



**Blueprint
Mississippi
Health Care:**
An Economic Driver



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Foreword

The State of Mississippi has always been a leader in economic development. The Blueprint Mississippi Health Care¹ initiative is seeking to take that leadership to a new level.

Attempting to grow a statewide health care cluster is not only bold and aggressive, but also unprecedented. With successful implementation of the initiatives identified in this report, Mississippi has the opportunity to transform its competitive landscape across all industries, not just health care. Success will result in a healthier, more competitive workforce, advancement in health care support industries and redefinition of Mississippi as a place for innovation in health and life sciences.

To grow health care in Mississippi will require investment in human and physical infrastructure, not just aggressive business incentives. Success in innovation will require a focus on small businesses and entrepreneurs, not just large employers. Creating a healthier workforce will require collaboration and a breaking down of silos, not just individual successes. Finding the potential that is embodied in this effort will be difficult and time consuming.

Governor Phil Bryant has already shown leadership in advancing this initiative through the envisioning and support of the Health Care Industry Zone Act and the Office of Mississippi Physician Workforce. The legislature has responded to the needs by passing key legislation to make the Health Care Zones and the Office of Physician Workforce a reality. Continued leadership of this type will be necessary for ongoing success.

Mississippi is at the forefront of something that has never been done in the United States. While other states have had successes in the health care sector, Mississippi is pioneering the study of health care as a cluster and an economic driver. The result will be a state economy with new opportunities, greater diversity and better long-term sustainability.



Executive Summary

Health care is about serving the health and wellness needs of people, but it also is about serving the economic health and wellness of a state, region and community.

It is clear health care is one of the most important development areas for the state. Health care is an economic driver that can enhance the business competitiveness of the state and create jobs and wealth².

- 10 of the top 20 fastest growing occupations are health care related.
- The health care and social services sector has grown by 23% nationally (2002-2011) and by 24% in Mississippi.
- Health care will generate approximately 3.2 million more jobs before 2018.
- Mississippi hospitals employed 60,143 full-time employees – 5.7% of statewide total employment. Hospitals also created an additional 34,557 jobs outside of their facilities.
- The total economic impact of hospital payroll spending is \$5.8 billion.
- One physician creates approximately 21 jobs and more than \$2 million of revenue in a community.
- Studies have shown that lost work time and productivity due to health issues cost businesses in the U.S. more than \$250 billion in lost economic output per year.

State business and political leaders recognize health care has the potential for not only significant short-term health and economic impacts, but also long-term economic growth. Mississippi health care can be an innovative, competitive system that creates jobs while making Mississippians healthier and the workforce more effective.

That is why Blueprint Mississippi set health care as one of its targeted goals for Mississippi's future economic success. Blueprint's recommendations include:

- Targeting health care as an economic driver.
- Creating a comprehensive strategy around health care.
- Increasing the number of active physicians in the state.
- Increasing the number of health care professionals throughout the state.

This health care study was commissioned to examine aspects of the Mississippi health care sector -- including key elements of delivery, support and innovation -- and provide solid implementation strategies to the following Blueprint Mississippi recommendations:

- To improve Mississippi competitiveness by expanding the economic asset of health care statewide and identify enhancements to health care access and wellness.
- To create an environment where Mississippi can become a leader in health care industry growth and business attraction, as well as a model of innovative care delivery.



The Case for Health Care as an Economic Driver

Health care and economic development are intricately linked. While this link may be recognized to various degrees by political and economic development leaders throughout regions of Mississippi, the potential of a statewide, integrated strategy aimed at health care economic development transcends traditional understanding of health care. It has the potential to impact the state significantly.

Health care is a complex system in Mississippi with complex economic factors affecting all facets. Health care is not just clinics; it is the workers and infrastructure that support those clinics. Health care is not just doctors and nurses; it is technicians and business-related staff that support their work. Health care is not just hospitals; it is factories that supply those hospitals with everything from medical equipment and high-tech machines to the basic goods and services necessary to make the institutions function. Health care is not just delivery of care; it is research and development and innovation. Health care is not just about health; it is about jobs.

With that in mind, this study concentrates on economic development aspects of Mississippi's health care system. While the health care indicators and health and wellness needs of Mississippi are mostly known and require sustained attention to improve, this is not about health care policy nor is it an analysis of health care needs. Specific health issues such as obesity, diabetes, heart disease and social/health issues like teen pregnancy are not the focus and were not included in the scope of this study.

This study is about health care as an economic development driver. It is about defining the health care industry in Mississippi, looking at not only delivery, but also the widely diverse businesses surrounding health care delivery.

This study delivers implementable results for health care economic development with short- and long-term strategies to achieve them. By carrying out specific health care development strategies, Mississippi can help strengthen its entire health care system -- delivery, support (industry) and innovation. The results will not only improve the health and wellness of Mississippians, but will also create jobs and improve the state's competitiveness.

This executive summary provides a brief overview of the study purpose, process, findings and recommendations. In all cases more information is available in the Blueprint Mississippi Health Care Study Appendix, found at www.blueprintmississippi.com.



The Goals

This study sought to create a roadmap to realize the following benefits for the state:

Workforce development -- A healthy, productive population enhances the prospects of business attraction, retention and growth.

Quality of life -- Accessible, affordable health care improves the lives of Mississippians and provides a better quality of place because of availability of quality services, as well as jobs and opportunities from all the facets of the health care system.

Business sustainability -- Healthier workers will reduce lost time due to illness and will increase productivity, improving Mississippi's competitiveness, growth and sustainability.

Creation of economic wealth -- Growth of a statewide health care industry cluster and collaboration across this economic sector will contribute jobs and encourage wealth creation.



What Was Done

Newmark Grubb Knight Frank, with the help of Subsidiary Healthcare, was secured to carry out the research and analysis of the current health care sector and help develop actionable strategies. The consultants provided not only expertise and knowledge of best practices in the field, but also an objective and national perspective. The Mississippi Blueprint Health Care team sought broad-based participation from health care stakeholders and economic developers to help provide understanding of challenges, opportunities and best practices in Mississippi.

Defining Health Care in Mississippi

Health care must be examined in terms of three major components – delivery, support and innovation.

Delivery is the network that provides care to the population. It includes people (physicians, nurses, home health workers) and organizations (hospitals, clinics, laboratories, and durable medical equipment, among others).

Support includes the non-care aspects that support the overall delivery network such as device manufacturers, pharmaceutical distributors and research and development labs.

Innovation includes all aspects of the intellectual capital in both the public and private sector. Examples are research and development functions in businesses, university research, business incubation, commercialization and technology transfer.

