland, Gaston, Iredell, Lincoln, Mecklenburg, Rowan, Stanly and Union. Three South Carolina counties are included in Charlotte-Concord CSA definition. However, these three counties are omitted from the analyses in this report in order to present impacts unique to the state of North Carolina. See Shaun Donovan, “Revised Delineations of Metropolitan Statistical Areas, Micropolitan Statistical Areas, and Combined Statistical Areas, and Guidance on Uses of the Delineations of These Areas,” *Office of Management and Budget* (July 15, 2015), <https://obamawhitehouse.archives.gov/sites/default/files/omb/bulletins/2015/15-01.pdf>. (accessed March 2019). For the state of Virginia, the two regions defined are Northern Virginia and Rappahannock/Rapidan Health Planning Region. The counties in Northern Virginia are Loudoun, Fairfax, Prince William, Arlington, and Alexandria Counties. The counties in the Rappahannock/Rapidan Health Planning Region are Fauquier, Rappahannock, Culpepper, Madison, and Orange Counties. See Virginia Department of Health, “Local Health Districts,” <http://www.vdh.virginia.gov/local-health-districts/>.

Table 5: Summary of Economic Impact of Novant Health in North Carolina, 2018

Impact Type	Employment	Labor Income	Value Added	Output	State & Local Tax Revenue	Federal Tax Revenue
State of North Carolina						
Total Impact	55,760	\$ 3,667,455,638	\$ 5,216,973,704	\$ 9,045,381,152	\$ 244,751,504	\$ 714,961,279
Operation Impact	53,565	\$ 3,551,855,718	\$ 5,051,622,061	\$ 8,705,775,812	\$ 235,751,425	\$ 694,051,080
Construction Impact	2,195	\$ 115,599,920	\$ 165,351,643	\$ 339,605,340	\$ 9,000,079	\$ 20,910,199
Charlotte-Concord CSA						
Total Impact	28,884	\$ 2,075,210,296	\$ 2,898,220,653	\$ 4,914,874,492	\$ 149,934,150	\$ 428,578,923
Operation Impact	27,235	\$ 1,972,950,593	\$ 2,753,912,210	\$ 4,641,141,844	\$ 141,662,275	\$ 408,520,106
Construction Impact	1,649	\$ 102,259,703	\$ 144,308,443	\$ 273,732,648	\$ 8,271,875	\$ 20,058,817
Greensboro-Winston-Salem-High Point CSA						
Total Impact	22,648	\$ 1,441,909,194	\$ 2,029,886,035	\$ 3,538,710,600	\$ 113,592,657	\$ 325,223,287
Operation Impact	22,343	\$ 1,426,730,745	\$ 2,008,419,472	\$ 3,493,698,132	\$ 112,196,347	\$ 322,052,247
Construction Impact	305	\$ 15,178,449	\$ 21,466,563	\$ 45,012,468	\$ 1,396,310	\$ 3,171,040

Economic Impact of Novant Health in North Carolina

Operational Impact

Table 6 shows that in 2018, the operations of all Novant Health's North Carolina facilities collectively generated \$8.7 billion in total economic impact for the state and created 53,565 total jobs.⁸⁶ In addition, it is estimated that Novant Health's operations in the state contributed \$236 million to state and local tax revenues and \$694 million to federal tax revenues.⁸⁷ Novant Health's North Carolina operations positively affected a variety of industries, as shown in **Table 7**. Most notable among these were hospitals, physician offices, real estate, and employment services.

Table 6: Economic Impact of Novant Health Operations in North Carolina, 2018

Impact Type	Employment	Labor Income	Value Added	Output	State & Local Tax Revenue	Federal Tax Revenue
Direct Effect	23,843	\$ 2,125,361,807	\$ 2,562,295,810	\$ 4,420,823,941	\$ 70,087,606	\$ 447,275,563
Indirect Effect	11,981	\$ 643,435,835	\$ 1,049,759,854	\$ 1,789,547,237	\$ 60,637,327	\$ 104,765,752
Induced Effect	17,741	\$ 783,058,076	\$ 1,439,566,397	\$ 2,495,404,634	\$ 105,026,492	\$ 142,009,765
Total Effect	53,565	\$ 3,551,855,718	\$ 5,051,622,061	\$ 8,705,775,812	\$ 235,751,425	\$ 694,051,080

⁸⁶The Direct Impact entries for Employment, Labor Income, and Output represent Novant Health's employee headcount, salaries, wages and benefits, and net operating revenues in North Carolina. Value Added and Tax revenues are estimated by the IMPLAN model for Direct Impacts.

⁸⁷"Novant Health is classified as a nonprofit organization pursuant to Section 501(c)(3) of the Internal Revenue Code and is exempt from income taxes on revenue earned from its tax-exempt purposes. Novant Health also operates various for-profit subsidiaries which operate in service lines that are complementary to Novant Health's tax-exempt purpose. Income from activities that are determined by IRS regulations to be unrelated to the tax-exempt purposes as well as income from activities of for-profit subsidiaries of the Company are subject to federal and state taxation." See Novant Health, "Novant Health, Inc. and Affiliates Notes to Consolidated Financial Statements December 31, 2017 and 2016," *2017 Novant Health Form 990 Attachment*, p. 15, https://www.novanthealth.org/Portals/92/novant_health/documents/about_us/financial/Annual/NHAffiliates_2017_EMMA.pdf.

Table 7: Top 10 Industries Affected by Novant Health Operations in North Carolina, 2018

Sector	Description	Employment	Labor Income	Value Added	Output
482	Hospitals	18,976	\$ 1,401,724,786	\$ 1,660,847,211	\$ 3,088,049,300
475	Offices of physicians	8,510	\$ 874,144,145	\$ 870,144,236	\$ 1,289,008,633
440	Real estate	1,984	\$ 44,802,434	\$ 258,059,149	\$ 366,690,317
464	Employment services	1,819	\$ 76,863,560	\$ 111,486,677	\$ 148,844,252
501	Full-service restaurants	1,680	\$ 39,286,016	\$ 41,177,594	\$ 81,167,898
502	Limited-service restaurants	1,262	\$ 24,742,104	\$ 54,263,221	\$ 101,570,037
479	Medical and diagnostic laboratories	1,124	\$ 93,268,936	\$ 93,837,993	\$ 139,300,794
395	Wholesale trade	952	\$ 77,530,325	\$ 142,965,043	\$ 215,308,767
454	Management consulting services	883	\$ 66,323,162	\$ 63,776,674	\$ 101,299,002
468	Services to buildings	748	\$ 15,415,912	\$ 18,704,165	\$ 31,305,357

Construction Impact

The construction activity of Novant Health in North Carolina shown in **Table 8** generated large economic impact in the state of North Carolina in 2018. The more than \$190 million in construction expenditures made by Novant Health led to an indirect impact of more than \$72 million and an induced impact of more than \$76 million. As reflected in **Table 9**, Novant Health's construction activities significantly affected employment in the construction, wholesale trade, real estate, and restaurant industries.

Table 8: Economic Impact of Novant Health Construction Activity in North Carolina, 2018

Impact Type	Employment	Labor Income	Value Added	Output	State & Local Tax Revenue	Federal Tax Revenue
Direct Effect	1,250	\$ 68,259,654	\$ 83,381,703	\$ 190,390,391	\$ 3,160,722	\$ 12,692,669
Indirect Effect	398	\$ 23,208,047	\$ 37,599,011	\$ 72,335,550	\$ 2,611,760	\$ 3,860,451
Induced Effect	547	\$ 24,132,219	\$ 44,370,929	\$ 76,879,399	\$ 3,227,597	\$ 4,357,079
Total Effect	2,195	\$ 115,599,920	\$ 165,351,643	\$ 339,605,340	\$ 9,000,079	\$ 20,910,199

Table 9: Top 10 Industries Affected by Novant Health Construction Activity in North Carolina, 2018

Sector	Description	Employment	Labor Income	Value Added	Output
52	Construction of new health care structures	1,250	\$ 68,259,654	\$ 83,381,703	\$ 190,390,391
395	Wholesale trade	73	\$ 5,912,030	\$ 10,901,717	\$ 16,418,245
440	Real estate	45	\$ 1,009,806	\$ 5,816,418	\$ 8,264,865
501	Full-service restaurants	37	\$ 870,079	\$ 911,972	\$ 1,797,650
502	Limited-service restaurants	35	\$ 678,381	\$ 1,487,794	\$ 2,784,856
464	Employment services	29	\$ 1,206,836	\$ 1,750,454	\$ 2,337,005
411	Truck transportation	27	\$ 1,520,466	\$ 1,829,438	\$ 4,160,349
482	Hospitals	23	\$ 1,672,121	\$ 1,981,229	\$ 3,683,741
449	Architectural, engineering, and related services	22	\$ 1,805,039	\$ 1,783,154	\$ 3,414,483
405	Retail - General merchandise stores	21	\$ 590,880	\$ 841,322	\$ 1,441,065

Economic Impact of Novant Health in the Charlotte-Concord Combined Statistical Area

Operational Impact

The Charlotte-Concord CSA includes nine North Carolina counties: Cabarrus, Cleveland, Gaston, Iredell, Lincoln, Mecklenburg, Rowan, Stanly, and Union. Novant Health operates six hospitals in the area: Novant Health Presbyterian Medical Center, Novant Health Huntersville Medical Center, Novant Health Matthews Medical Center, Novant Health Charlotte Orthopedic Hospital, Novant Health Rowan Medical Center, and Novant Health Mint Hill Medical Center. Also included in the area are a number of imaging centers, physician offices, and outpatient rehabilitation centers, as well as seven ambulatory surgery centers.

