

## **A TELEULTRASOUND SUCCESS STORY**

Central MidSouth Healthcare (CMH) is a rural healthcare network comprising seven (7) hospitals and several types of clinics that serve a predominantly rural and small-town population on the order of approximately 600,000 patients. It takes more than one hour to drive from one hospital to another. In 2018, CMH employed more than 7,000 people of whom approximately 600 were medical professionals.

### ***What challenges did CMH face that needed a solution?***

The physicians and executives at CMH wanted to improve the delivery of excellent healthcare and reduce the cost basis of various medical services by centralizing these services in one location. One of the services suggested for centralization was CMH's ultrasound activities. Although all 7 hospitals were amply supplied with ultrasound technicians and sonographers, CMH did not have the financial resources to provide full-time ultrasound-reading physicians or radiologists at each location. Thus, the members of the radiology group decided to seek a "teleultrasound" solution to their challenge of reducing travel time for radiologists, address the needs of patients located in rural locations as well as ensure that patients were not visiting competitive medical facilities.

### ***What requirements were radiologists at CMH looking for in a Teleultrasound Solution?***

There were several parameters that CMH was looking to identify in a teleultrasound solution. First and foremost, the radiologist at the CMH central location wanted to see the dynamic, streaming images originating from the ultrasound machines located at the distant hospitals in real-time with minimum lag-time or latency. Secondly, the centralized radiologists wanted to be able to see or to view the distant sonographer's hand as he or she moved the transducer over the patient's body. In addition, the centralized radiologists wanted to be able to communicate verbally with the distant sonographer privately. Only when required, the radiologists needed the ability to communicate verbally and visually with the patient as well as the sonographer to complete the remote consultation.

### ***How did CMH hear about RMT's Teleultrasound solution?***

In 2017, CMH lead radiologist, Dr. Alan Summers, was referred by a colleague to Remote Medical Technologies (RMT). After Dr. Summers identified what sort of teleultrasound capabilities he was seeking, he decided to invite RMT to the central CMH headquarters for an onsite demonstration. The onsite demonstration proved that RMT Teleultrasound technology exceeded their requirements and CMH decided to move forward with implementation.

### ***What preparations were done prior to installation and implementation?***

RMT builds and provides a customized System Implementation and Support Plan (SISP) for every customer to ensure the success of the project. This working document is an effective tool that all customer and RMT team members use collaboratively. Primary project management topics include the following:

- Point of contact names, titles, and information
- RMT System overview
- Network Infrastructure setup
- Equipment specifications
- User administration
- Team member responsibilities
- Training
- Task Assignment timeline

Highly secure internet-based technology tools provide unique benefits and advantages from being placed on the medical organization's digital network. The SISP is completed collaboratively by both the medical facility and the RMT implementation team. When the SISP is completed successfully an onsite implementation can be scheduled.

### ***What occurred during Onsite Implementation?***

The process took two days to connect the RMT teleultrasound devices to the CMH digital network at two distant locations (location A and location B). This included training for radiologists and sonographers (who would be located at CMH's main location as well as locations A and B). Upon completion, users of the RMT real-time teleultrasound system are able to initiate real-time teleultrasound sessions and contact the distant radiologists with ease. Radiologists are able to view the dynamic, streaming, real-time images sent over the Internet and they are able to speak with the sonographers via the integrated voice-over-IP (VoIP) communications service. Radiologists are able to view the sonographer's hand moving the transducer over the patient via a webcam located close to the distant ultrasound device. RMT was able to meet and exceed all of the initial requirements set by CMH.

### ***What challenges were faced during Onsite Installation and Training?***

RMT and CMH encountered minor setbacks during the installation process. CMH clinicians' PCs network settings were not properly set to connect to the Internet. Therefore, the networking group had to reconfigure each PC for the radiologist to access the Internet. Lastly, Dr. Summers needed to upgrade his monitors to 1080p for high-resolution imaging.

### ***What were the major advantages of incorporating RMT Teleultrasound Solutions into CMH's Daily Operations?***

The challenge of reducing travel time for radiologists was successful. The patient did not need to travel to the main hospital from their rural location to obtain expert care. RMT Implementation addressed the needs of patients located in rural locations as well as ensure that patients were not visiting competitive medical facilities for their healthcare needs. In addition to being able to treat more patients, the sonographers at each location are now able to remotely assist and train each other at various locations on providing the best procedure practices for better patient care. The RMT real-time teleultrasound implementation was deemed a complete success. CMH is scheduled to add more distant locations as they expand their services as well as extend their practices to include tablets and mobile devices.