Thinking of health care as a cluster with interrelated parts opens the door for creation of effective strategies to impact the system for economic development. A unified, collaborative health care system with a “hub-and-spoke” approach allows Mississippi to capitalize on its strengths. With that definition of health care in mind, and with a focus on developing an integrated industry cluster, the team examined all aspects of the health care industry in Mississippi with a focus on current conditions, strengths, weaknesses and best practices.

To ensure a comprehensive perspective, the Blueprint Health Care team engaged local economic developers and health care stakeholders in surveys and focus groups. Overall, the team received over 100 survey responses and engaged more than 130 health care and industry professionals in interviews and focus groups.



Study Findings

The analysis for Blueprint Health Care can be separated into three categories:

- **Where Mississippi is Now:** The first step in charting a new path for the health care industry in Mississippi is understanding how all aspects of the industry – delivery, industry and innovation – look today.
- **Mississippi Strengths and Weaknesses:** Cataloging where Mississippi is competitive and where it falls short is necessary in developing effective strategies. Marketing of successes and mitigating weaknesses are critical to long-term success.
- **Best Practices:** Looking to other regions for success will help guide recommendations and implementation tactics.

Where Mississippi is Now

The baseline assessment includes analysis of the current state of health care delivery, industry and innovation.

Baseline Analysis

Population health/access: Mississippi is at the bottom of most health indicators, including obesity, childhood obesity, diabetes and heart disease death rate. When businesses are making investment decisions, the health of the workforce is a factor. The population must be healthier and have better access to care in order to be competitive in capturing private-sector investment.

Delivery: Contributing to the negative health care indicators is inadequate access to primary care. Mississippi trails most states in physicians per capita, and doctors are not easily accessible to rural populations. Mississippi is not creating enough physicians and other medical talent within the state to meet its needs. Administrative hurdles negatively impact the functioning of the health care network, including difficulties in physician licensure. While it appears there are generally enough inpatient hospital beds across the state, especially in the larger cities, there are shortages in rural counties -- especially in the Delta. The delivery network, both for institutions and physicians, must be incentivized to get more services into rural markets. Alternative modes of delivery --medical malls, convenience clinics and telemedicine -- are needed. There is a need to invest in infrastructure such as broadband to support the future technology-based delivery network in rural areas.

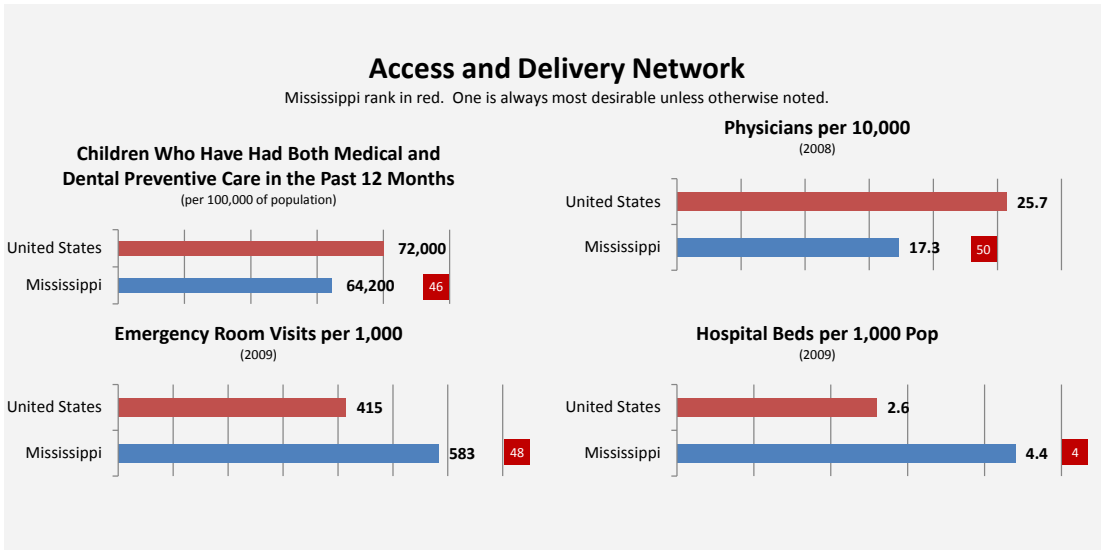
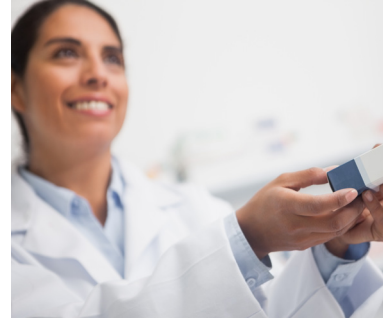


Figure 1: Mississippi Access and Delivery Network

Support: Mississippi is well positioned in its cost and business environment, but lacks investment in other assets and labor performance important to the support industry. Mississippi does not have much medical-related manufacturing. The state has seen higher than average levels of job loss in this sector, and employment is much smaller than in other states. Mississippi, however, has been very successful, and can continue to be successful, in winning large national pharmaceutical and medical-related distribution projects. Mississippi could be competitive in medical business process outsourcing (BPO), involving such things as medical claims, coding and records.

The state needs more knowledge (e.g., targeted educational programs) and capital infrastructure improvements before it can sustain research and development related activities in the health/life sciences area.

Innovation: Mississippi has numerous business incubators that have been successful in supporting small office-based and light manufacturing start-up companies. However, there does not appear to be an adequate focus on commercializing and supporting life science related ventures. The state lacks a unified driver for innovation. Also, there is a lack of capital funding networks to support homegrown businesses and entrepreneurs. The state lacks a critical mass of science, technology, engineering and mathematics (STEM) talent.



Economic developers survey results

Mississippi economic development professionals consider their individual regions highly competitive in health care relative to other regions, but consider the state as a whole to lack competitiveness in health care. The main obstacles are workforce skills, the education system and the state's image. The lack of economic development strategies, policies and direction in health care, as well as funding, incentive programs and regional marketing was also cited by developers.

The input of economic developers shows opportunity exists in each region of the state, but also shows disconnect from conflicting perceptions and the need for a unified approach.

Stakeholder focus groups observations

The Blueprint Mississippi Health Care team conducted 30 focus group sessions and interviews with key stakeholders in Mississippi. The groups included approximately 130 health care professionals. The group discussions helped to understand the challenges, opportunities and best practices in Mississippi. These firsthand accounts of health care in Mississippi heavily influenced this study's process and recommendations.