In 2018, net operating revenues were approximately \$2.4 billion for Novant Health in the Charlotte-Concord CSA. These revenues generated \$1.1 billion of indirect output impact and \$1.2 billion of induced output impact. The total impact on employment created by the presence of Novant Health in the area was a gain of 27,235 jobs in a number of related industries, as shown in **Table 10** and **Table 11**, respectively.

Table 10: Economic Impact of Novant Health Operations in Charlotte-Concord CSA, 2018

Impact Type	Employment	Labor Income	Value Added	Output	State & Local Tax Revenue	Federal Tax Revenue
Direct Effect	12,862	\$ 1,172,310,208	\$ 1,372,908,328	\$ 2,396,338,527	\$ 35,200,904	\$ 232,099,376
Indirect Effect	6,500	\$ 415,823,826	\$ 671,360,825	\$ 1,075,476,243	\$ 45,880,719	\$ 89,039,999
Induced Effect	7,874	\$ 384,816,559	\$ 709,643,057	\$ 1,169,327,074	\$ 60,580,652	\$ 87,380,731
Total Effect	27,235	\$ 1,972,950,593	\$ 2,753,912,210	\$ 4,641,141,844	\$ 141,662,275	\$ 408,520,106

Table 11: Top 10 Industries Affected by Novant Health Operations in Charlotte-Concord CSA, 2018

Sector	Description	Employment	Labor Income	Value Added	Output
482	Hospitals	10,686	\$ 743,368,716	\$ 881,122,664	\$ 1,684,703,417
475	Offices of physicians	4,254	\$ 493,633,840	\$ 489,771,901	\$ 698,945,284
440	Real estate	910	\$ 23,106,440	\$ 162,207,887	\$ 212,023,007
464	Employment services	873	\$ 43,488,502	\$ 62,993,951	\$ 80,892,639
501	Full-service restaurants	824	\$ 22,568,471	\$ 23,476,588	\$ 43,095,047
502	Limited-service restaurants	583	\$ 13,826,496	\$ 28,108,340	\$ 49,950,489
395	Wholesale trade	509	\$ 44,669,659	\$ 80,908,194	\$ 119,558,156
479	Medical and diagnostic laboratories	463	\$ 25,862,660	\$ 26,275,159	\$ 45,043,626
454	Management consulting services	446	\$ 40,803,108	\$ 38,983,652	\$ 57,941,305
438	Insurance agencies, brokerages, and related activities	394	\$ 32,034,009	\$ 42,331,567	\$ 78,643,395

Construction Impact

The construction activity of Novant Health in the Charlotte-Concord CSA created the additional \$274 million in output shown in **Table 12**. These activities are estimated to have led to more than \$8.2 million in state and local tax revenue and more than \$20 million in federal tax revenue. **Table 13** describes the corollary impacts on related industries in the area.

Table 12: Economic Impact of Novant Health Construction Activity in Charlotte-Concord CSA, 2018

Impact Type	Employment	Labor Income	Value Added	Output	State & Local Tax Revenue	Federal Tax Revenue
Direct Effect	964	\$ 63,601,538	\$ 77,488,844	\$ 160,083,404	\$ 2,657,163	\$ 11,486,707
Indirect Effect	289	\$ 19,372,241	\$ 31,253,568	\$ 55,068,461	\$ 2,572,180	\$ 4,192,517
Induced Effect	395	\$ 19,285,924	\$ 35,566,032	\$ 58,580,784	\$ 3,042,533	\$ 4,379,594
Total Effect	1,649	\$ 102,259,703	\$ 144,308,443	\$ 273,732,648	\$ 8,271,875	\$ 20,058,817

Table 13: Top 10 Industries Affected by Novant Health Construction Activity in Charlotte-Concord CSA, 2018

Sector	Description	Employment	Labor Income	Value Added	Output
52	Construction of new health care structures	964	\$ 63,601,538	\$ 77,488,844	\$ 160,083,404
395	Wholesale trade	59	\$ 5,162,809	\$ 9,351,170	\$ 13,818,237
440	Real estate	31	\$ 780,943	\$ 5,482,240	\$ 7,165,872
501	Full-service restaurants	28	\$ 759,164	\$ 789,711	\$ 1,449,642
502	Limited-service restaurants	25	\$ 597,685	\$ 1,215,053	\$ 2,159,234
449	Architectural, engineering, and related services	21	\$ 1,948,875	\$ 1,918,798	\$ 3,454,357
411	Truck transportation	20	\$ 1,348,027	\$ 1,607,360	\$ 3,316,177
464	Employment services	19	\$ 957,814	\$ 1,387,413	\$ 1,781,623
405	Retail - General merchandise stores	15	\$ 500,913	\$ 698,244	\$ 1,144,247
400	Retail - Food and beverage stores	14	\$ 381,541	\$ 522,611	\$ 874,606

Economic Impact of Novant Health in the Greensboro-Winston-Salem-High Point Combined Statistical Area

Operational Impact

The Greensboro-Winston-Salem-High Point CSA includes 10 North Carolina counties: Alamance, Davidson, Davie, Forsyth, Guilford, Randolph, Rockingham, Stokes, Surry, and Yadkin. The largest acute care facility in the Novant Health system by number of beds as well as net patient revenue, Novant Health Forsyth Medical Center, is located in the area, along with Novant Health's corporate and administrative headquarters. The CSA is also home to four other acute care hospitals, numerous physician offices, five outpatient imaging sites, and seven outpatient rehabilitation centers.

In 2018, net operating revenues were more than \$1.8 billion for Novant Health in the Greensboro-Winston-Salem-High Point CSA. These revenues generated \$683 million of indirect output impact and nearly \$967 million of induced output impact. The total impact on employment created by the presence of Novant Health in the area was a gain of 22,343 jobs in a number of related industries, as shown in **Table 14** and **Table 15**, respectively.

Table 14: Economic Impact of Novant Health Operations in Greensboro-Winston-Salem-High Point CSA, 2018

Impact Type	Employment	Labor Income	Value Added	Output	State & Local Tax Revenue	Federal Tax Revenue
Direct Effect	10,094	\$ 877,599,915	\$ 1,063,854,149	\$ 1,844,102,307	\$ 28,734,229	\$ 192,281,843
Indirect Effect	4,933	\$ 242,069,776	\$ 391,706,091	\$ 683,005,280	\$ 32,390,004	\$ 55,335,192
Induced Effect	7,316	\$ 307,061,054	\$ 552,859,231	\$ 966,590,545	\$ 51,072,114	\$ 74,435,212
Total Effect	22,343	\$ 1,426,730,745	\$ 2,008,419,472	\$ 3,493,698,132	\$ 112,196,347	\$ 322,052,247

Table 15: Top 10 Industries Affected by Novant Health Operations in Greensboro-Winston-Salem-High Point CSA, 2018

Sector	Description	Employment	Labor Income	Value Added	Output
482	Hospitals	7,984	\$ 575,473,127	\$ 683,595,177	\$ 1,284,066,778
475	Offices of physicians	3,529	\$ 358,682,612	\$ 356,989,600	\$ 530,712,801
464	Employment services	953	\$ 30,249,237	\$ 44,070,382	\$ 63,688,820
440	Real estate	794	\$ 19,841,424	\$ 88,481,043	\$ 131,916,287
501	Full-service restaurants	696	\$ 14,477,621	\$ 15,290,348	\$ 31,847,258
401	Retail - Health and personal care stores	570	\$ 21,612,273	\$ 27,648,836	\$ 47,036,656
502	Limited-service restaurants	523	\$ 9,439,137	\$ 21,374,853	\$ 40,969,530
395	Wholesale trade	455	\$ 29,314,614	\$ 56,607,601	\$ 91,235,969
479	Medical and diagnostic laboratories	439	\$ 37,586,948	\$ 37,776,072	\$ 55,527,941
461	Management of companies and enterprises	376	\$ 48,436,522	\$ 59,377,620	\$ 96,539,569

Construction Impact

The construction activity by Novant Health in the Greensboro-Winston-Salem-High Point CSA, shown in **Table 16** and **Table 17**, created significant economic impact. Novant Health's 2018 construction investments in the area contributed approximately \$15.2 million in labor income. Similarly, Novant Health's construction activity positively contributed to state, local, and federal tax revenues.

