



SUCCESS STORY

AT CENTRAL UTAH MULTI-SPECIALTY CLINIC, TECHNOLOGY IS GOOD MEDICINE

EXECUTIVE SUMMARY

CUSTOMER

- Central Utah Multi-Specialty Clinic

INDUSTRY

- Healthcare

BUSINESS CHALLENGE

- Reduce paperwork and filing requirements
- Enhance overall patient care

NETWORK SOLUTION

- Electronic medical record solution, built on high-performance Cisco network technologies

BUSINESS VALUE

- Eliminated paper charts and records
- Enabled a more connected, productive, and effective medical staff
- Saved nearly US\$1 million in just the first year

Central Utah Multi-Specialty Clinic eliminated paper, cut operating costs, and dramatically enhanced quality of care with an electronic medical record solution built on Cisco® technology.

“If you had come in six months ago, I probably would have had 50 or 60 charts on my desk that were waiting for me to add notes. Now, when I finish seeing the patient and walk out of the room, I’m done. I don’t have to go back at the end of the day and spend two hours trying to remember everything I did all day. I’m going home, on average, an hour earlier than I used to.”

—Jeffrey W. Johnson, MD, Internal Medicine, Central Utah Multi-Specialty Clinic

BUSINESS CHALLENGE

Central Utah Multi-Specialty Clinic (CUMC) is the largest independent group of physicians in the state. The group has more than doubled in size since 2001, due to Utah’s rapidly growing population and the clinic’s reputation for excellent care. Today, CUMC has nine locations, 59 physicians on staff, and nearly 400 employees.

CUMC enjoyed a thriving practice in Utah for many years, but by 2001, the clinic was becoming a victim of its own success. CUMC was being flooded with new patients and new physicians. Clinicians and administrators were hard pressed to keep up. Relying on handwritten notes and paper charts to document patient encounters, physicians commonly spent almost as much time doing paperwork as they did seeing patients. Support staff was constantly moving charts between the record room, exam rooms, clinician offices, and external transcription services. Records were frequently incomplete or missing altogether. Some clinicians even resorted to keeping “shadow charts” for patients at their desks, but this ultimately compounded the problem.

“The paper was out of control,” says Jamie Steck, director of Information Technologies for CUMC. “Each location had its own charting system, and patients could have four or five charts, making it very difficult to find the information we needed. Patients and clinical staff had to chase down information, and everyone was frustrated.”

“It was always anybody’s guess which doctor had the chart you were looking for,” adds Steven Bigler, MD, Obstetrics and Gynecology at CUMC. “If you wanted to look up last week’s ultrasound or just remind yourself about a note you’d made during the patient’s last visit, you had to go looking through 25 doctors’ offices.”

The manual, paper-based system also presented a major financial drain. With 200,000 patient charts to maintain, managing the records required 10 full-time employees. Transcription costs alone had reached more than US\$1 million per year. CUMC was also running out of room to store the charts, and had begun converting valuable office space into supplemental records rooms.

NETWORK SOLUTION

In 2001, CUMC's IT and executive staff turned to their trusted technology partner, Intermountain IT, to develop a solution. Together, they decided to adopt a sophisticated electronic medical record (EMR) system and an intelligent data network that would transform the clinic into a state-of-the-art, technology-enabled organization. CUMC deployed the TouchWorks Electronic Medical Record system from Allscripts Healthcare Solutions, supported by an intelligent Cisco network that incorporates wired, wireless, and handheld computing into a single, integrated architecture.

Building the Network

CUMC deployed a T1 Frame Relay network with Cisco 2621 Multiservice Routers and 1751 Modular Access Routers to support the applications and connect all sites. In the network core, Cisco Catalyst® 4000 and 3550-24 PWR switches with inline power deliver intelligent, integrated voice and data services to clinical staff across the organization. The clinic keeps backups of all switches at an off-site location to ensure that the system never goes down.