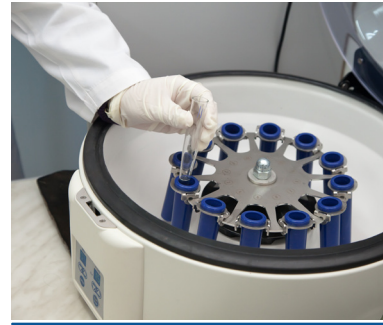
How to improve health care: Mississippi needs more and better paying jobs that provide insurance coverage. The population needs to be educated on lifestyle changes to improve health. Better incentives are needed to get physicians to work in rural areas.

Support professionals: There is concern about a potential shortage of family physicians in the next few years. Nurse practitioners are used significantly as physician extenders, but there are potential issues around training and supervision.

Regulatory environment: The time-consuming physician licensure and credentialing process is considered a major barrier for recruiting physicians from outside of the state.

Talent recruitment: Mississippi's negative image is a barrier to recruiting talent. Increasing the size of the University of Mississippi Medical Center, leveraging William Carey graduates, and providing additional residency slots will help train and retain more physicians in the state. Ultimately, Mississippi will be more successful "growing their own" as opposed to relying on recruitment.

Jackson Medical Corridor: A Jackson Medical Corridor will coordinate stakeholders, bring investment, provide a place to attract health care professionals and provide a quality health care destination that can compete nationally. However, some areas of the state fear it will increase the loss of patients to Jackson. There is also concern that the University of Mississippi Medical Center controls an unfair advantage in influencing care. To promote statewide success, the Medical Corridor must be a collaborative initiative that leverages regional strengths and successes.



Research and development: Participants felt a need for partnership between the University of Mississippi Medical Center and other providers in the state to take advantage of research grants that go both to institutions and communities. Mississippi needs a School of Public Health³ enabling the state to capture more grant money. Mississippi also needs to train more professional researchers who are not doctors.

Mental health: Mississippi will need more mental health professionals as the state transitions to community-based care, as opposed to caring for patients in institutional settings.

Non-delivery opportunities: Smaller providers, hospitals and clinics need shared ancillary services such as laboratory testing and IT support, electronic medical record and medical imaging technologies. A research center coalition can help get university programs and providers working together.

Business environment: Overall, the business environment is considered positive, including labor, regulatory issues and distribution. Mississippi maintains an image as a business-friendly state. However, any industry which must attract highly educated workers finds recruitment and retention difficult.

Innovation environment: Mississippi has angel and venture capital networks, but there is limited funding behind them. Although start-up businesses regularly emerge in Mississippi, sustained success is difficult because of a lack of existing talent and uncompetitive quality of place. Downtown and neighborhood vitality is needed to attract young talent.

Branding: Mississippi has many health care success stories, as with pharmaceutical distribution, regional hospitals, pharmacy education and academic pharmaceutical R&D. There are opportunities for branding and marketing.

³ The Study recognizes that the University of Southern Mississippi and Jackson State University offer accredited degree programs within a department of health or related department. However, the State lacks a stand-alone School of Public Health that would be required to substantially escalate impactful research and benefit to the State.



Mississippi Strengths and Weaknesses

Identifying existing strengths and weaknesses is an essential step in developing strategies, goals and recommendations that take advantage of Mississippi successes and address gaps in competitiveness.

Industry Assets and Competitiveness

It is important to understand the specific health resources within the state that could be mobilized to bring about economic development. Mississippi's four main industry sectors related to health care include: pharmaceutical; medical devices, equipment and supply manufacturing; business process outsourcing (BPO) and back office; and biotech research and development⁴.

Pharmaceutical: Mississippi lost 19 percent of its pharmaceutical industry base from 2001 to 2010, due greatly to the financial crisis of 2008-10. Mississippi has the lowest pharmaceutical wage among Blueprint states. Low-cost manufacturing could be an opportunity for Mississippi in this sector because the state does not have the consistent talent base or perception as a place for research and development in this field. Within this sector, Mississippi has proven to be a very strong competitor in distribution.

According to the labor analysis, the current state workforce does not have the skills necessary to support a typically sized (100 – 150 person) new pharmaceutical and medicine manufacturing operation. There is some potential around Metro Jackson, DeSoto County, the Northeast Mississippi-Tupelo area and the Gulf Coast, but not a deep enough labor pool to provide confidence to a business.

A large-sized pharmaceutical distribution company would likely be able to find necessary workforce in any of the locations they would consider – DeSoto County, Metro Jackson, South Mississippi-Hattiesburg area or the Gulf Coast.

Medical devices, equipment and supply manufacturing: Nearly all states have been losing workforce in the medical device industry, but Mississippi could compete for higher value by adding jobs with one of the lowest operating cost structures. The long-term success of existing companies, like Baxter in Cleveland, Mississippi, point to how competitive Mississippi could be within the right niche.

Depending on the skill level necessary for a medical device and equipment manufacturing operation, most of the locations in the state could support a small- to medium-sized operation. Larger operations have experienced some difficulty maintaining a workforce.



BPO and Back Office: Back office work (data entry, claims processing, administrative support and clinical coding) has grown by 100 percent, but the concentration of such services remains low. Mississippi can compete because costs, which are of paramount importance, are lower, but the state must have an available workforce.

BPO and back office operations require a large labor force to account for typically high turnover. Any of the more populous regions in Mississippi would likely be able to support an operation of less than 500. Larger operations would likely need to focus on Metro Jackson and the Gulf Coast.

Biotech R&D: Mississippi is not a significant competitor in biotech R&D. The state lacks the funding (grants) necessary to truly invest in this sector. To capture funding, there must be more talent produced and retained within the state.

In areas near academic institutions, there exists the labor necessary to support small R&D operations. However, as those operations grow, or as the industry grows, the talent pool will quickly be depleted.

Health Supply and Demand

To leverage health care as an economic driver, the delivery network must meet the state's health care needs. This ensures two things: one, it will maintain a healthy and competitive workforce; two, it will create jobs and economic impact through growth in health care professionals. The following outlines professional needs in health care delivery :

Physicians – Approximately 190 new primary care physicians will be needed by 2016 to keep up with demand for services. Approximately 280 new physicians will be needed to meet specialty care demand. These numbers exclude the physicians needed to replace retirees. The University of Mississippi Medical Center is expanding their class by 30 students, and William Carey University will be graduating their first class of Osteopathic Medical students in the near future. While these additions are crucial, they will not be sufficient to provide all of Mississippi's physician needs.