Table 16: Economic Impact of Novant Health Construction Activity in Greensboro Winston-Salem-High Point CSA, 2018

Impact Type	Employment	Labor Income	Value Added	Output	State & Local Tax Revenue	Federal Tax Revenue
Direct Effect	179	\$ 9,235,857	\$ 11,299,944	\$ 26,578,828	\$ 428,302	\$ 1,756,885
Indirect Effect	53	\$ 2,856,565	\$ 4,607,816	\$ 8,719,700	\$ 453,819	\$ 665,878
Induced Effect	74	\$ 3,086,026	\$ 5,558,803	\$ 9,713,940	\$ 514,187	\$ 748,279
Total Effect	305	\$ 15,178,449	\$ 21,466,563	\$ 45,012,468	\$ 1,396,310	\$ 3,171,040

Table 17: Top 10 Industries Affected by Novant Health Construction Activity in Greensboro-Winston-Salem-High Point CSA, 2018

Sector	Description	Employment	Labor Income	Value Added	Output
52	Construction of new health care structures	179	\$ 9,235,857	\$ 11,299,944	\$ 26,578,828
395	Wholesale trade	12	\$ 767,614	\$ 1,482,291	\$ 2,389,047
440	Real estate	6	\$ 148,448	\$ 661,993	\$ 986,964
464	Employment services	5	\$ 158,663	\$ 231,157	\$ 334,059
501	Full-service restaurants	5	\$ 103,954	\$ 109,790	\$ 228,674
502	Limited-service restaurants	5	\$ 83,823	\$ 189,816	\$ 363,824
482	Hospitals	5	\$ 332,569	\$ 395,054	\$ 742,070
411	Truck transportation	4	\$ 237,218	\$ 289,267	\$ 613,410
405	Retail - General merchandise stores	3	\$ 78,997	\$ 112,596	\$ 193,265
469	Landscape and horticultural services	3	\$ 67,077	\$ 82,496	\$ 143,907

Summary of the Economic Impact in Virginia

Table 18 summarizes the results of the Center's economic impact analysis for the state of Virginia. The results show that 4,533 jobs, more than \$298 million in labor income, and more than \$784 million in output are attributable to the activities (operations and construction) of Novant Health. In Northern Virginia, Novant Health's activities generated 2,792 jobs and \$525 million in output; in Rappahannock/Rapidan Health Planning Area, Novant Health's activities generated 1,081 jobs and \$169 million in output. Further detail on the two types of impacts in each of the regions is provided in subsequent sections below.

Table 18: Summary of Economic Impact of Novant Health in Virginia, 2018

Impact Type	Employment	Labor Income	Value Added	Output	State & Local Tax Revenue	Federal Tax Revenue
State of Virginia						
Total Impact	4,533	\$ 298,008,744	\$ 453,266,184	\$ 784,698,483	\$ 25,107,618	\$ 70,330,711
Operation Impact	4,451	\$ 293,234,481	\$ 446,163,226	\$ 771,095,617	\$ 24,676,613	\$ 69,321,462
Construction Impact	83	\$ 4,774,263	\$ 7,102,958	\$ 13,602,866	\$ 431,005	\$ 1,009,249
Northern Virginia						
Total Impact	2,792	\$ 206,616,875	\$ 319,428,255	\$ 524,819,051	\$ 15,489,307	\$ 50,088,114
Operation Impact	2,755	\$ 203,934,442	\$ 315,539,606	\$ 518,067,291	\$ 15,283,348	\$ 49,535,789
Construction Impact	37	\$ 2,682,433	\$ 3,888,649	\$ 6,751,760	\$ 205,959	\$ 552,325
Rappahannock/Rapidan HPA						
Total Impact	1,081	\$ 63,989,669	\$ 88,029,859	\$ 168,692,469	\$ 4,726,473	\$ 14,136,709
Operation Impact	1,048	\$ 62,214,414	\$ 85,505,570	\$ 163,582,685	\$ 4,571,920	\$ 13,778,017
Construction Impact	33	\$ 1,775,255	\$ 2,524,289	\$ 5,109,784	\$ 154,553	\$ 358,692

Economic Impact of Novant Health in Virginia

Operational Impact

Table 19 shows that in 2018, the operations of all Novant Health’s Virginia facilities collectively generated \$771 million in total economic impact for the state and created 4,451 total jobs.⁸⁸ In addition, it is estimated that Novant Health’s operations in the state contributed \$25 million to state and local tax revenues and \$69 million to federal tax revenues. Novant Health’s Virginia operations positively affected a variety of industries, as shown in **Table 20**. Most notable among these were hospitals, physician offices, real estate, and employment services.

Table 19: Economic Impact of Novant Health Operations in Virginia, 2018

Impact Type	Employment	Labor Income	Value Added	Output	State & Local Tax Revenue	Federal Tax Revenue
Direct Effect	2,080	\$ 166,837,006	\$ 227,095,368	\$ 411,201,048	\$ 5,644,320	\$ 39,915,794
Indirect Effect	979	\$ 61,524,616	\$ 97,246,230	\$ 156,879,897	\$ 7,116,495	\$ 13,702,005
Induced Effect	1,391	\$ 64,872,859	\$ 121,821,628	\$ 203,014,672	\$ 11,915,798	\$ 15,703,663
Total Effect	4,451	\$ 293,234,481	\$ 446,163,226	\$ 771,095,617	\$ 24,676,613	\$ 69,321,462

Table 20: Top 10 Industries Affected by Novant Health Operation Activity in Virginia, 2018

Sector	Description	Employment	Labor Income	Value Added	Output
482	Hospitals	2,133	\$ 156,679,099	\$ 181,849,537	\$ 342,276,233
475	Offices of physicians	340	\$ 36,581,701	\$ 36,137,560	\$ 52,862,323
440	Real estate	153	\$ 3,585,308	\$ 26,824,567	\$ 35,222,422
478	Outpatient care centers	136	\$ 9,251,204	\$ 11,309,994	\$ 20,729,462
501	Full-service restaurants	128	\$ 3,073,033	\$ 3,370,632	\$ 6,424,223
464	Employment services	120	\$ 5,696,878	\$ 9,274,436	\$ 11,734,582
502	Limited-service restaurants	91	\$ 1,778,410	\$ 4,220,987	\$ 7,622,558
483	Nursing and community care facilities	84	\$ 3,295,653	\$ 3,659,314	\$ 6,010,099
479	Medical and diagnostic laboratories	84	\$ 6,243,421	\$ 6,260,558	\$ 9,669,807
454	Management consulting services	67	\$ 7,110,613	\$ 6,839,104	\$ 9,674,752

Construction Impact

The construction activity of Novant Health in Virginia shown in **Table 21** generated large economic impact in the state in 2018. The more than \$8.2 million in construction expenditures made by Novant Health led to an indirect impact of more than \$2.3 million and an induced impact of more than \$2.9 million. As reflected in **Table 22**, Novant Health’s construction activities significantly affected employment in the construction, wholesale trade, real estate, and restaurant industries.

⁸⁸ The Direct Impact entries for Employment, Labor Income, and Output represent Novant Health’s employee headcount, salaries, wages and benefits, and net operating revenues in Virginia. Value Added and Tax revenues are estimated by the IMPLAN model for Direct Impacts.

Table 21: Economic Impact of Novant Health Construction in Virginia, 2018

Impact Type	Employment	Labor Income	Value Added	Output	State & Local Tax Revenue	Federal Tax Revenue
Direct Effect	50	\$ 3,005,606	\$ 4,012,757	\$ 8,297,488	\$ 138,575	\$ 593,655
Indirect Effect	13	\$ 829,141	\$ 1,325,781	\$ 2,366,464	\$ 119,543	\$ 188,160
Induced Effect	20	\$ 939,516	\$ 1,764,419	\$ 2,938,913	\$ 172,887	\$ 227,434
Total Effect	83	\$ 4,774,263	\$ 7,102,958	\$ 13,602,866	\$ 431,005	\$ 1,009,249

Table 22: Top 10 Industries Affected by Novant Health Construction Activity in Virginia, 2018

Sector	Description	Employment	Labor Income	Value Added	Output
52	Construction of new health care structures	50	\$ 3,005,606	\$ 4,012,757	\$ 8,297,488
395	Wholesale trade	2	\$ 198,860	\$ 370,102	\$ 543,808
440	Real estate	2	\$ 35,174	\$ 263,166	\$ 345,555
501	Full-service restaurants	1	\$ 29,939	\$ 32,838	\$ 62,588
502	Limited-service restaurants	1	\$ 22,699	\$ 53,876	\$ 97,293
449	Architectural, engineering, and related services	1	\$ 106,184	\$ 104,185	\$ 177,293
411	Truck transportation	1	\$ 50,983	\$ 61,882	\$ 135,835
482	Hospitals	1	\$ 56,797	\$ 65,922	\$ 124,077
464	Employment services	1	\$ 35,425	\$ 57,672	\$ 72,970
405	Retail - General merchandise stores	1	\$ 18,560	\$ 29,776	\$ 48,629

Economic Impact of Novant Health in Northern Virginia

The Northern Virginia area includes five Virginia counties/areas: Loudoun County, Fairfax County, Arlington County, Prince William County, and Alexandria City. Novant Health operates two hospitals in the area through its partnership with UVA Health System: Novant Health UVA Health System Prince William Medical Center and Novant Health UVA Health System Haymarket Medical Center. Also included in the area are a number of imaging centers and physician offices, as well as two ambulatory surgery centers, an outpatient cancer center and an assisted living facility.