To protect sensitive clinical data and patient information, CUMC uses a Cisco PIX® 500 Series Security Appliance to provide robust firewall and security services. The network was also designed so that Internet traffic is managed with a completely separate router than internal clinic traffic. Not only does this configuration ensure hackers cannot access internal servers over the Internet, it also provides built-in redundancy. If one router fails, the other can temporarily take on all routing services. CUMC also uses its Cisco PIX Security Appliance to support a virtual private network (VPN) solution, enabling physicians to securely access the clinic's network and applications over the Internet from virtually anywhere.

To supplement and eventually replace its aging PBX phone system, CUMC deployed a full-feature IPC solution using Cisco CallManager with Cisco Unity™ voice mail and unified messaging. The system provides state-of-the-art telephony—including four-digit dialing, extensions that can follow employees wherever they go, and unified mailboxes for both voice messages and e-mail—to 150 employees outfitted with Cisco 7910, 7940, and 7960 IP Phones. To support the voice service needs of the immediate future, the IP telephony system integrates easily with CUMC's PBX system.

Going Paperless

The Cisco network supports the integrated, modular TouchWorks EMR solution for physicians. The software replaces paper charts and multiple electronic records with one application from which clinicians can access lab and x-ray reports, enter notes, write and fax prescriptions directly to local pharmacies, and more. The clinic also deployed the GroupCast Practice Management solution from IDX to automate many back-office administrative processes and streamline communications with partners and insurers.

CUMC outfitted all clinicians with wireless-enabled Compaq Ipaq handheld PCs, allowing them to access the EMR solution from examination rooms and offices at any of the clinic's nine sites. The clinic's wireless network uses sophisticated encryption methods to protect sensitive clinical data and ensure that no unauthorized users can access the network.

"Intermountain IT was just tremendous," says Steck. "They helped us achieve even more than we thought was possible, and their expertise really helped guide us through the transition. The combination of Intermountain, Allscripts, and Cisco has been an outstanding partnership for us."

BUSINESS VALUE

Today, CUMC is more streamlined, efficient, and profitable than ever before. Since deploying the Allscripts/Cisco solution, clinicians and staff have gained instantaneous, universal access to real-time patient information. Patient charts are now updated immediately, and clinicians and administrators know they have the information they need to make appropriate decisions.

Documenting patient encounters has become much easier. The TouchWorks system's intuitive templates allow physicians to update records and make notes directly from the examination room and limit dictation to only the most complex citations. When physicians need to dictate, they can speak directly into their handheld PCs. The EMR solution captures the dictation, routes it to the transcription service, and dynamically adds the completed transcription to the patient record.

"If you had come in six months ago, I probably would have had 50 or 60 charts on my desk that were waiting for me to add notes," says Jeff Johnson, MD, Internal Medicine, CUMC. "Now, when I finish seeing the patient and walk out of the room, I'm done. I don't have to go back at the end of the day and spend two hours trying to remember everything I did all day. I'm going home, on average, an hour earlier than I used to."

The solution doesn't just help physicians—the EMR system and the ubiquitous access afforded by the Cisco network allow patients to stay better informed and more involved in their care. Physicians can review records and test results in the examination room, and more fully engage patients in the decision-making process.

More Productive Clinical and Support Staff

The increased mobility provided by the Cisco WLAN and VPN solution has had a profound effect on the way the clinic's physicians practice medicine. Now, doctors can easily access patient records, lab reports, and radiology results, and even look up drug interactions from any CUMC site, from a remote hospital or medical conference, and even from home.

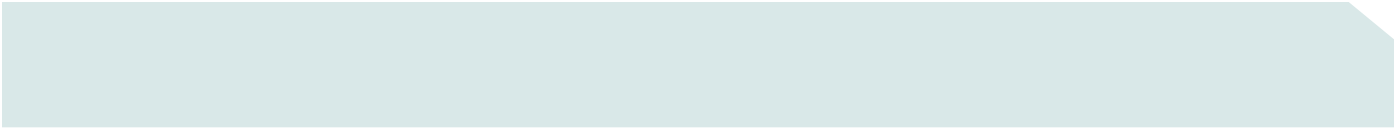
"If our doctors are on call and they get an urgent call at 3 a.m., they can now actually log into the system and see the patient's chart," says Steck. "If our radiologists are called after hours, they can go online and make an evaluation immediately. Before we had this system, the doctor had to get in the car and drive to the hospital."