Nurses – Up to 4,880 new nurses will be needed by 2016 to provide inpatient and outpatient care. Nurse practitioners can play a role in stretching the physician workforce.

Mid-level providers – Based on existing practice patterns, study models suggest the need for 25 additional physician assistants or nurse practitioners by 2016, but the state may wish to encourage further growth in mid-level providers to satisfy needs in primary care.

Other Allied Health – Various “med-tech” and other allied professionals will be needed by 2016 to support physicians and therapeutic services: 430 radiation technologists; 100 general med-techs; 340 physical therapists; 270 respiratory therapists; and 410 new pharmacists. Additional health care professionals are also critical to successful patient care – speech pathologists, audiologists, pharmacists, etc. – continual growth in these areas will be necessary.



Best Practices

Mississippi can benefit from the experience of other states, regions and institutions around the nation, in which health care entities have been successful in partnering with economic development to achieve successful health care clusters. Seven case studies were selected to identify best practices that Mississippi could learn from or emulate in creating a successful health care strategy. Examined were: the University of Tennessee Medical Center; Grand Rapids, MI, Medical Mile; Marshfield Clinic in Wisconsin; the Pikeville, KY, Hospital and Medical Center; the Research Triangle Institute in North Carolina; the Oklahoma State Osteopathic Program; and the South Carolina Health Care Model. These case study locations were selected and examined early on in the project process; however, additional best practices are referenced in the Strategic Initiatives because they align better with the recommended tactics and strategies.

Commonalities in these case studies illustrate that successful health care projects have:

Effective public/private partnerships – Long-term health care clusters have been successful because of leadership from the private sector. Public sector leadership creates an environment for success, but the private sector leads long-term strategy. This requires a commitment to collaboration and transparency.

Local area infrastructure development – A solid environment for growth must be present for the recruitment of business. This includes all aspects of services: technology (cell towers and high-speed broadband); water/sewer systems; entertainment; housing; and compatible business regulations.

Focused on strengths and needs of the area – Successful initiatives met a need, either for jobs, care or research. Communities recruited to meet a well defined, specific need and created an environment necessary to succeed.

Aligned Services with patient/community needs – High quality of service to employees, doctors and patients leads to higher levels of engagement with patients, improves the health of a community and leads to overall better outcomes.



Constraints and Challenges

While the potential is great for development of health care as a major economic driver, Mississippi does face constraints and challenges it must work to overcome in order to create a statewide health care development strategy.

Health and wellness – Mississippi’s population falls at the bottom of most key health indicators. Most of these problems come from lifestyle, diet, lack of education and the long-term impact of poverty on a large segment of the population. A non-compliant population on health and wellness issues is a hurdle. A healthy population is necessary for an effective workforce, which is necessary for effective economic development.

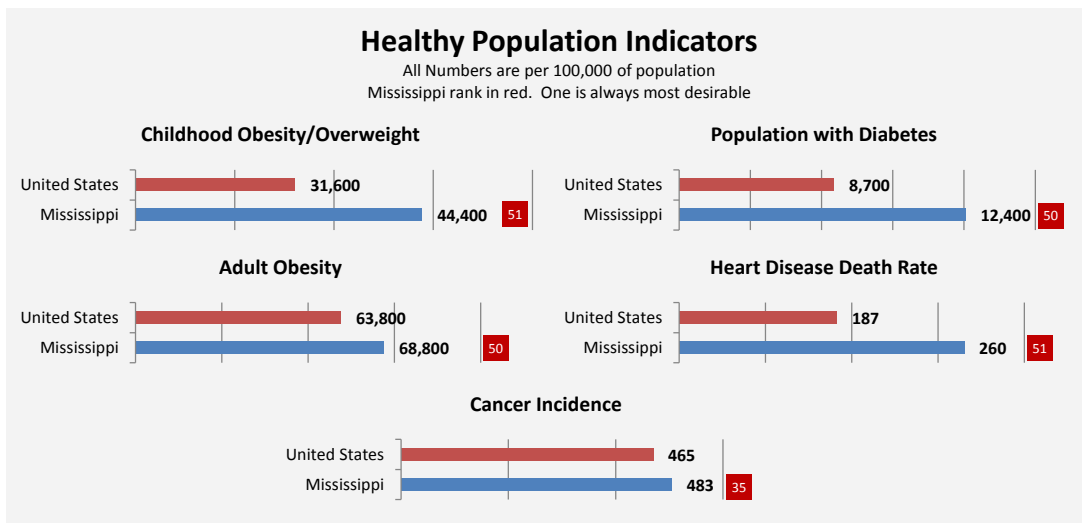


Figure 2: Mississippi Healthy Population Indicators

Silos – Many of the health care institutions and entities operate unto themselves with limited communication and shared visions. The silo attitude and practices hinder effective collaboration necessary for creation of a statewide health care system.

Fiscal constraints – The lack of capital and bonding programs, especially for innovation, is a challenge for Mississippi in economic development overall, but especially in health care.

Collaboration – Health care entities need to embrace further collaboration around the future of Mississippi health care; specifically in areas of talent recruitment, preventing patient outmigration and cutting costs.



Infrastructure – Deficiencies in health care technology and physical infrastructure remain a challenge.

Rural vs. urban/regionalism – Perceptions of rural vs. urban attitudes that have roots in political and social history in the state, along with regionalism, are a detriment to creation of a health care strategy. A “hub-and-spoke” system approach would maximize Mississippi’s health care structure effectiveness. All parts are important to the plan with collaboration and cooperation as keys.

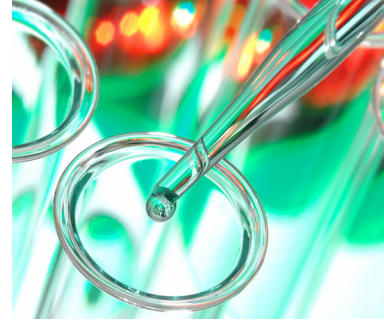
Strategic Initiatives

This study examined the health care system in the state and determined the types of support companies that can be attracted and/or grown. It examined the supply chain of health care delivery in the state and uncovered gaps and shortcomings. The innovation infrastructure was explored to determine if support exists for research, commercialization and technology transfer. Based on this analysis, strategies can be put in place to accomplish short- and long-term goals of creating a statewide health care system and promoting economic development.