In 2018, net operating revenues were approximately \$303 million at Novant Health in the Northern Virginia area. These revenues generated \$95 million of indirect output impact and \$120 million of induced output impact. The total impact on employment created by the presence of Novant Health in the area was a gain of 2,755 jobs in a number of related industries, as shown in **Table 23** and **Table 24**, respectively.

Operational Impact**Table 23: Economic Impact of Novant Health Operations in Northern Virginia, 2018**

Impact Type	Employment	Labor Income	Value Added	Output	State & Local Tax Revenue	Federal Tax Revenue
Direct Effect	1,463	\$ 122,469,656	\$ 174,595,063	\$ 302,958,742	\$ 4,476,682	\$ 30,869,553
Indirect Effect	537	\$ 41,157,684	\$ 64,411,290	\$ 95,329,001	\$ 3,809,966	\$ 9,055,557
Induced Effect	755	\$ 40,307,102	\$ 76,533,253	\$ 119,779,548	\$ 6,996,700	\$ 9,610,679
Total Effect	2,755	\$ 203,934,442	\$ 315,539,606	\$ 518,067,291	\$ 15,283,348	\$ 49,535,789

Table 24: Top 10 Industries Affected by Novant Health Operation Activity in Northern Virginia, 2018

Sector	Description	Employment	Labor Income	Value Added	Output
482	Hospitals	1,411	\$ 110,093,387	\$ 127,623,946	\$ 233,746,393
475	Offices of physicians	309	\$ 35,504,790	\$ 35,040,113	\$ 50,215,779
478	Outpatient care centers	87	\$ 7,386,359	\$ 9,022,603	\$ 15,086,730
440	Real estate	78	\$ 2,567,750	\$ 19,473,502	\$ 23,754,644
501	Full-service restaurants	77	\$ 2,253,373	\$ 2,426,316	\$ 4,261,725
479	Medical and diagnostic laboratories	74	\$ 6,201,352	\$ 6,204,322	\$ 9,191,741
483	Nursing and community care facilities	67	\$ 2,837,900	\$ 3,133,198	\$ 4,994,495
502	Limited-service restaurants	48	\$ 1,147,425	\$ 2,700,306	\$ 4,498,385
464	Employment services	44	\$ 3,085,280	\$ 5,043,126	\$ 5,932,864
436	Other financial investment activities	43	\$ 1,918,104	\$ 2,545,559	\$ 8,245,617

Construction Impact

The construction activity of Novant Health in the Northern Virginia created the additional \$6.8 million in output shown in **Table 25**. These activities are estimated to have led to \$205,959 in state and local tax revenue and more than \$552,325 in federal tax revenue. **Table 26** describes the corollary impacts on related industries in the area.

Table 25: Economic Impact of Novant Health Construction in Northern Virginia, 2018

Impact Type	Employment	Labor Income	Value Added	Output	State & Local Tax Revenue	Federal Tax Revenue
Direct Effect	24	\$ 1,888,875	\$ 2,490,257	\$ 4,576,406	\$ 81,460	\$ 368,371
Indirect Effect	4	\$ 343,409	\$ 543,414	\$ 838,150	\$ 46,076	\$ 76,619
Induced Effect	8	\$ 450,148	\$ 854,978	\$ 1,337,204	\$ 78,423	\$ 107,337
Total Effect	36	\$ 2,682,433	\$ 3,888,649	\$ 6,751,760	\$ 205,959	\$ 552,325

Table 26: Top 10 Industries Affected by Novant Health Construction Activity in Northern Virginia, 2018

Sector	Description	Employment	Labor Income	Value Added	Output
52	Construction of new health care structures	24	\$ 1,888,875	\$ 2,490,257	\$ 4,576,406
395	Wholesale trade	1	\$ 114,057	\$ 201,633	\$ 272,775
501	Full-service restaurants	1	\$ 16,278	\$ 17,528	\$ 30,786
440	Real estate	1	\$ 17,229	\$ 130,660	\$ 159,385
502	Limited-service restaurants	1	\$ 10,950	\$ 25,769	\$ 42,928
449	Architectural, engineering, and related services	0	\$ 54,269	\$ 53,140	\$ 84,648
400	Retail - Food and beverage stores	0	\$ 11,448	\$ 15,763	\$ 22,759
411	Truck transportation	0	\$ 17,298	\$ 20,513	\$ 45,001
405	Retail - General merchandise stores	0	\$ 8,607	\$ 13,327	\$ 20,918
512	Other personal services	0	\$ 6,333	\$ 4,383	\$ 7,340

Economic Impact of Novant Health in Rappahannock/Rapidan Health Planning Area***Operational Impact***

The Rappahannock/Rapidan Health Planning Region includes 5 Virginia counties: Fauquier, Rappahannock, Culpepper, Madison, and Orange Counties. The primary acute care facility in the region is Novant Health UVA Health System Culpeper Medical Center. The region also has one freestanding ambulatory surgical center and a number of physician practices.

In 2018, net operating revenues were more than \$108 million for Novant Health in the Rappahannock/Rapidan HPA. These revenues generated over \$26 million of indirect output impact and nearly \$29 million of induced output impact. The total impact on employment created by the presence of Novant Health in the area was a gain of 1,048 jobs in a number of related industries, as shown in **Table 27** and **Table 28**, respectively.

Table 27: Economic Impact of Novant Health Operations in Rappahannock/Rapidan HPA, 2018

Impact Type	Employment	Labor Income	Value Added	Output	State & Local Tax Revenue	Federal Tax Revenue
Direct Effect	617	\$ 44,367,349	\$ 53,443,542	\$ 108,242,313	\$ 1,281,194	\$ 9,730,600
Indirect Effect	209	\$ 9,582,964	\$ 15,352,131	\$ 26,681,829	\$ 1,368,895	\$ 2,050,510
Induced Effect	221	\$ 8,264,101	\$ 16,709,896	\$ 28,658,543	\$ 1,921,831	\$ 1,996,907
Total Effect	1,048	\$ 62,214,414	\$ 85,505,570	\$ 163,582,685	\$ 4,571,920	\$ 13,778,017

Table 28: Top 10 Industries Affected by Novant Health Operation Activity in Rappahannock/Rapidan HPA, 2018

Sector	Description	Employment	Labor Income	Value Added	Output
482	Hospitals	705	\$ 44,033,195	\$ 51,274,123	\$ 104,300,604
440	Real estate	42	\$ 971,682	\$ 5,171,131	\$ 7,472,165
478	Outpatient care centers	34	\$ 2,275,447	\$ 2,776,813	\$ 5,165,545
501	Full-service restaurants	21	\$ 474,588	\$ 523,707	\$ 1,021,938
454	Management consulting services	18	\$ 1,298,987	\$ 1,274,842	\$ 2,052,552
502	Limited-service restaurants	17	\$ 329,180	\$ 768,225	\$ 1,405,744
395	Wholesale trade	12	\$ 841,894	\$ 1,647,430	\$ 2,592,295
436	Other financial investment activities	12	\$ 96,336	\$ 138,541	\$ 1,767,132
468	Services to buildings	12	\$ 300,303	\$ 339,570	\$ 536,448
464	Employment services	10	\$ 291,927	\$ 467,643	\$ 663,032

Construction Impact

The construction activity of Novant Health in the Northern Virginia created the additional \$5 million in output shown in **Table 29**. These activities are estimated to have led to \$154,533 in state and local tax revenue and \$358,692 in federal tax revenue. **Table 30** describes the corollary impacts on related industries in the area.

Table 29: Economic Impact of Novant Health Construction in Rappahannock/Rapidan HPA, 2018

Impact Type	Employment	Labor Income	Value Added	Output	State & Local Tax Revenue	Federal Tax Revenue
Direct Effect	23	\$ 1,350,621	\$ 1,737,478	\$ 3,721,082	\$ 63,282	\$ 259,013
Indirect Effect	4	\$ 196,628	\$ 325,202	\$ 597,868	\$ 38,033	\$ 44,556
Induced Effect	6	\$ 228,006	\$ 461,608	\$ 790,833	\$ 53,239	\$ 55,122
Total Effect	33	\$ 1,775,255	\$ 2,524,289	\$ 5,109,784	\$ 154,553	\$ 358,692

Table 30: Top 10 Industries Affected by Novant Health Construction Activity in Rappahannock/Rapidan HPA, 2018