Back-office staff can now manage almost all administrative tasks and communications with insurers—including patient eligibility and claims processing—instantly and electronically. When paper does enter the office, the TouchWorks solution's document imaging application rapidly integrates it into the system. Today, administrative staff can scan and file 79 documents in the same amount of time it used to take to manually file 10. The ubiquitous access to patient charts helps reduce administrative overhead and keep physicians on schedule, reducing the time patients spend in the waiting room. Staff can also answer questions much more quickly.

"We used to store insurers' explanation of benefits forms on paper," says Steck. "When a patient called in with a question, it could take us 72 hours just to find the form. Now, with all those forms scanned into the system, our staff can find an answer within seconds, while the patient waits on the phone."

Extraordinary Savings

The paperless environment supported by the Cisco network helped CUMC realize US\$952,000 in reduced costs and new revenues in just its first year of use. Over the next five years, the clinic expects those savings to total more than US\$8 million. Transcription costs have dropped by 35 percent, and the number of requests to the records room fell by as much as 40 percent. Since deploying the solution, the clinic has doubled in size, and yet avoided adding any new full-time record-keeping employees.



The solution even ensures physicians are compensated appropriately for the work they perform. Most insurers require more stringent documentation for higher-compensated interactions. In the past, CUMC physicians would often “downcode” an encounter to a less restrictive reimbursement code simply to avoid the extra paperwork. Today, the TouchWorks EMR system’s insurance code calculator automatically suggests the appropriate code for the interaction. The feature resulted in an 11 percent increase in the appropriate use of higher-compensation codes between 2001 and 2002.

The solution has enabled other benefits that are more difficult to quantify. CUMC is currently adding a new facility, and will be able to build the site with no records room, resulting in a projected savings of US\$248,000. At the clinic’s existing sites, several chart rooms are being converted to offices and examination rooms, which will allow physicians to see even more patients and expand the clinic’s business even further.

CUMC’s solution has proven so successful, the clinic has become a model for other medical practices around the country.

“In the past 10 months, I’ve had 30 groups come in to see what we’re doing here,” says Steck. “People are definitely looking at us as a technology leader.”

Dr. Johnson adds, “If somebody told me that they were going to take the system away from me, I’d have to think seriously about quitting. I just don’t think I could go back to doing things the old way.”

FUTURE PLANS

Over the next year, CUMC plans to further extend its Cisco network by providing full IP telephony and unified messaging to staff at all nine sites with the Cisco CallManager and Cisco Unity solution. When fully implemented, staff will have four-digit dialing across all sites, extensions that follow employees wherever they go, and unified mailboxes for both voice messages and e-mail.

The clinic has also begun using its IT infrastructure to support other healthcare organizations. The CUMC Imaging department has entered into a relationship with two local hospitals to store their radiology images and make them available after hours and on weekends. In the coming months, CUMC plans to expand these services and even resell its TouchWorks EMR software and administrative services to other clinics in the area, allowing external facilities to run their own operations from CUMC’s Cisco network.

“Having this network and this ability can really allow us to grow beyond our own clinic walls,” says Steck. “I think most IT departments suck the coffers dry. But we believe we can be cost neutral, if not revenue producing, within a year or so.”

This customer story is based on information provided by Central Utah Multi-Specialty Clinic and describes how that particular organization benefits from the deployment of Cisco products. Many factors may have contributed to the results and benefits described; Cisco does not guarantee comparable results elsewhere.

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**Corporate Headquarters**

Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 526-4100

European Headquarters

Cisco Systems International
BV
Haarlerbergpark
Haarlerbergweg 13-19
1101 CH Amsterdam
The Netherlands
www-europe.cisco.com
Tel: 31 0 20 357 1000
Fax: 31 0 20 357 1100

Americas Headquarters

Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-7660
Fax: 408 527-0883

Asia Pacific Headquarters

Cisco Systems, Inc.
168 Robinson Road
#28-01 Capital Tower
Singapore 068912
www.cisco.com
Tel: +65 6317 7777
Fax: +65 6317 7799

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