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Chairman Thune, Chairman Wicker, Ranking Members Nelson and Schatz and fellow panelists, it is a pleasure to appear before this subcommittee to discuss how we can work together to advance telehealth through connectivity. I thank the Subcommittee, and especially my Senator, Chairman Wicker, for the opportunity to testify and look forward to a robust discussion.

Telehealth was born out of necessity. Patients living in rural areas have always lacked access to healthcare, and, even today, those who are not able to travel often receive inadequate care, or no care at all. Many patients are not able to see a specialist or get the treatment they need without traveling long distances. Long gone are the days when each small town had its own "Jack of all trades" doctor who could deliver babies, set broken bones and check on Grandma's aching back. While patients in urban areas may be located in closer proximity to medical services, the waiting time for appointments with specialists can be several weeks, resulting in increased severity of disease equivalent to that in the rural areas.

Why is this?

The physician shortage is partially to blame. The Association of American Medical Colleges (AAMC) predicts that by the year 2020, there will be a national shortage of more than 90,000 doctors, including 45,000 primary care physicians.[i] Rural communities rely on family medicine physicians because they are often the only healthcare providers in the area, yet in the last decade, the number of medical school graduates choosing to specialize in family medicine has declined.[ii] Of those who do elect to study family medicine, only 11% choose to practice in rural areas.[iii]

Chronic disease is another major challenge, particularly for poor, rural Americans. A review of data provided by the CDC reveals that approximately 117 million people - about half of all adults in the US - have one or more chronic health conditions. More than 75% of health care costs are due to chronic conditions, nearly $7900 for every American with a chronic disease.[iv-v] One in five, or 2.6 million Medicare patients are readmitted to the hospital

within 30 days of discharge due to chronic conditions, which generates costs of over $26 billion each year. In Mississippi alone, seven of the leading causes of death in 2011 were chronic disease-related.

Due to limited local medical services and lack of transportation, patients are often unable to access vital primary care health services that focus on prevention and management of chronic illnesses, which leads to inadequate continuity and coordination of care. The result is inflated health care costs, poor outcomes and repeated readmissions. Telehealth is a critical tool in addressing these challenges, one that Mississippi has used with great success to increase access to health care and reduce cost.

The Telehealth Solution

In its infancy, telehealth simply connected hospital sites to rural clinical sites, linking health providers to each other and bringing much needed services to remote areas. Telehealth, however, can be used in many different settings beyond the traditional hub and spoke model. From corporations to correctional facilities, telehealth is providing access to care and reducing costs for both providers and patients.

- In the workplace - In 2011, 11% of employers with at least 5,000 employees said that they have a telehealth program in place, up from 5% in 2010, according to a study by Mercer. Participating employers are seeing productivity savings of up to three hours and an average cost savings of $55 in medical costs per visit.
- In correctional facilities - From a baseline of 94,180 transports made annually from correctional facilities to emergency departments at a cost of $158 million, telehealth technologies could avoid almost 40,000 transports with a cost savings of $60.3 million a year. Further, from an annual baseline of 691,000 physician office visits at a cost of $302 million, telehealth could avoid 543,000 inmate transports with a cost savings of $210 million.[vi]
- In schools – School-based telehealth provides access to healthcare for students to receive mental health, chronic disease management, and other care in schools. In an Onondaga County, New York, remote diabetes care program, students' A1C levels were lowered and urgent visits and hospitalizations during the course of the study were reduced.[vii] The availability of telehealth in schools has been shown to reduce students' absenteeism, enabling healthy children to become better students.[viii]
- In nursing homes - From a baseline of 2.7 million transports made annually from nursing home facilities to emergency departments at a cost of $3.62 billion, telehealth could avoid 387,000 transports with a cost savings of $327 million. In addition, of the 10.1 million physician office visits made annually from nursing facilities at a cost of $1.29 billion, telehealth could avoid 6.87 million transports with a cost savings of $479 million.[ix-x]
- Into the home - Remote patient monitoring is a form of telehealth that is being used to address chronic disease. A national home telehealth program started by the Veterans Administration resulted in a 25% reduction in numbers of bed days of

care, a 19% reduction in numbers of hospital readmissions and mean satisfaction score rating of 86% after enrollment into the program. This is just one example of how remote monitoring can lead to a dramatic reduction in costs and an equally dramatic increase in quality.[xi]

Telehealth in Mississippi

Nowhere in this great nation are health care challenges greater than in Mississippi. Not only do we lead the nation in prevalence of multiple chronic diseases, we also have the lowest number of doctors per capita of any state in the nation. Add to that persistent poverty and low educational achievement spread throughout a rural, agrarian state, and you can begin to see why telehealth is our best option for changing health outcomes for Mississippi.