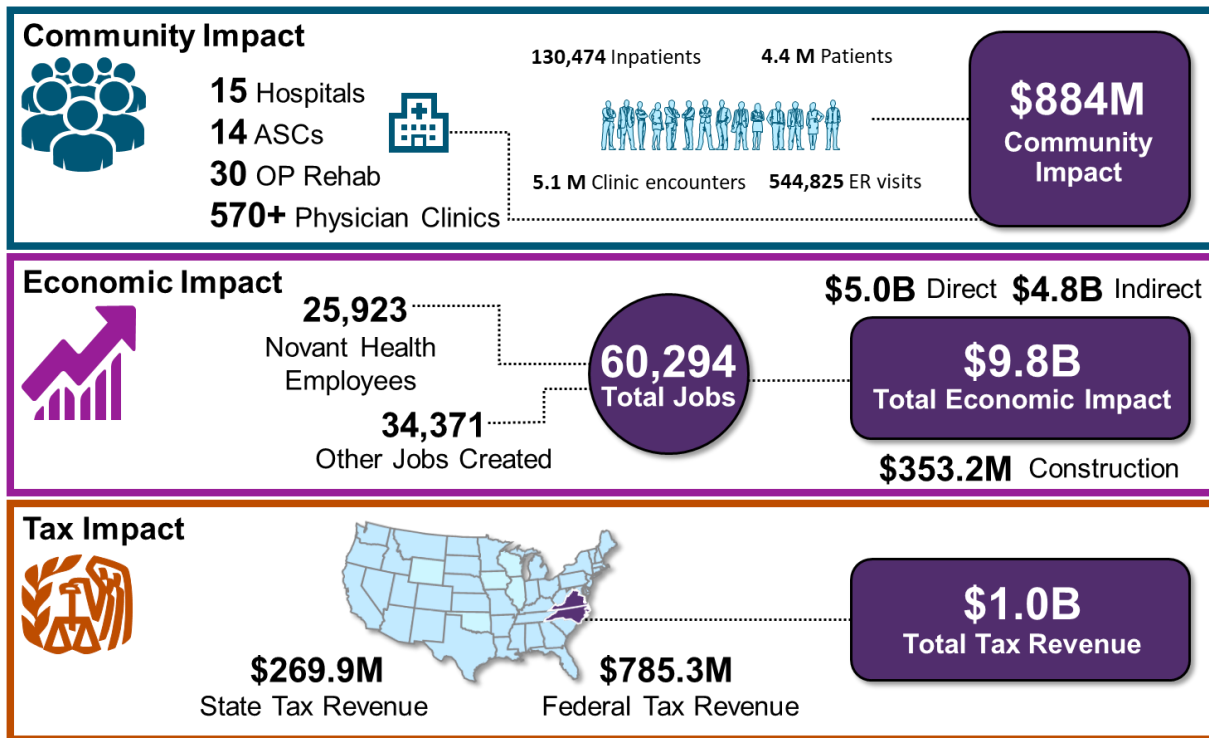
Sector	Description	Employment	Labor Income	Value Added	Output
52	Construction of new health care structures	23	\$ 1,362,794	\$ 1,753,138	\$ 3,771,737
395	Wholesale trade	1	\$ 51,870	\$ 101,499	\$ 158,948
440	Real estate	1	\$ 15,861	\$ 84,412	\$ 122,024
411	Truck transportation	1	\$ 16,181	\$ 20,351	\$ 62,050
502	Limited-service restaurants	0	\$ 7,554	\$ 17,630	\$ 32,269
501	Full-service restaurants	0	\$ 7,327	\$ 8,085	\$ 15,781
449	Architectural, engineering, and related service	0	\$ 20,444	\$ 20,334	\$ 42,543
469	Landscape and horticultural services	0	\$ 10,136	\$ 11,830	\$ 18,017
407	Retail - Nonstore retailers	0	\$ 4,027	\$ 11,944	\$ 28,342
405	Retail - General merchandise stores	0	\$ 5,817	\$ 9,536	\$ 15,803

Summary

The combined results show that more than 60,200 jobs, \$4.0 billion in labor income, and \$9.8 billion in output are attributable to Novant Health activities (operations and construction) in North Carolina and Virginia in 2018.⁸⁹ These impacts extended beyond the boundaries of urban areas, positively affecting populations in rural areas.

E. Summary of Economic Impact Analysis

Impact of Novant Health in 2018



⁸⁹ The combined economic impact and total tax revenue is a conservative estimate since the analysis does not include net operating revenues from areas outside North Carolina and Virginia.

V. Community Benefits for North Carolina and Virginia

Charity and Unreimbursed Care

The Center developed estimates that quantify the scope and magnitude of Novant Health’s charity and unreimbursed care. In 2013, Novant Health began offering multi-year interest-free payment plans. By 2015, all of its patients on payment plans were converted to the interest-free plan.⁹⁰ Novant Health’s “neonatal intensive care units, critical care units, cancer treatment centers, emergency rooms and other essential medical programs treat everyone, regardless of the person’s ability to pay.”⁹¹ The health system offers four patient financial assistance programs: Charity care for low income patients, discounts for the uninsured, catastrophic discounts, and flexible payment plan.⁹² Free care is offered to uninsured patients whose household income is at or below 300 percent of the federal poverty level. For a family of four, per the 2018 Federal Poverty Guidelines, this represents an annual income of \$75,300 (**Table 31**). Most uninsured patients who come to Novant Health for “essential” care receive it at no cost.

Table 31: 2018 Federal Poverty Level Guidelines⁹³

Household/Family Size	2018 Federal Poverty Guidelines	300% of the FPG
1	\$12,140	\$36,420
2	\$16,460	\$49,380
3	\$20,780	\$62,340
4	\$25,100	\$75,300
5	\$29,420	\$88,260
6	\$33,740	\$101,220
7	\$38,060	\$114,180
8	\$42,380	\$127,140

To determine its charity care and community benefit provided, Novant Health hospitals follow an “internal cost-to-charge ratio approach that is specified by the NCHA Community Benefits Guidelines.”⁹⁴ In 2017, Novant Health incurred \$117 million in charity care in North Carolina, which was the second largest amount in the state behind Atrium Health (formerly “Carolinas HealthCare System”) (**Figure 6**).⁹⁵ Novant Health’s large charity care contribution is in part attributable to its robust charity care policy, which results in a higher proportion of direct charity care as opposed to bad debt.

⁹⁰ Karen Garloch, “Charlotte hospitals offer interest-free payment plans,” *The Charlotte Observer* (January 7, 2015), <http://www.charlotteobserver.com/living/health-family/article9254330.html>.

⁹¹ Novant Health, “Our patients, families and visitors,” <https://www.novanthealth.org/home/about-us/diversity--inclusion/our-patients-families-and-visitors.aspx>.

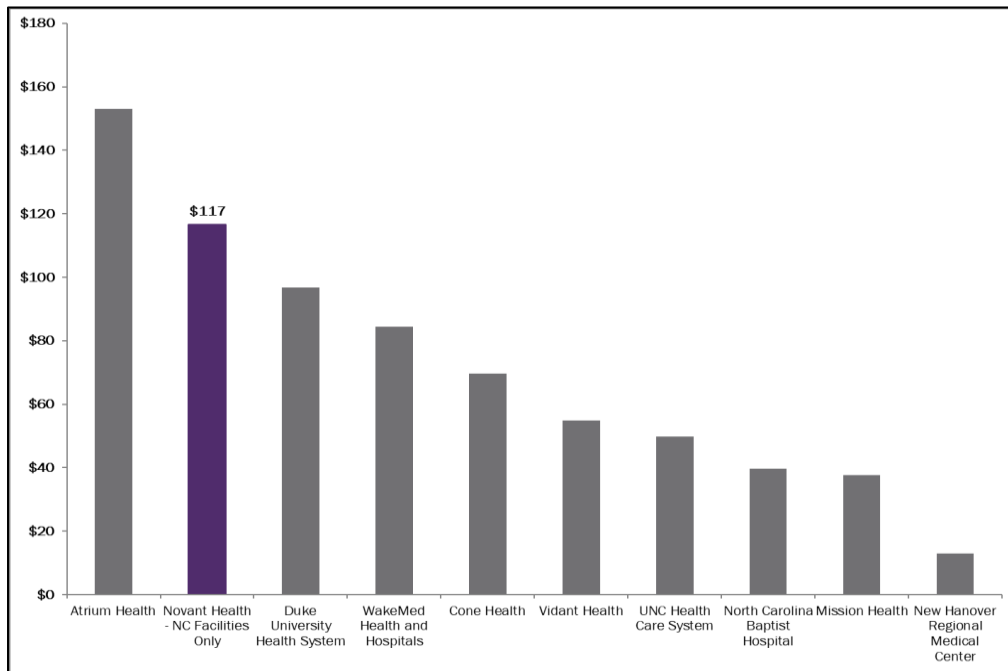
⁹² In 2010, the North Carolina Justice Center issued a statewide report on not-for-profit hospital charity care programs. The report recognized all Novant Health hospitals for having “the most sound and clear policy of any hospital system in North Carolina” with regard to charity care. The Justice Center wrote that Novant Health’s charity care program recognizes the realities of modern family finances. See Adam Linker, “How Charitable are North Carolina Hospitals?” *NC Health Access Coalition* 2, no. 2 (Feb. 2010): 1-8.

⁹³ Department of Health and Human Services, “Annual Update of the HHS Poverty Guidelines,” *Federal Register* 83, no. 12 (Jan. 18, 2018): 2642-2644, <https://www.govinfo.gov/content/pkg/FR-2018-01-18/pdf/2018-00814.pdf>.

⁹⁴ See hospital community benefits reports at North Carolina Hospital Association, “Community benefits and financial information,” <https://www.ncha.org/community-benefits-listings/>.

⁹⁵ Carolinas HealthCare System changed its name to Atrium Health in February 2018. See “Charlotte-based Atrium Health takes next step in its transition,” *Charlotte Business Journal* (December 6, 2018), <https://www.bizjournals.com/charlotte/news/2018/12/06/charlotte-based-atrimum-health-takes-next-step-in.html>. Novant Health’s charity care revenues are listed as reported to the North Carolina Hospital Association (NCHA), <https://www.ncha.org/healthcare-topics/community-benefit>.