Eight key strategic initiatives are recommended. Within each initiative is a series of recommended implementation tactics that will help guide the state to success:

1. Identify and empower a leadership body to spearhead the implementation of the health care strategy.
2. Identify sustainable financing mechanisms to fund health care initiatives and implementation.
3. Improve rural access to health care.
4. Enhance Mississippi’s areas of excellence in health care.
5. Enhance the statewide health care network by addressing gaps and promoting wellness.
6. Address regulatory barriers constraining development of the health care industry in Mississippi.
7. Enhance state competitiveness within the health care cluster industries.
8. Promote growth in entrepreneurship and nurturing of small business in the health care sector.

The following graphics identify each strategic initiative and the implementation tactics which support it.



Recommended Implementation Tactics (shortened for space; see the Study Appendix for additional detail on all tactics)		Leadership	Financing	Rural Access	Areas of Excellence	Health Care Network	Regulatory Barriers	State Complete	Small Business
1	Undertake health care strategy capital raising campaign focused on private industry.		•						
2	Economic development program to encourage onsite medical professionals at businesses.			•				•	
3	Create public/private health care commission to spearhead and coordinate health care strategy.	•							
4	Improve rural access to care through alternative methods of delivery.			•					
5	Develop incentive mechanism so small, rural clinics and hospitals can implement EMR.			•		•			
6	Continue to pursue a long-term planning process for the Jackson Medical Corridor.				•	•			•
7	Ease regulatory requirements for physician licensure.					•	•		
8	Expand the scope of practice for nurse practitioners and physician assistants.			•		•	•		
9	Identify a funding source to increase primary care residency slots in Mississippi.			•		•			
10	Refine the definition of rural, and extend the post graduation residency requirement.			•					
11	Jackson State Univ. and other MS universities work together to form a school of public health.			•		•	•		•
12	Use the Institution of Higher Learning office to facilitate networking regarding intellectual property.							•	•
13	Expand the Mississippi Crossmatch* program to target health care suppliers and providers.							•	
14	Elevate health care industries in which MS is immediately competitive to target industries.							•	
15	Conduct a skills audit to match health care industry needs with available training and education.					•		•	•
16	Single leadership organization to promote the growth of innovation within health care sectors.	•			•		•	•	•
17	Develop strategic, coordinated research parks at academic institutions.				•			•	•
18	Use community development to enable economic development in urban areas.				•			•	•
19	Create a mechanism to highlight achievements in promoting health care as an economic driver.	•				•			
20	Explore public/private mechanisms to grow Mississippi angel or venture funds.		•					•	•
21	Address gaps in assets demanded by medical device manufacturing and R&D related industries.						•	•	
22	Develop a dedicated health care fund to support the task force and strategic initiatives.		•						
23	Promote a philanthropic medical program to encourage physicians to practice in rural areas.			•		•			
24	Promote and build on existing health care zones and targeted incentives.			•	•	•			
25	Encourage Dept. of Health/Division of Medicaid to implement population health measures.			•		•			

Figure 3: Recommended Implementation Tactics

*Mississippi Crossmatch is an economic development program to connect industry buyers and sellers within Mississippi to keep dollars in state.

The Study recognizes that the University of Southern Mississippi and Jackson State University offer accredited degree programs within a department of health or related department. However, the State lacks a stand-alone School of Public Health that would be required to substantially escalate impactful research and benefit to the State.

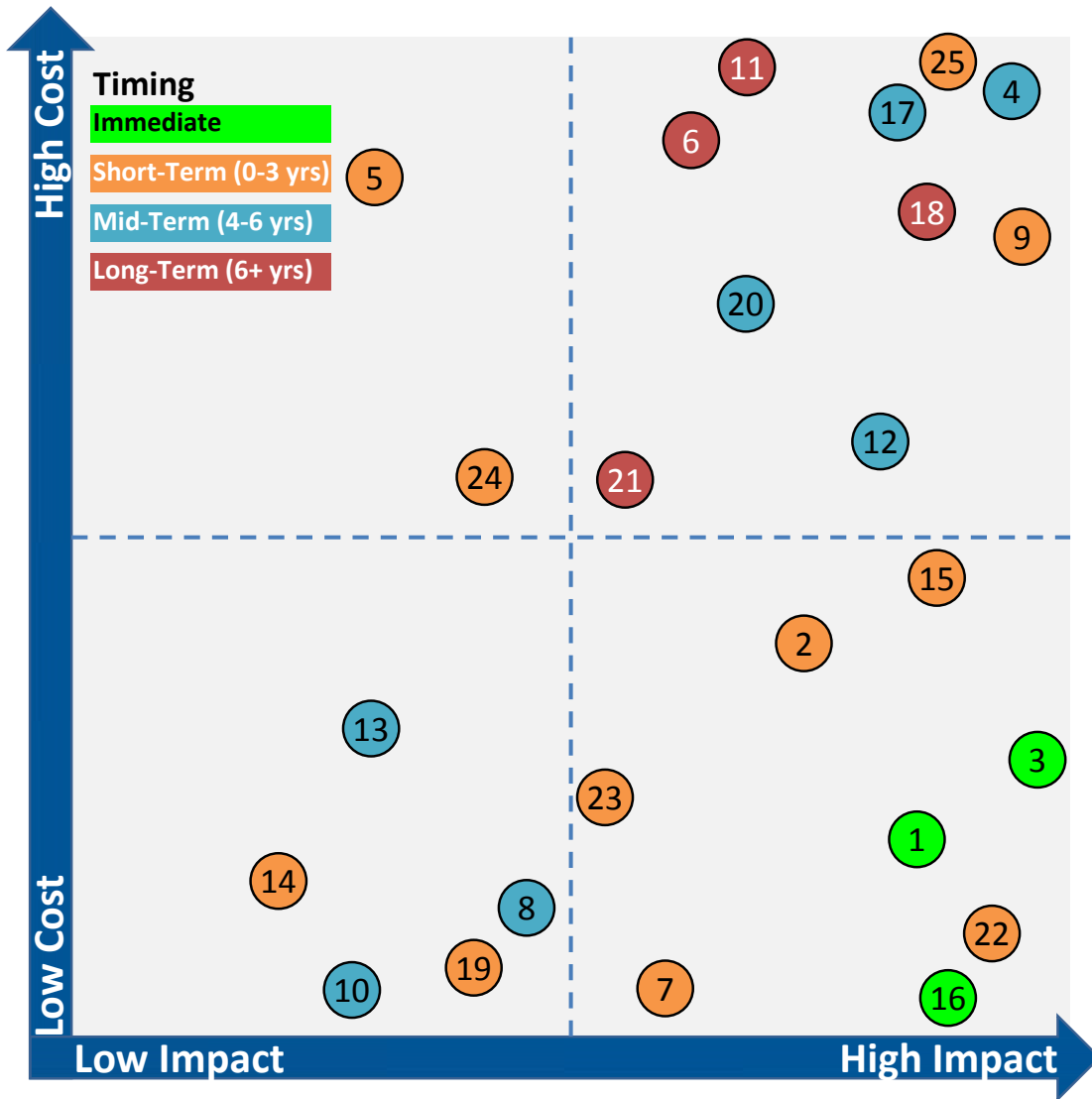


Figure 4: Recommended Implementation Tactics by Impact, Cost and Timing

A summary of each initiative and selected implementation tactics follows. For more details, please see the full report appendix at www.blueprintmississippi.com.



