



Bringing a doctor to high school sidelines

The University of Mississippi Medical Center builds an affordable, easy-to-use telehealth solution in six days, evaluating students for concussions with Dell tablets



Customer profile



Company The University of Mississippi Medical Center
Industry Healthcare
Country United States
Website www.umc.edu

Business need

Senior high schools are interested in finding an effective and affordable way to evaluate football players for concussions during games to reduce the risk of debilitating or life-threatening injuries.

Solution

The National Federation of State High School Associations engaged the University of Mississippi Medical Center to implement a telehealth solution for high schools, using VSee software and Dell tablets.

Benefits

- Gives injured athletes immediate concussion evaluations from a specialized physician
- Reduces the risk of sending a concussed player back into a game
- Provides a viable telehealth model to schools and youth sports organizations
- Shows that a telehealth solution can be implemented in as few as six days
- Helps promote the healthful mission of youth sports programs

Solutions at a glance

- Client Solutions
- Telehealth and Care Management

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*Dr. Kristi Henderson, Chief Telehealth and Innovation Officer,
the University of Mississippi Medical Center*

Even though concussions are a common injury in sports, notably in high school football, many are not immediately diagnosed. Unfortunately, when people sustain a second concussion before the first has healed, they are at risk of debilitating and even life-threatening brain injuries. To help address this issue, the National Federation of State High School Associations (NFHS) engaged the University of Mississippi Medical Center (UMMC) to pilot a telehealth program.

For many kids, playing sports is a healthy activity that helps foster personal growth. However, increasing concerns and awareness about concussions and their short- and long-term risks are causing significant changes to youth sports programs across the country. Some school districts are cancelling sports programs, especially football, to reduce risk to students and avoid potential legal issues. Other districts are hiring trained specialists who can more accurately diagnose a potential concussion.

To come up with an affordable and effective diagnostic solution for high schools, the NFHS consulted with the American Telemedicine Association (ATA). Because it would be financially infeasible to have a physician on staff at every sporting event, the ATA suggested using telehealth to bring a physician to the sidelines of high school games via a mobile device. The NFHS consulted a number of telehealth programs and chose to pilot a solution for high school football by collaborating with the University of Mississippi Medical Center (UMMC) through its Center for Telehealth. The NFHS selected UMMC, because it operates a nationally recognized telehealth program, and it has strong relationships with the local communities, which can help facilitate program participation.

Scalable technologies and trusted collaborators

To focus the project's scope, UMMC collaborated with the Mississippi High School Activities Association (MHSAA)

which helped select 11 interested high school football teams in Mississippi, of which six ultimately chose to participate. Developing the program would be easy from an IT and business perspective. The medical center just needed to scale its existing telehealth program to include a concussion clinic. Dr. Kristi Henderson, chief telehealth and innovation officer at UMMC, says, "We already use the VSee Telemedicine Platform to support other telehealth clinics, and we knew the software would be easy for schools to use. We had never supported a mobile solution in this type of setting, though, so we contacted Dell to see if they were interested in helping us. We already use Dell technologies extensively throughout our facility."

After contacting Dell and VSee, UMMC learned that no infrastructure updates would be required. The servers, network and security solutions that supported UMMC's existing VSee solution would seamlessly support the program's new patients and video streams. The only

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Products & Services

Services

Dell Telehealth and Care Management Solutions

Hardware

Dell Venue 8 7000 Series (32GB) tablets with Intel® Atom™ Z3580 processors

new IT needed was a tablet for each school and physician.

Ensuring the solution works from any location regardless of WiFi

Based on recommendations from Dell, UMMC chose Dell Venue 8 7000 Series tablets with 32GB of memory. The model helps ensure reliable, high-definition video conferencing with its quad-core Intel® Atom™ Z3580 processor, dual cameras (front and back) and an 8-inch high-definition screen. The tablets can also connect to the internet from any football field, because they support both WiFi and the SmartVerizon 4G LTE network. Schools do not have to worry about the tablet running out of power either. The Venue 8 tablets provide up to three more hours of video watch time on a single charge compared with other small-screen tablets including the Nexus 75, the ARM-based 8-inch Samsung Galaxy Tab 33 and the Samsung Galaxy Tab Pro 86 bluetooth-enabled devices, such as stethoscopes and thermometers, also work with the Venue 8 tablets, so staff can send information about a student's vital signs back to the attending physician, if necessary.

"Once we knew which model we wanted, we could have just purchased our tablets from a local big-box chain, but that's not what we want," says Henderson. "We look for long-term collaborations from our vendors. Dell always listens to our challenges and helps us to come up with solutions so that we can continue to move forward and be successful into the future."

Building and deploying a telehealth solution in six days

After the technologies were chosen, solution implementation was quick and easy. VSee built the virtual waiting room using UMMC's existing software. Then UMMC's staff downloaded the customized VSee software onto 15 Dell tablets. Training the two physicians who would provide the clinical telehealth services for athletes on Friday nights

during games took less than an hour, because they already knew how to use VSee software. UMMC's Center for Telehealth's staff travelled to the high schools to provide in-person education and to ensure that each school's tablet could connect to the internet.

"The whole design and implementation of our virtual concussion clinic using Dell Venue tablets and VSee software took six days, and that includes time needed to drive all over the state and train high school staff," says Henderson. "Not all of the schools in the pilot project have athletic trainers that work with their football teams, so we trained coaches and athletic directors in addition to trainers. Additionally, on each tablet we preloaded a training video and presentation slides from the lead physician on the pilot, so that trainees could review material and train others if needed."

An easy-to-use virtual clinic that provides just-in-time services

Six high schools have submitted consent for each football player and are currently using the virtual concussion clinic. "The last thing we want is to have people scrambling to fill out paperwork before we can see a student who needs care," Henderson says.

Today, if a student should be evaluated for a concussion, the trained representative clicks on the VSee software icon on the Dell tablet desktop. That brings them into a virtual waiting room where they are prompted to check in. A physician then receives an alert that a patient is waiting, and the doctor uses his tablet to open a video session with the patient. "The doctor and athlete can see and hear each other through a video chat on the Dell tablet, allowing the concussion assessment to be completed," says Henderson.

Helps ensure concussions are diagnosed and prevents unnecessary ER trips

In just a few months, UMMC was able



to come up with a feasible solution for schools so that they can lower risk and keep sports programs. "With this solution, schools can prevent players with a concussion from going back into a game and then having a bad outcome," Henderson explains. "We can also avoid sending someone to an emergency room who does not have a concussion. Either way, we're looking at significant safety and cost benefits to families and schools."

At the end of the season, the NFHS and UMMC will evaluate the program and determine whether it will be used by other sports teams at Mississippi high schools — as well as other schools across the country. "We expect to see an expansion of mobile telehealth programs in youth sports in schools but also in private sports organizations, because telehealth provides the right medical care at the right time and place," Henderson says. "This mobile telehealth solution based on Dell tablets and VSee software was easy and affordable for us to roll out, because we can use it to reach more people with a lot less overhead."

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