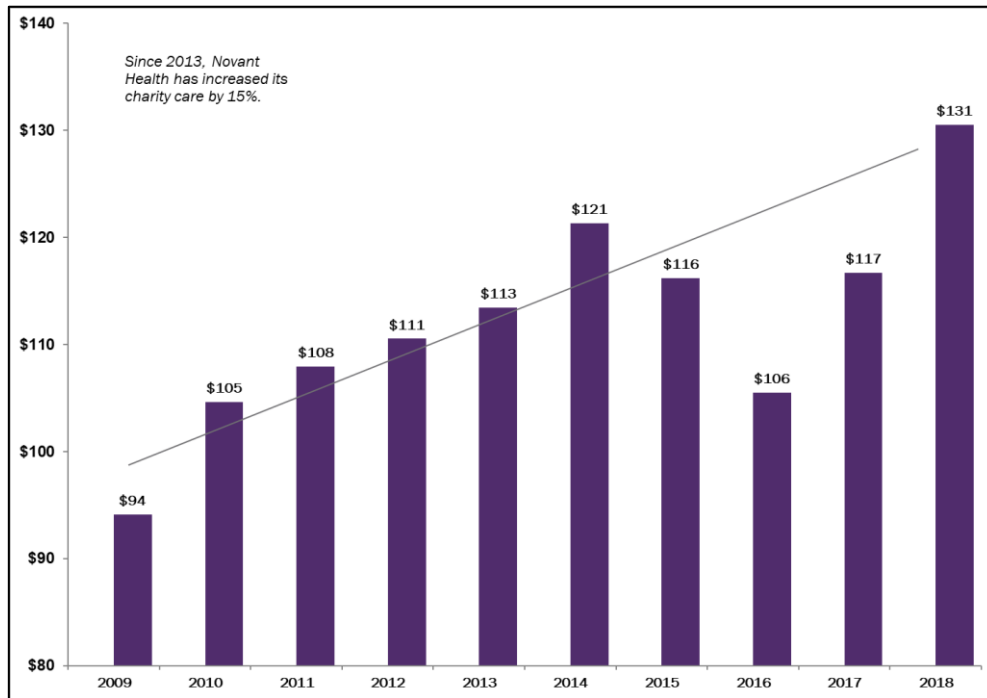
Figure 6: Charity Care Provided by Not-For-Profit Healthcare Systems in North Carolina in 2017, in millions



As **Figure 7** illustrates, there continues to be substantial growth in Novant Health’s provision of charity care since 2009. Between 2013 and 2018, Novant Health increased its charity care spending by approximately 15%.⁹⁶ This high growth rate is at least partially a reflection of the health system’s charity care policy. Charity care dropped slightly between 2014 and 2016 by about \$15 million. Novant Health’s payer mix changed with a decrease in self-pay and an increase in managed care during this time. These changes occurred during a period of expanded health exchange insurance products and increased insurance coverage. Other factors that may have contributed include effects from system-wide initiatives to control expenses, which have reduced expenses on a per case basis.⁹⁷

⁹⁶ We report here increased spending between 2013-2018 to demonstrate the growth and impact of greater community investment since our first report in 2013.

⁹⁷ Internal documents and data provided by Novant Health. For all North Carolina acute care facilities (including Novant Health Clemmons Medical Center) between 2014 and 2015, the percentage of managed care patients has increased by 0.9% (34.6% to 35.5%, respectively) while self-pay has decreased by 0.7% (6.1% to 5.5%, respectively). These are comparable to the system-wide mix where the percentage of managed care patients increased by 1.1% while self-pay patients decreased by 0.8%, within the same time period. Payer mix percentages are based on gross charges. Charity care is calculated using a gross charge to cost ratio. As Novant Health’s percentage of self-pay decreased, all else equal, cost of charity care decreased; with fewer people uninsured.

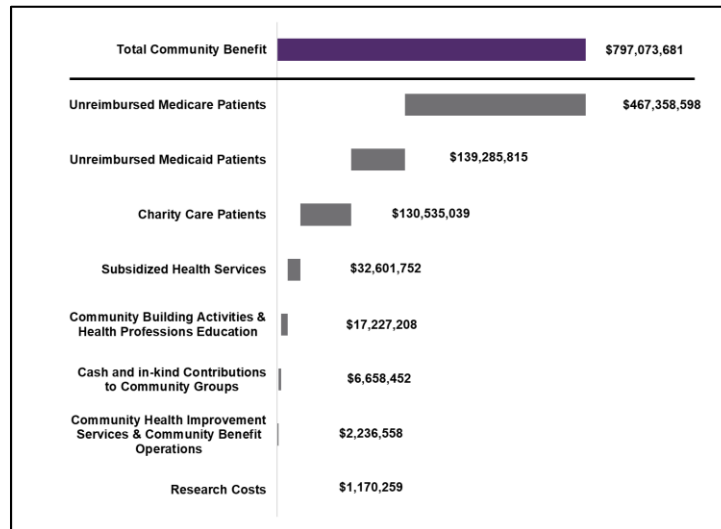
Figure 7: Charity Care Provided by Novant Health in North Carolina since 2009, in millions

Charity and unreimbursed care are both components of Novant Health’s system-wide spending in North Carolina towards community benefit, as displayed in **Figure 8** on the following page.⁹⁸ In 2018, Novant Health provided approximately \$131 million of charity care to those that the system regards as underserved residents of North Carolina, comprising over 16% of its total community benefit spending.⁹⁹ In addition, in North Carolina, Novant Health provided over \$606 million of uncompensated care to individuals with Medicare and Medicaid coverage and patients from other government programs, comprising over 76% of its total community benefit spending. Novant Health is one of the major contributors of community benefit among not-for-profit health systems in the state of North Carolina.

⁹⁸ North Carolina Hospital Association, “NCHA Guidelines for Reporting Hospital Community Benefits,” *NCHA* (Oct. 31, 2014): 1-28. The North Carolina Hospital Association tracks 10 hospital-defined priorities for total community benefit: 1) charity care, 2) unreimbursed costs for treating Medicare patients, 3) unreimbursed costs for treating Medicaid patients, 4) unreimbursed costs for treating patients in other means-tests government programs, 5) community health improvement services and community benefit operations, 6) unreimbursed health professions education costs, 7) subsidized health services losses, 8) unreimbursed research costs, 9) cash and in-kind contributions to community groups, and 10) community building activity costs.

⁹⁹ Novant Health’s total community benefit as reported to the North Carolina Hospital Association.

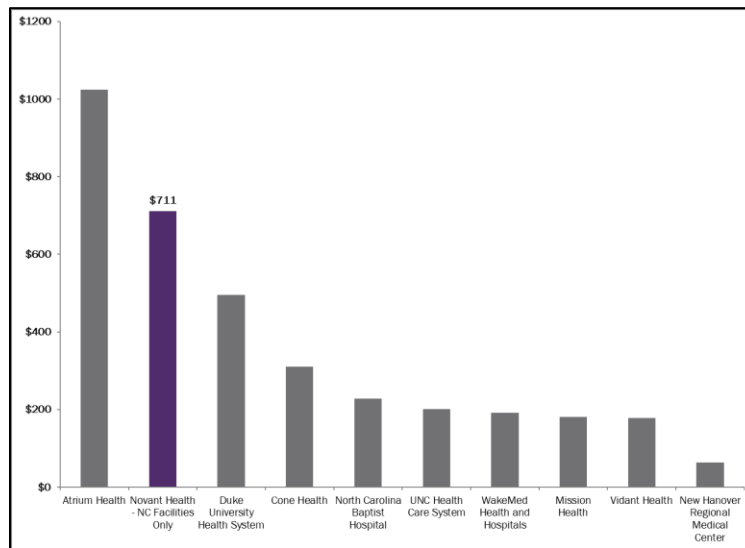
Figure 8: Total Community Benefit at Novant Health in North Carolina in 2018



Community Benefit

Novant Health supports a wide variety of community programs and initiatives.¹⁰⁰ **Figure 9** shows that in 2017, Novant Health’s provision of community benefit in North Carolina totaled approximately \$711 million.¹⁰¹ The only other health system among North Carolina not-for-profit systems to spend more than this was Atrium Health, at a reported \$1.0 billion in community benefit.