Mississippi has a population of roughly 2.9 million people, with more than 1.6 million people living in a rural community and 23% living at or below the federal poverty level.[xii-xiii] Mississippi ranks the worst in the country for overall health, obesity, heart disease, diabetes, infant mortality and preventable hospitalizations.[xiv] We rank fifty-first in the nation for the deaths before the age of 75 years resulting from conditions that could have been prevented with timely quality healthcare.[xv]

Seventy-two of Mississippi's ninety-nine hospitals are in rural areas and suffer from the lack of resources and corresponding access to care common in rural areas. The state's expenditure on healthcare exceeds the national average with 32% of the budget being spent on health care. Almost half of payments to health care providers in Mississippi were from Medicare and Medicaid.

UMMC Center for Telehealth

The University of Mississippi Medical Center in Jackson is home to Mississippi's only academic medical center, only Children's hospital, only transplant program and only Level One trauma center. We have the state's only allopathic medical school, dental school and pharmacy school, and are the major player in clinical and translational research. While these programs and services are more readily accessed by those living in the Jackson area, we know that, in order to make progress toward improved health statewide, we have to bring our health care experts to the patients in the communities where they live.

The UMMC Center for Telehealth got its start over ten years ago with the TelEmergency program, connecting 15 emergency departments in rural hospitals with our Level One trauma center at UMMC. Through this system, UMMC's emergency medical team consults with rural providers using a real-time, video and audio connection, interacts with the patient and gives guidance to the provider regarding treatment options. Our TelEmergency program has resulted in a 25% reduction in rural emergency room staffing costs, a 20% reduction in unnecessary transfers and has produced patient outcomes in rural hospitals that are on par with that of our academic medical center.

Twelve years later, using a similar audio/video platform, the UMMC Center for Telehealth is providing over 35 medical specialties in 166 sites around the state, including community hospitals and clinics, mental health facilities, FQHCs, schools and colleges, mobile health vans, corporations, prisons and patients' homes. UMMC Center for Telehealth connects to sites in 52 of the state's 82 counties and serves an average of 8,000 patients per month.

As we worked to expand telemedicine services, we ran into several laws and regulations that complicated its delivery. The first obstacle we encountered was the financial disincentive to practice telemedicine. Prior to 2013, insurance companies in Mississippi did not reimburse for telehealth consults in a way that made it an attractive alternative to a clinic visit. We argued that Mississippi would ultimately save money by reimbursing for telehealth and undertook a series of pilots to prove it. We were successful.

In 2013, Governor Phil Bryant signed legislation mandating both public and private health insurance companies reimburse for Telehealth services at the same rates as in-person services. The following year, the Governor signed legislation mandating equal reimbursement coverage for store-and-forward and remote patient monitoring services. Thanks to the Governor's leadership in clearing the barriers to reimbursement parity, Mississippi is now recognized as a leader in telehealth. Last year, Mississippi was awarded an "A" rating by the American Telemedicine Association, one of only 7 states in the nation to receive that distinction. These changes at the state level were the catalyst for the rapid growth of our state's telehealth system, and I strongly believe that adoption of reimbursement parity at the federal level would have an even greater impact.

Another obstacle we encountered was connectivity. Due to the largely rural nature of our state, we could not take for granted that support for telehealth services would be available at the level we required, or frankly, at all. In order to achieve the connectivity required, we partnered with many of the telecommunications companies in the state - cable companies, wireless and broadband providers - to maximize existing resources and leverage the strength of incumbent utilities in the areas where they serve.

Thanks to support from the Universal Service Fund and our telecommunications partners across the state, we are able to bring much needed, life changing health care to rural Mississippi. Nothing tells this story better than the success of our Diabetes Telehealth Network pilot.