#1: Identify and empower a leadership body to spearhead the implementation of the health care strategy

The Need: Mississippi's goal to target health care as an economic driver requires not only a comprehensive strategy, but also leadership to organize, coordinate and facilitate the execution of that strategy. A statewide coordinated effort requires a leadership body to keep focus on the plan and ensure collaboration and coordination in carrying out that strategy. Leadership will be the key to bringing all entities (e.g., Governor's Office, Mississippi Development Authority, Mississippi Economic Development Council, Mississippi Economic Council, economic developers and health care professionals) together toward that goal. A single point of leadership will provide legitimacy and accountability, will integrate the goals and missions of various organizations and will provide a point for funding issues.

Select Implementation Tactics⁶:

Create a public/private health care commission that will spearhead and coordinate efforts in implementing the health care strategy.

A health care commission specifically aimed at the economic development aspects of health care would provide the leadership and coordinating oversight needed to implement a statewide strategy. A public/private membership approach would ensure representation from key entities and stakeholders with government connections to ensure communication and participation by various public partners.

Create a reward and recognition mechanism to highlight achievements in promoting health care as an economic driver.

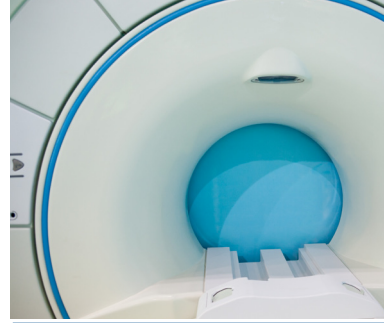
The success of implementing a comprehensive health care strategy will depend largely on stakeholder and public understanding and support. There must be a mindset of the importance of health care as an economic driver. Spotlighting success stories in such things as innovation, collaboration and implementation can educate, break down misperceptions and increase awareness necessary to garner political and public support.

Identify a single leadership organization to promote the growth of innovation within the medical sectors.

Growth in health care will come from innovation. Mississippi must grow its innovation infrastructure to support research and development, commercialization and technology transfer within the health care industry. A single leadership organization would aid in securing funding and grants and coordinate efforts, which now are fragmented and independent.

Metrics: A Mississippi Health Care Commission would be implemented with its charter and mission statement in a manner that includes key stakeholder organizations.

Best Practice: Grand Rapids Medical Mile has established numerous advisory groups comprised of public and private entities. The groups provide vision for the corridor, support to businesses located in the area or moving to the area and promote communication and collaboration. Grand Rapids Medical Mile is a shining example of coordinated leadership and collaboration amongst private health care providers, public medical schools and economic development and community planning entities.



#2: Identify sustainable financing mechanisms to fund health care initiatives and implementation

The Need: While Mississippi's leadership understands the opportunities for health care development, no major funds or programs, with the exception of Health Care Zones, exist to advance the initiative. Without proper funding, the program cannot effectively be communicated, which is critical to its success. There must be shared communication around the plans and shared resources with buy-in during the roll-out of the plan to broaden fundraising activities. The return on investment has been proven in terms of workforce development, improving access, accelerating public/private partnerships and advancing local and regional competitiveness.

Select Implementation Tactics⁷:

Undertake a health care strategy capital raising campaign focused on private industry.

Because of its importance and potential positive impact, private industry, including small and medium enterprises and health care providers, should be approached immediately to support a special fund for this initiative. A \$10 million base fund raised within 12 months would be the goal.

Explore public/private mechanisms to fund a new, or expand an existing, Mississippi angel and venture fund.

Public/private, nonprofit organizations can be used to promote, fund and coach the entrepreneurial ecosystem. Mississippi has a number of organizations that should work with Mississippi Technology Alliance (MTA) to facilitate the entire angel and venture fund development program. The state also should consider bonding or providing a regional revolving fund that could be used with targeted regional health care innovation centers, incubators, health care zones, universities and communities with health care critical mass.

Develop a dedicated health care fund to support the task force and strategic initiatives.

Based on best practices in other states, consider a 0.5 percent sales tax to capitalize the health care fund. Revenue should flow back to impacted institutions and purposes: pre K-12 for wellness and education; community colleges for skills training; doctor and health care related business recruitment; entrepreneurial and innovation ventures.

Metrics: Implementation results would mean: a significant increase in private capital and industry funds; allocation of sales tax dollars to targeted recommendations in the short term; increase in incubator facilities and start-businesses; and establishment of a coordinating body to oversee funding of innovation activities.

Best Practices: Texas created a sales tax for economic development in 1979 to aid smaller communities in attracting jobs. It now is the key economic development tool used by more than 500 communities. The Wisconsin Angel Fund has raised \$74 million in equity capital, which has resulted in creation of more than 200 highly skilled jobs and 62 patents. Companies have attracted significant new capital from out-of-state sources.



#3: Improve rural access to health care

The Need: The population of Mississippi must be healthier and have better access to care in order to be competitive in capturing private-sector investment. Improving the health of Mississippians is a big task. Mississippians are at or near the bottom in most key health indicators. Health care access is a problem, especially in rural areas. Mississippi trails most states in the number of physicians per capita and the uneven distribution leaves gaps of care in rural areas. Improving health care access in rural areas is a key to improving health and economic development.

Select Implementation Tactics⁸:

Improve rural access to care by promoting alternative methods of delivery and addressing barriers to utilizing care.

Mississippi's rural nature and lack of physicians makes the need for alternative methods of care delivery (e.g., telemedicine) more important.

Develop an incentive mechanism to provide small, rural clinics and hospitals the ability to implement Electronic Medical Records (EMR).

EMR is important for tracking patient care in rural areas, where patients often hop from doctor to doctor. A revolving loan fund could help financing.

Expand the scope of practice for nurse practitioners and physician assistants to encourage use of extenders.

