



# TeleMedicine Case Study

## Covenant HealthCare Systems

### RECENT EVENT

---

Most recently, Covenant was forced to evacuate two buildings on their campus, including their Emergency Care Center (ECC), due to a gas line rupture. Covenant used swyMed to allow a 'command center' to communicate to evacuees and keep doctors in touch with their patients. Although we aren't mentioned in the news sources, you can hear about the event [here](#).

### Background

---

Covenant HealthCare is one of the largest, most comprehensive health care facilities north of metro Detroit. The facility has more than 600 beds, and a complete range of medical services. Covenant serves the health care needs of 6 counties in east central Michigan. With more than 14 inpatient and outpatient facilities, Covenant HealthCare offers convenience and easy access to high quality care through a main "campus" of six buildings, plus an additional five outside facilities.

From 2001 to 2005, the facility had an internal team looking into ways to respond to growing requests from rural hospitals for services. In 2006, an internal Innovations Committee was looking at meeting efficiency and how to link conference rooms. The team reviewed hardware-based offerings from Polycom and Tandberg, but the financial investments needed to bring those systems online were too great. In 2007/2008, one member of the innovation committee built a case study around the use of software-based video conferencing and obtained approval from the Director of Physician Relations, then the Chief Medical Officer, and finally the hospital CEO. Originally viewed as simply a conference room solution, numerous follow-on applications for swyMed's flexible software have emerged.

## Current Status

---

Though the software was only installed in January of 2009, its use and benefits have been growing steadily. The typical goal of a telemedicine project is to improve efficiency and reduce, or avoid, costs. Implementing swyMed has not only achieved these objectives, but has resulted in an increase in inpatient volumes and revenue growth as well.

## Key Success Factors

---

- Easy to Deploy – new users are quickly and easily activated, limited end user training is required due to the intuitive interface and support can be done by PC support rather than a dedicated AV Tech
- Low cost of entry – software and hardware commitments are dramatically lower than traditional videoconferencing
- Flexibility and functionality – runs on existing networks using existing equipment and provides more capabilities than traditional videoconferencing systems

## Installation and Roll-out

---

### **Continuing Medical Education (CME)**

CME was the first application beyond conference rooms. In prior years, to keep their skills up to date nurses would have to take time away from their hospitals, drive to the main campus, and stay in a hotel to attend a CME seminar. With the swyMed platform, CME is delivered via Webcasts that last year had 27 remote attendees. (The remote sites have proctors assigned to ensure that attendees stay for the full session so that credit is given only for those who truly “attend”)



The success of the CME program and growing familiarity with swyMed’s capabilities spawned multiple additional applications:

**Urgent Care Clinics**

Urgent Care used to be staffed by MDs. Taking advantage of swyMed’s intuitive video conferencing infrastructure, the hospital will staff most of its Urgent Care locations with Physicians Assistants (PAs), greatly reducing expenses. For the most difficult cases, remote PAs will use video conferencing to consult with physicians in the central clinic, ensuring highest quality patient care.

**Tele Psychiatry**

The hospital has partnered with a county behavioral health facility to provide psychiatric services via video conference, saving both patient and doctor time and travel.

**Medical Education**

Residents used to commute from the hospital to classes at Michigan State and the University of Michigan. With swyMed, those classes are being brought in to the hospital via web conference, saving both the commuting time for the residents and making them more available at the hospital to see patients and deepen their experience base.

Another project in this area is Virtual Grand Rounds: Attending physicians use video conferencing to receive patient updates from residents and provide insights/guidance without having to be in the hospital. Students can participate in more patient cases, and learn without a large group imposing on the privacy of a patient’s room.



**Tele Cardiology**

Existing patients can do follow-ups at a hospital close to them, avoiding a trip to “the city” and reducing congestion at the main hospital.

An additional service is a remote General Consult from a staff cardiologist to get clearance for surgery at one of the allied rural hospitals.

Additional lines of service are frequently being suggested including:

**Tele Stroke**

When a patient arrives and appears to have had a stroke, time is of the essence. Clot-busting drugs should be applied as soon as possible. However, if there has not been a stroke and treatment is given, the “cure” will be worse than the disease. The solution: Remote consultation by a specialist using video conference software to ensure that a stroke has occurred and authorize treatment.

**Nutrition Consultation**

Remote consultation using video conferencing and potential for follow-up visits from home.

**Wound Care**

Remote follow-up on wound healing from home or nursing home.

**Patient Discharge**

Integration of patient chart with recorded video authorization by physician. Used by administration to ensure that all discharges are properly authorized and documented.

**Robotic Surgery**

Stream video feed from robotic surgery to teaching/observation rooms.

<b>Tele Pathology</b>	Tissue samples can be “sent” to Pathology lab via video and reviewed in real-time rather than running the sample down to a lab and waiting for results while a patient waits on the operating table.
<b>Tele Surgery</b>	Surgeons can video conference with families during procedure to provide updates or obtain consent without needing to leave the sterile environment
<b>Helicopter / Ambulance</b>	Integration of “Flight for Life” helicopters and inbound ambulances to allow first responders to have communication with, and receive guidance from, doctors before patients have even reached the ER

## Additional TeleMedicine resources for further research:

- Great Plains TeleHealth Resource and Assistance Center -- <http://gptrac.ahc.umn.edu/>
- American TeleMedicine Association -- <http://www.americantelemed.org/>
- Telemedicine Information Exchange -- <http://tie.telemed.org/default.asp>
- Metro Washington Health TechNet – <http://www.healthtechnet.org>
- University of AZ -- <http://www.telemedicine.arizona.edu/>
- University of Texas Medical Branch (Galveston) -- <http://www.utmb.edu/>
- University of Missouri -- <http://telehealth.muhealth.org/>
- Oklahoma State University -- [http://www.youtube.com/watch?v=4WHAib\\_XlwQ](http://www.youtube.com/watch?v=4WHAib_XlwQ)
- Veterans Administration -- <http://www.va.gov>