Figure 9: Community Benefit Provided by Not-For-Profit Healthcare Systems in North Carolina in 2017, in millions

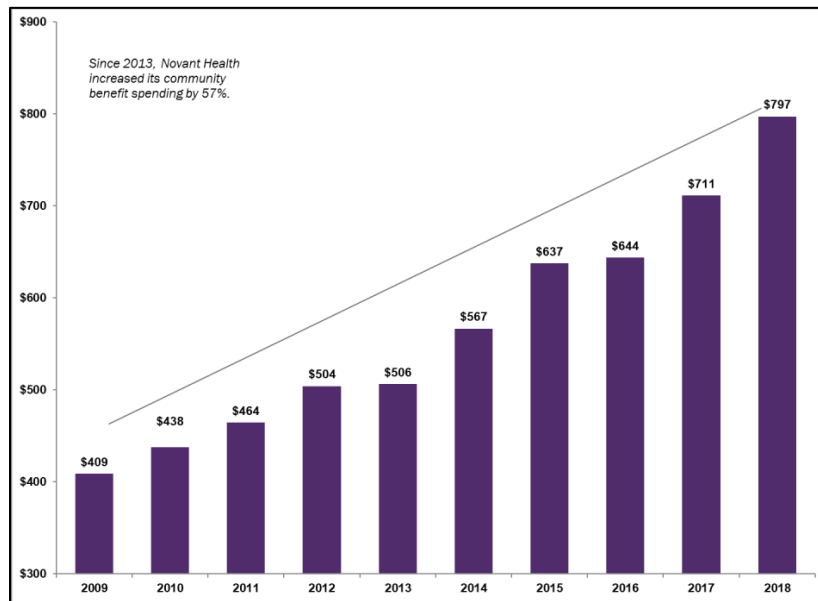


¹⁰⁰ Novant Health, “Community Benefit Report 2015,” *Novant Health* (2016): 1-10, https://www.novanthealth.org/Portals/92/novant_health/documents/about_us/financial/communitybenefitreport.pdf.

¹⁰¹ Financial data gathered from NCHA for the North Carolina Health Systems in 2015. See North Carolina Health Association, “Hospital Community Benefits Report (Fiscal Year 2015),” *NCHA*, <https://www.ncha.org/healthcare-topics/community-benefit>.

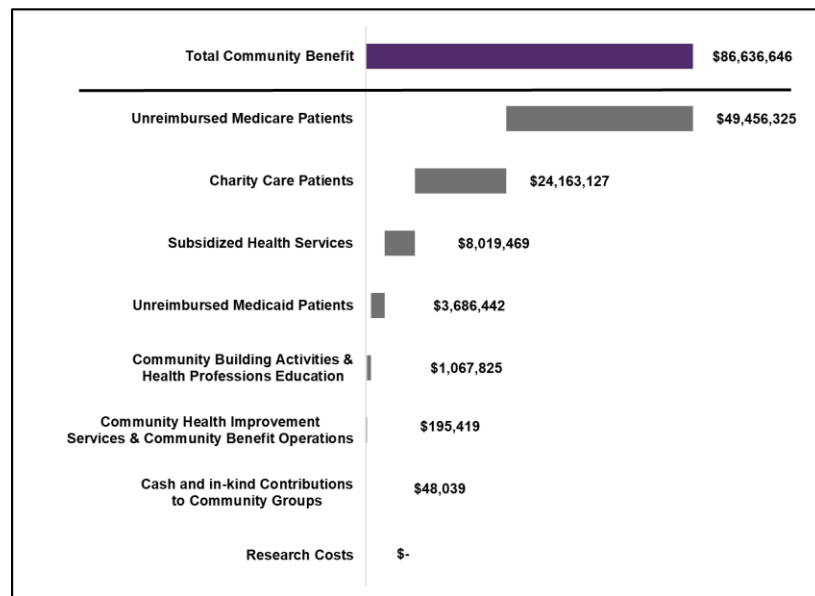
Figure 10 shows financial data gathered from the North Carolina Health Association from 2009 to 2018. Since 2013, community benefit spending by Novant Health increased by 57%, from \$506 million to \$797 million in 2018.

Figure 10: Community Benefit Provided by Novant Health in North Carolina Since 2009, in millions



In 2018, Novant Health provided over \$86.6 million community benefit spending in Virginia (**Figure 11**). Approximately \$53 million was provided to unreimbursed Medicare and Medicaid, and \$24 million was provided to charity care, together comprising about 90% of its community benefit spending.

Figure 11: Charity and Unreimbursed Care at Novant Health in Virginia in 2018



VI. Conclusion

Novant Health is a major provider of healthcare services in North Carolina and Virginia, with an integrated health system comprised of 15 hospitals with over 2,600 licensed beds, 14 outpatient surgery centers, 30 outpatient rehabilitation centers, and over 570 physician offices. In 2018, Novant Health provided services for over 4.4 million patients and over 130,400 inpatient discharges system-wide.

Novant Health is a significant economic contributor in North Carolina and Virginia. The combined economic impact of operational and construction expenditures across the two states approximately equaled \$9.8 billion of output, 60,294 jobs, and \$1.0 billion in tax revenues. Novant Health's economic activity impacted several industries outside of the healthcare sector, including wholesale trade, real estate, food and beverage services, architectural and engineering services, and others.

Novant Health is a leading provider of community benefit in North Carolina. Between 2009 and 2018, Novant Health increased community benefit spending by 95% and charity care spending by 39%. In 2018, Novant Health's total community benefit and charity care totaled approximately \$797 million and \$131 million, respectively. These numbers placed Novant Health second in the state of North Carolina for provision of community benefit and charity care. The strong growth trend and large numbers are, in part, affected by the organization's robust charity care policy, which provides care free of charge to uninsured patients below 300% of the federal poverty level (or \$75,300 for a family of four as of 2018).

Novant Health has been at the forefront of developing collaborative efforts to improve community health. As a health system of the future, it has six strategic imperatives which emphasize a patient-centric value-based strategy, investments in its communities and organizations, and diversity and inclusion. The health system has taken great strides to increase access to care by implementing novel locations to access care, promoting free diabetes screenings through its Remarkable You program, and investing in digital products and new technologies.

Appendix

A. Structure of Report and Analyses

The delivery of healthcare services by a health system, such as Novant Health in the state of North Carolina, directly involves thousands of employees (physicians, nurses, and numerous other professionals), expenditures on goods and services, and construction of facilities to provide access for thousands of patients and patient families in a large number of communities across the state. These activities, in turn, have additional and significant impacts on the economies of the state in which the health system operates. In addition to economic impacts, the health system has broader community impacts—including providing access to services, charitable and uncompensated care, and programs to benefit communities. (Figure A-1)

Economic Impact. Healthcare service delivery by the health system and its investments in constructing new facilities create positive economic impacts by generating jobs and tax revenues for the residents of the state, directly as well as indirectly. Expenditures and investments also have secondary impacts on local economies, including stimulating demand for goods and services. For the impact of Novant Health, the Center applied rigorous and proven empirical techniques to quantify the economic impact of Novant Health’s healthcare services activities on employment, revenues, and taxes in North Carolina.

Community Impact. The provision of these healthcare services affects the broader community. Across all of its facilities in the state of North Carolina, Novant Health makes available a wide range of inpatient and outpatient services without regard to a patient’s ability to pay. Through a comprehensive Community Health Needs Assessment, Novant Health has identified three priority health needs—prediabetes, obesity, and high blood pressure—in which to educate the community.

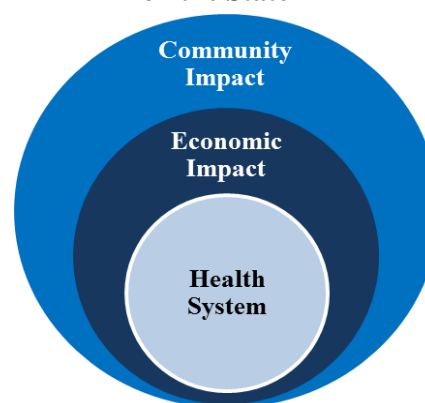
In this study, the Center compiled data and information and estimated the amount of charity care Novant Health provides to the residents of North Carolina and evaluated the total amount of community benefit and investments Novant Health makes in its communities.

B. Conceptualization of Economic Impact Analysis

The sources of a health system’s economic impact can be deconstructed into three main categories:

- **Labor.** The most significant component in a health system’s healthcare delivery process is its workforce.
- **Goods.** A health system purchases an extensive array of healthcare technologies, instruments, equipment, and other goods and supplies to deliver healthcare services to patients.
- **Services.** A health system also utilizes a number of services to provide care for its patients.

Figure A-1: A Health System’s Impact on the State

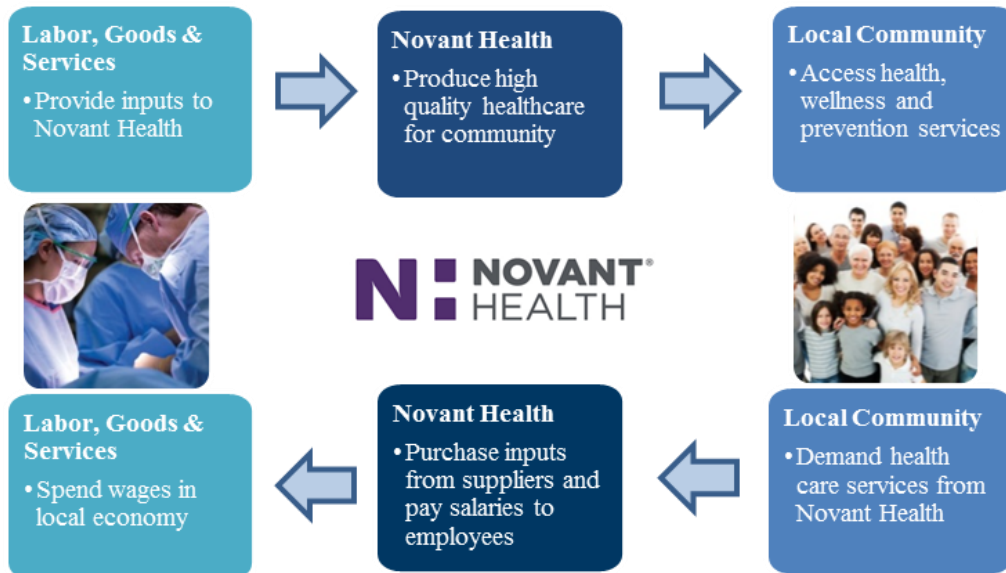


C. Economic Impacts of Novant Health’s Provision of Healthcare Services

The analyses quantify the economic impacts of two distinct but interrelated activities representing two major areas where Novant Health impacts the communities that it serves. First, the report identifies and estimates the **operational impacts** resulting from Novant Health’s actual provision of healthcare services. Second, it estimates the **construction impacts** resulting from Novant Health’s investments in healthcare facilities.