In 2012, diabetic medical expenses in Mississippi totaled $2.74 billion, according to the American Diabetes Association. Because Mississippi leads the nation in chronic disease, we wanted to begin disease management where it is the worst. Ruleville, Mississippi is ground zero for diabetes. Sunflower County, where Ruleville is located, has one of the highest percentage of diabetics per capita of any county in the country. This means repeated visits to the ER, amputations and early death for too many members of this community.

Last fall, UMMC Center for Telehealth partnered with the Governor, GE Care Innovation, CSpire and the North Sunflower Medical Center to develop a research pilot with the

ambitious goal of managing 200 uncontrolled diabetics through aggressive in home monitoring and intervention. The centerpiece of the partnership is a population based health care model that leverages telehealth technology delivered over state-of-the-art fixed and mobile broadband connections. Its goal is to improve the health of participants while reducing the total cost of care. Once a patient meets criteria to be admitted to the pilot, he or she is sent home with a tablet that monitors glucose readings daily, provides educational health information and transmits vital health data to specialists monitoring them in real time. For the first time, these patients have access to a team of professionals dedicated to their care – ophthalmologists, endocrinologists, pharmacists, nutritionists, diabetic educators and nurses. Many of our patients have never used a computer and some can't read beyond a sixth grade level. Despite these challenges, our patients are thriving.

Of the 85 patients currently enrolled in the pilot, all report that their disease is under control for the first time and that they have lost weight and are feeling better. While our goal was for 75% of patients to reduce their hemoglobin A1C levels by 1% in the first year, study results show that after only six months, the average reduction in A1C levels among participants is almost 2%. In addition, with the exception of one patient who needed to be hospitalized at the time of enrollment, none of our participants have gone to the ER or been admitted to the hospital for their diabetes.

It's important to recognize that the connectivity between UMMC and these patients would not exist but for the Universal Service Fund support that this region enjoys. This is true for many parts of the state where we serve, especially in areas like the Mississippi Delta where health challenges are most extreme. As we look to roll out this successful program beyond Ruleville and beyond diabetes, our foremost concern is whether we will have the ability to connect with these patients in their communities today and into the future.

Given the impressive and immediate results to date of our pilot in Ruleville, we are not waiting for it to officially wrap up before we begin implementing this model in other areas. We already have plans in place to allow doctors and patients in Jackson, Grenada and Lexington to take advantage of this chronic disease management tool.

The Future of Telehealth

As we look to the future, we must consider opportunities and challenges to the growth of telehealth. Right now, the greatest challenges lie in winning the federal level reimbursement parity that will make telehealth attractive in the marketplace and securing the reliable, high quality connectivity that telehealth requires. Given the jurisdiction of this committee, I urge you to consider these three issues:

1. <u>The need for continued support of USF</u>. Today, in rural Mississippi, there is connectivity thanks to the success of the Universal Service Fund's High-Cost program. A reduction in funding will not only impact current operations, but will significantly impede our efforts to grow remote patient monitoring and hinder connections between patients and medical professionals.

2. The need for a broader application of the FCC E-rate program. The sooner that children's health issues are addressed, the better, particularly when it comes to prevention of chronic disease. As such, we would like to see telehealth services into schools be allowed to take advantage of the E-rate program. Many children, particularly in rural areas, may not receive care in other settings, making school based evaluation and treatment even more important. Data shows that healthy children perform better in school, have less absenteeism and are more likely to reach higher levels of educational attainment.
3. The need for a more inclusive Health Care Connect Fund. Under today's framework, hospitals like ours are not able to receive the full benefit available to other participants in a network due to our size. However, without a large partner like an academic medical center, many of these smaller hospitals and clinics wouldn't be able to manage the paperwork and administrative burden of the program. We would urge a review of the Health Care Connect Fund, with an eye toward allowing large hospitals to receive a more robust reward for serving as a consortium lead for a network of smaller rural hospitals and clinics.

The mission of the UMMC Center for Telehealth is to increase access to health care, improve outcomes and reduce costs. Communities that have limited medical services can now take advantage of health care services delivered to their community virtually. Providing our state with improved emergency medical services and specialty health care through telemedicine technology, UMMC Center for Telehealth is eliminating barriers to quality health care for Mississippians.

I thank the subcommittee for the opportunity to testify today and look forward to answering any questions you may have.

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