

Remote Patient Monitoring Program

University of Mississippi Medical Center – Jackson, MS

Overview

To reach the many rural and underserved communities in Mississippi, the University of Mississippi Medical Center (UMMC) created its Center for Telehealth in 2003. Initially, the Center provided specialized care and other public health services. But as Mississippi's rate of Type 2 diabetes became the highest in the nation, UMMC was compelled to address this growing chronic care crisis. Thus, in early 2014, the Center initiated its Diabetes Telehealth Network pilot.

A result of a public-private partnership, the pilot targeted patients in the Mississippi Delta region, one of the most impoverished areas in the country. Using tablet computers provided at no cost, pilot participants were treated remotely using online streaming video technology and other tools. They also took and reported their own vital signs daily. If patients failed to check in or their vitals landed outside of an acceptable range, a health practitioner would contact them in near real time.

In addition, the Center created educational content based on the American Diabetes Association guidelines and evidence-based practice. "When patients are given sheets of information during discharge, they often don't look at the information again," says Michael Adcock, executive director of the Center. "The Diabetes Telehealth Network gave us a way to monitor progress on improving health while providing smaller doses of education to patients during their daily 10-minute sessions. We felt confident that this would help empower and engage patients."

Impact

The Diabetes Telehealth Network succeeded in achieving its goals of improving clinical outcomes and care coordination for managing diabetes, increasing access to care, and bringing health care resources into patients' homes. After the first 100 patients completed six months in the pilot, the Center analyzed the data they had collected to that point. The results were stunning. "We had hoped that on average the patients who had completed the pilot could reduce their A1C levels by 1.0," says Adcock. "We were blown away when we discovered that the average level had dropped by 1.7 in just six months."

Remarkably, 96 percent of those first 100 patients took their medications as directed, and 83 percent kept their scheduled telehealth appointments. Not a single patient was hospitalized or admitted to the emergency department during that time, and nine cases of diabetic retinopathy that may have otherwise gone undiagnosed were identified. Many Diabetes Telehealth Network participants said they avoided foods high in sugar because they knew practitioners would detect their poor dietary choices when they submitted their vital signs.

The data from the first 100 patients also showed that participants "saved" 9,500 miles they would have spent driving to specialists in Jackson, Miss., or even to those across state lines. Furthermore, \$339,000 in true health care costs was saved, as measured through Medicaid.

“Medicaid extrapolated our data and told us that if 20 percent of Medicaid patients with diabetes in Mississippi enrolled in this program and achieved similar results, the state would save \$189 million,” says Adcock. “As our pilot demonstrated, telehealth has a tremendous impact on managing chronic disease as well as on controlling costs.”

Lessons Learned

During the pilot program, the Center learned several important lessons regarding the technology they selected. As a result, Center leaders made significant upgrades. Pilot participants in the Diabetes Telehealth Network used a large tablet to connect to providers and report their vital signs. But now, all program participants receive a mini iPad, which is easier for patients to transport and use. The technology is also now Bluetooth-enabled so that patients are not required to plug anything into their devices. And finally, the Center ensures that the technology kits given to patients run on cellular technology to eliminate the need for patients to have WiFi access in their homes.

Future Goals

The success of the Diabetes Telehealth Network prompted the Center to use the same model to bring care to patients with chronic obstructive pulmonary disease, hypertension, kidney disease, and other conditions that require chronic disease management. Services being replicated from the Diabetes Telehealth Network include scheduled live video health sessions and coaching on diet, exercise, and adherence to medications. Paving the way for enhanced use of the network’s model was the passage of a law by the 2014 Mississippi Legislature that requires insurance companies and Medicaid to reimburse for both remote patient monitoring and store-and-forward telemedicine.

The Center also wants to focus on educating providers across the state to understand what the telehealth program is and how it impacts their practice. “There is no ‘playbook’ for this model of care,” says Adcock. “But we do know that without provider engagement, the concept won’t take hold.” Although the clinical content for the program is not difficult to identify, refining the referral process, working with Medicaid and insurance companies, and informing legislators on the benefits of telehealth programs like the Centers requires a great deal of effort and patience.

“Our telehealth program has been the first true win-win I have encountered in my nearly 20 years of working in the health care field,” says Adcock. “Patients, providers, and payers *all* benefit. It’s rare that something like this happens, and since it has, the profession needs to maximize the spread of programs like this.”

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