Mississippi limits the scope of practice for nurse practitioners and physician assistants. Adjusting the allowable practice would extend care provision.

Identify a funding source to increase primary care residency slots.

Mississippi only has approximately 500 residency slots, which is inadequate. Growth should also look to leverage William Carey Osteopathic Medicine (DO) graduates. Work with the newly established Office of Mississippi Physician Workforce.

Adjust the UMMC loan forgiveness program to refine the qualifying definition of rural; extend the post graduation residency requirement.

The physician loan forgiveness program is a good tool, but eligible areas are defined broadly, meaning truly "rural" areas do not see the benefit.

Encourage Jackson State University and other state universities to work together to form a school of public health⁹.

Mississippi has no school of public health. Jackson State University is designated for the mission, but lacks resources. A collaborative effort is needed.

Metrics: There should be an increase in: the number of mid-level providers practicing in rural areas; the number of residency programs for primary care and total number of residents in those programs; and the number of medical school students and residents receiving incentives to practice in a rural area.

Best Practices: Oklahoma State University College of Osteopathic Medicine has effectively helped Oklahoma address primary care supply problems by developing multiple rural clinics for care and teaching. Programs also have been developed to orientate students into local rural communities to increase the probability that those students will remain long-term.



⁸ For additional implementation tactics and more information on all implementation tactics related to strategic initiative #3, please see the Study Appendix pages 20-21.

⁹ The Study recognizes that the University of Southern Mississippi and Jackson State University offer accredited degree programs within a department of health or related department. However, the State lacks a stand-alone School of Public Health that would be required to substantially escalate impactful research and benefit to the State.



#4: Enhance Mississippi's areas of excellence in health care

The Need: Having concentrated areas of excellence in health care allows a state to better compete regionally and nationally for talent, labor and business. Such areas with hubs of health care research can strengthen the entire state network and can provide synergy between public and private sectors and research and implementation. Leadership can promote such a synergistic environment to take advantage of clustering of research, education and private business activity. Planning to implement that vision in urban areas is important.

Select Implementation Tactics¹⁰:

Continue to pursue a long-term planning process for the Jackson Medical Corridor. Ensure that multiple state partners outside of Jackson are involved in identifying and promoting linkages to care providers and institutions around the state.

A Jackson Medical Corridor has immeasurable benefits for a statewide health care system and strategy. However, it must be linked to partners throughout the state with support from all participants.

Identify a single leadership organization to promote the growth of innovation within the medical sectors. Leadership is necessary to promote the environment necessary for cooperation and coordination in state health care.

Develop strategic, coordinated research parks at key academic institutions to centralize areas of excellence (Jackson, Oxford, Hattiesburg, Starkville, Lorman). Provide diversity in real estate type. Research parks located near centers of learning and research create jobs by promoting commercialization of innovation.

Use community development to enable economic development in urban areas. Improve "quality of place." Attractive, vibrant communities with quality lifestyle factors are important for attracting talent and enhancing areas of health care excellence.

Metrics: Creation of areas of excellence will mean: development of the local champions; local planning that establishes vision and regulations for future development; investment, tax base growth and job growth; research and patent activity; and Health Care Zone activity with successes.

Best Practices: The Texas Medical Center in greater Houston is one of the largest clusters of patient care, research and commercialization related to health care in the world. It is over 1,000 acres and contains 15 hospitals, three medical schools, four nursing schools and schools of dentistry, public health and pharmacy among others. The center includes multifamily housing and cultural attractions such as the Texas Medical Center Orchestra. This would be much bigger than a center in Mississippi, but the same factors apply.



#5: Enhance the statewide health care network by addressing gaps and promoting wellness

The Need: Mississippi is at the bottom or near the bottom on most key health indicators. Gaps exist in physician availability and in care for the uninsured. Addressing these widespread health issues in the population is a difficult task, but adopting statewide disease management approaches would increase the quality of care and improve the state workforce.

Select Implementation Tactics¹¹:

Develop incentives for companies that offer either directly or through a health insurer wellness programs to their employees and dependents.

Wellness programs based at companies effectively reach the workforce. This will also open the line of communication between health care providers and employers ensuring a more comprehensive treatment program, and effective method of addressing health issues that result in time away from work.

Encourage the state Department of Health/Division of Medicaid to implement population health measures and programs, based on existing and proven models used by other states.

These key agencies are equipped for effective health care education and can impact high-risk populations.

Conduct a study of states with the most progressive physician credentialing processes and identify specific changes that could increase the number of physicians coming into Mississippi.

Barriers and time issues in physician licensing negatively impacts recruitment of physicians.

Explore options for interoperability of Electronic Medical Record (EMR) systems used by state health systems and other key providers; explore options for a statewide data exchange system.

EMR systems can benefit delivery and especially serve rural areas.

Promote and build on existing health care zones to provide incentives for rural physicians and health care related development.

Continue to promote Health Care Zones as an implementation vehicle and program to create sustainable jobs and bring together health care sector partners.

Metrics: Increase the number of patients enrolled in wellness programs; improve health statistics (e.g., number of patients with blood pressure brought under control, number of diabetics managed, etc.); reduction in health care costs to businesses; more Medicaid recipients enrolled in a health program; more physician candidates entering and successfully exiting the credentialing process; support of initiatives pursued by the Jackson Medical Corridor; increase number of patients with EMRs; and reduce out-migration for key services to out-of-state providers in cities such as Birmingham and New Orleans.

Best Practices: Community Care of North Carolina is an excellent example of population health management in Medicaid and commercial populations. Other best practices include states such as Illinois, which is building a statewide health data network to cover approximately 13 million people and link 50,000 providers and state agencies.



#6: Address regulatory barriers constraining development

The Need: Unnecessary regulatory barriers not only hinder health care delivery, they can make Mississippi uncompetitive with other states in attracting and keeping physicians. Such barriers also impact rural delivery of services by non-physicians. Streamlining processes and easing unnecessary restrictions can improve services and develop more education and research assets.

Select Implementation Tactics¹²:

Reassess regulatory requirements for physician licensure.

Regulatory barriers and time delays should be examined and addressed.

Expand the scope of practice for nurse practitioners and physician assistants to encourage use of extenders.

Mississippi is depending more on these important physician extenders, but full benefit is hindered. Other states allow them to perform more care.

Encourage Jackson State University and other Mississippi universities to work together to form a School of Public Health¹³.

Mississippi needs a School of Public Health. Jackson State University (JSU) is designated for the mission of public health, but currently lacks resources to develop a school. Other universities should work with JSU to make its designated mission a reality.