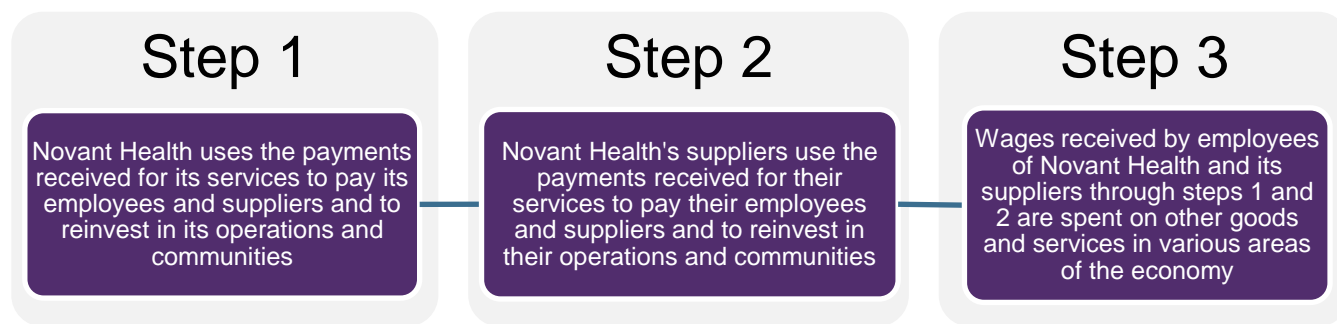
Quantifying the impacts of these economic activities requires taking into consideration the interrelationships between consumers, businesses, and households in an economy. The production of healthcare services involves the flow of intermediate goods and services from households and producers to Novant Health and then to the end-consumer. As these goods and services move forward through the supply chain, equivalent expenditures move backwards through the demand chain (**Figure A-2: Movement of Goods, Services, and Expenditures through Novant Health’s System**).

Figure A-2: Movement of Goods, Services, and Expenditures through Novant Health’s System



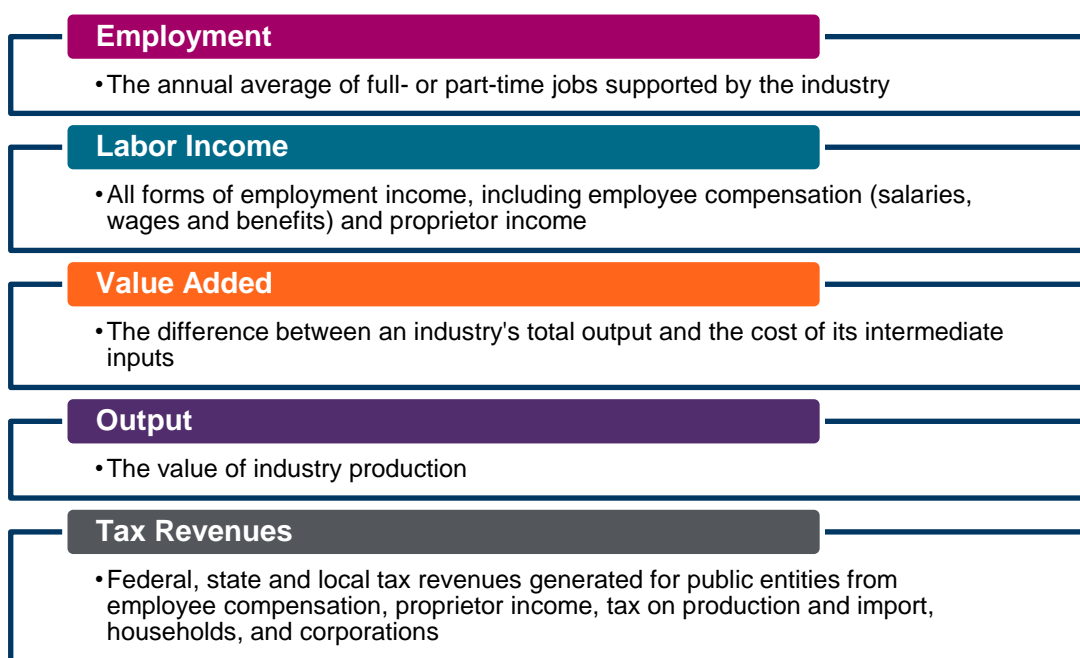
By tracking and quantifying the flow of expenditures, this report estimates the total impact of Novant Health’s operations and construction investments on the economy of North Carolina. **Figure A-3** shows how expenditures made through the demand chain impact the economy.

Figure A-3: How Expenditures at Novant Health Affect the Economy



Steps 1 through 3 in **Figure A-3** correspond to three distinct types of economic impacts. These impacts are direct, indirect, and induced. Each of these impact types is measured using five key economic indicators: (i) employment, (ii) labor income, (iii) value added, (iv) output, and (v) tax revenues (**Figure A-4**).

Figure A-4: Key Economic Impact Indicators¹⁰²



Direct. Direct economic impacts consist of the employment, labor income, value added, output, and tax revenues generated by Novant Health’s provision of healthcare services and construction activities. The expenditures made by Novant Health for its employees and suppliers, as outlined in Step 1 of Figure A-3 on the previous page, create these direct impacts.

Indirect. Indirect economic impacts consist of the employment, labor income, value added, output, and tax revenues generated by Novant Health’s suppliers. The demand for intermediate goods and services and associated expenditures involve a broader supply chain, passing upstream through several industries within

¹⁰² Frances Day, "Principles of Impact Analysis & IMPLAN Applications," IMPLAN Group LLC, 16905 Northcross Dr., Suite 120, Huntersville, NC 28078, www.IMPLAN.com (accessed March 2019).

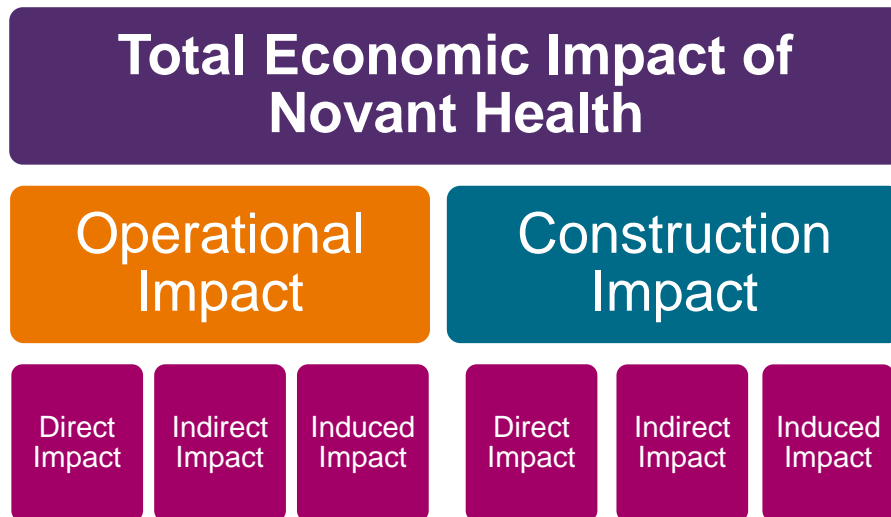
a local economy. Step 2 in **Figure A-3** on the previous page corresponds with the indirect impacts generated by the activities of Novant Health in North Carolina.

Induced. Induced economic impacts consist of the employment, labor income, value added, output, and tax revenues generated by consumption from employees paid by Novant Health or by its suppliers. These impacts occur as employees of Novant Health and its suppliers spend their income in their communities, stimulate the local economy and thereby recirculate incomes received. Step 3 in **Figure A-3** on the previous page corresponds to the induced impacts facilitated by the presence of Novant Health.

Each type of impact has an associated **multiplier effect**, accounting for the fact that each linked industry that is affected by expenditures has links to other industries. In the economic model, expenditures made for Novant Health services effectively circulate within the local economy until stored as savings, absorbed as taxes or paid to producers outside of the community. Multiplier effects scale-up the impacts, according to industry specificities, to capture the net effect of each impact.

Figure A-5 illustrates the interrelationships among the types of impacts described in this section and relates them back to the overall economic impact of Novant Health.

Figure A-5: Total Economic Impact of Novant Health



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