Identify a single leadership organization to promote the growth of innovation within the medical sectors.

Leadership from a single entity can help cut through barriers, promote innovation in approach and provide cooperation toward common goals.

Metrics: Facilitate physician licensure; increase allowable duties of nurse practitioners and physician assistants; develop a plan to create a School of Public Health; and adopt legislation creating a health care leadership organization within the state.

Best Practices: Rural, western states, including Washington, Oregon, Utah, Idaho and Montana, allow broader provisions for scope of practice by mid-level providers and require less physician oversight than does Mississippi.

¹² For additional implementation tactics and more information on all implementation tactics related to strategic initiative #6, please see the Study Appendix pages 26-27.

¹³ The Study recognizes that the University of Southern Mississippi and Jackson State University offer accredited degree programs within a department of health or related department. However, the State lacks a stand-alone School of Public Health that would be required to substantially escalate impactful research and benefit to the State.



#7: Enhance state competitiveness within the health care industries

The Need: In order to capture private-sector investment, from both existing companies and future companies, Mississippi must address gaps and weaknesses. Mississippi's strengths in some health care sectors must be aggressively marketed in order to remain competitive.

Select Implementation Tactics¹⁴:

Create an economic development program targeting existing and new companies to encourage onsite medical professionals.

This can improve health, cut costs for companies and serve as a recruitment tool by offering priority incentives to companies that provide onsite care.

Expand the existing Mississippi Crossmatch program to target health care suppliers and providers. Encourage cooperative use of in-state services amongst providers.

Economic developers should concentrate on business-to-business links.

Elevate health care industries in which Mississippi is immediately competitive to state-wide target industries - Pharma/Medical Related Distribution & Health Care Related Business Process Outsourcing.

Mississippi is already winning major medical and pharmaceutical distribution projects, strengths from which can be used to promote the health care initiatives. There also is opportunity in BPO development.

Develop strategic, coordinated research parks at key academic institutions to centralize areas of excellence (Jackson, Oxford, Hattiesburg, Starkville, Lorman). Provide diversity in real estate type.

Every serious network needs centralized hubs of excellence. These hubs should be aligned with strengths of academic institutions.

Explore public/private mechanisms to fund a new, or expand an existing, Mississippi angel and venture fund.

Growth companies and start-ups need access to flexible capital.

Address gaps in assets demanded by medical device manufacturing and R&D related industries.

The state must better understand the needs of these industries in order to capture investment.

Metrics: Increase investment in target industries and positive media coverage on the business environment and quality of the health care system.

Best Practices: Mississippi can look to its own past economic development successes in attracting and growing major industrial players like Toyota and Nissan, and in creating successful innovation environments like the Polymer Science Research Center. Mississippi has a proven track record of economic development excellence. Success can be replicated in health care.



#8: Promote entrepreneurship and small business in health care

The Need: Health care can be propelled forward by small businesses and entrepreneurship. Growing this sector is critical to elevating the future health care industry in Mississippi. Entrepreneurs and small businesses often fail because they don't have access to the needed support structure. A unified approach can help the state with this important task.

Select Implementation Tactics¹⁵:

Identify a single leadership organization to promote the growth of innovation within the medical sectors.

A single leadership organization coordinating the development of innovation will produce better implementation results. It also adds credibility to the innovation environment in Mississippi; important for changing outside opinions of the state.

Conduct a comprehensive skills audit to match health care industry needs with training and education providers. Employee skills must be matched with industry needs and the programs that provide training.

Develop strategic, coordinated research parks at key academic institutions to centralize areas of excellence (Jackson, Oxford, Hattiesburg, Starkville, Lorman).

These parks can provide a variety of real estate types to accommodate companies at various stages of growth.

Explore public/private mechanisms to fund a new, or expand an existing, Mississippi angel and venture fund working with like-minded organizations such as Mississippi Technology Alliance, Mississippi Biotechnology Alliance and Broadband for Mississippi.

Growth companies and start-ups require flexible capital.

Use the Institutions of Higher Learning system office to facilitate communication and networking regarding health care related expertise and intellectual property.

Develop an active network of University officials and technology transfer departments to encourage exchange of ideas and opportunities.

Metrics: Increase number of business start-ups. Grow technology transfer and commercialization between the public and private sectors. Keep more intellectual property and related wealth generation in Mississippi.

Best Practices: One of the premier implementers of entrepreneurial support is JumpStart, Inc. (JumpStart). Although it originally started in Cleveland, Ohio, JumpStart now assists regions around the country. JumpStart is successful by organizing a region's existing assets to support entrepreneurs, developing new resources to fill gaps, raising funds and investing directly in high-growth companies. JumpStart's role as an epicenter in developing the network of experts, funds and knowledge is what Mississippi should look to replicate within the health care sector.

Ohio is also home to the Cleveland Clinic, a world renowned medical institution. Cleveland Clinic, among their other traits of excellence, has a focused effort on innovation and commercialization. They operate a start-up incubator called CCF innovations, as well as the Global Cardiovascular Innovation Center.



Conclusion

The Blueprint Mississippi Health Care study has sought to present a new way of looking at health care in Mississippi – as an economic development engine, jobs creator and an opportunity for collaboration across multiple service providers to improve wellness. This complex, interrelated sector holds great potential for the state of Mississippi. Providing quality health care with greater access to the rural population not only will improve overall health of Mississippians, but also will help develop and grow the entire health care support industry. That means improvements to the workforce, quality of life, business sustainability and, ultimately, the creation of wealth.

The strategic initiatives presented here propel Mississippi forward toward making health care a true economic driver. Development of an interrelated health care system of delivery, support and innovation working collaboratively toward common state health and development goals can be a game-changer for the state. Mississippi's health care cluster can thrive with growth and innovation, with proper leadership, investment and support.

The goals and recommendations outlined in this study are offered as an implementation guide for Mississippi business and political leaders. Some will require legislation. Some will require funding. Some will require changing traditional ways of operation and approaches. All will require state leaders and stakeholders in health care to **work together** toward common goals that will make the state healthier -- as a people and as an economy.



About the Authors

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Newmark Grubb Knight Frank

Newmark Grubb Knight Frank (NGKF) is one of the world's leading commercial real estate advisory firms. They provide a fully integrated platform of services to prominent multinational corporations and institutional investors across the globe, as well as to owners and users of real estate on a local, regional and national level.

The consulting group of NGKF's Global Corporate Service Practice led the development of this study. All of the practitioners listed below perform a wide variety of management consulting services for numerous industries and specialty asset types across North America, including business location and economic development strategy services.

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