



CASE STUDY

HealthSouth

The Background: A Model of Outpatient Care

HealthSouth, based in Birmingham, Ala., is one of the nation's largest providers of healthcare services, operating outpatient surgery, diagnostic imaging and rehabilitative healthcare facilities. Its network of highly skilled physicians and therapists and the latest equipment and technology is designed to enable easy access to high quality healthcare.

The Challenge: Need for a Technology Transplant

In 2003, HealthSouth had several technology infrastructure issues to address. HealthSouth therapists had been using pen tablets with an integrated keyboard for several years for clinical documentation, administration and scheduling. The devices, while leading edge when first installed, now had several drawbacks:

- **High breakdown rates and repair fees:** The pen tablets were old and outdated. HealthSouth was spending as much as \$50,000 every month maintaining the hardware.
- **Slow and inefficient functionality:** Operational glitches were all too frequent. For example—
 - **System crashes:** The pen tablets would lock up frequently and then take a long time to start back up, which was particularly inconvenient during a patient exam.
 - **Problematic touch screen:** Any pointed object could open a program accidentally, creating a nuisance for therapists.
- **Limited mobility:**
 - **Brief battery life:** Therapists were tethered to an electric outlet most of the time instead of being able to move around with patients while taking notes.
 - **No handwriting recognition:** Therapists were forced to use the integrated keyboard to take free-form notes, limiting their mobility.
 - **No integrated wireless capabilities:** For wireless connectivity, therapists had to rely on PCMCIA cards that were easily broken.

The following example illustrates how the limitations of the old pen tablets were impacting HealthSouth therapists:

Some therapists found the pen tablets awkward and inefficient to use during a patient exam for the following reasons:

- Therapists could not type and assist patients at the same time, since the only way to input free-form data was via the keyboard.
- Therapist mobility was inhibited because the keyboard was attached to the device, making it cumbersome to hold the device and use the stylus at the same time.
- Therapist mobility was also hampered by the pen tablet's very limited battery life.

Unlike state-of-the-art tablet PC technology, these pen tablets did not enable the compilation of notes during each exam, and resulted in therapists spending an extra hour typing in patient notes at the end of each day to ensure comprehensive information and regulatory compliance.

The Solution: Wireless Tablet PCs to the Rescue

HealthSouth decided to invest in the latest wireless technology available to improve clinician productivity and satisfaction while enhancing security, connectivity and efficiency. HealthSouth began searching for a complementary wireless device that would enable the therapists to be more efficient and mobile as well. According to HealthSouth CIO Randy Carpenter, the main consideration was selecting the “best product at the best price with the best performance.” Reliability was a major factor.

HealthSouth focused on the new tablet PCs running Microsoft’s Windows XP Tablet PC Edition. These pen-based devices offer a similar interface to the legacy pen tablets the therapists had been using, but are worlds apart in terms of mobility, power and functionality.

HealthSouth chose the slate-style tablet PC from Motion Computing for several reasons. The Motion tablet features integrated wireless capabilities and a fast, ultra-low-power Intel processor. With its bright 12.1-inch screen size, the Motion tablet enables therapists to view a full-page document without scrolling. The full-fledged operating system also features handwriting recognition. In addition, the three-pound slate design, which is about the size of a clipboard, is easy to carry in one arm and enables caregivers to walk around while accessing patient records and entering clinical notes. For these reasons, HealthSouth also liked the lack of an integrated keyboard, which adds extra weight and is unwieldy to carry.

According to Carpenter, HealthSouth expects a three-year life span for the tablets, and mentioned the convenience of Motion’s three-year warranty.

“HealthSouth wants to ensure the clinics have the latest technology,” said Carpenter. “We are committed to keeping the therapists happy, and the tablet is a big factor because it is an ergonomically pleasing, reliable device that improves the user’s experience.”

HealthSouth first deployed the Motion tablet PCs in a pilot on November 14, 2003, in Birmingham, and is well ahead of its original schedule for a national rollout of several thousand units.

HealthSouth’s mobility implementation includes sophisticated security technologies, policy and process integration to protect corporate and patient data while complying with regulatory obligations such as HIPAA. Components of this approach include remote authentication, biometric fingerprint authentication, various levels of data/file encryption support, wireless standards support, roaming and role-based access control. The evaluation of security options included review of network policies, configuration and clinical networks – such as Wi-Fi Protected Access (WPA) or VPN technology as a minimum and authentication protocols such as EAP, PEAP and Firewalls. The end user configuration include Windows XP SP 2, client firewalls and up-to-date virus protection

Real Results: Mobilized by Tablets

HealthSouth has found that the Motion tablets are facilitating several clinical benefits leading to improved patient satisfaction and increased revenues. In addition, device repair costs are “almost nonexistent,” according to Carpenter

“Since implementing Motion Computing tablet PCs within 658 of our outpatient facilities across 30 states, we have documented improved clinician satisfaction and productivity,” said Diane Munson, president and chief operating officer of HealthSouth’s Outpatient Division. “The ease of use, reliability and cost savings associated with the Motion tablets combined with positive user acceptance are some of the reasons we will be accelerating their rollout to the rest of our rehabilitation facilities.”

Rusty Yeager, HealthSouth’s vice president and chief technical officer, said, “The Motion Computing tablet PC solution will be completely deployed at more than 700 clinic facilities within approximately 12 months from completion of the pilot or in one-third the 36 month timeframe originally budgeted. The result of this is clinicians, patients and HealthSouth realize benefits much more quickly while IT resources can be reallocated to other business initiatives.”

Motion tablets are initiating these clinical benefits in several ways. The therapists are smoothly transitioning to the Motion tablet because HealthSouth is using the same TherapySource software applications from Source Medical Solutions Inc. for clinical documentation, administration and scheduling. The therapists can still use a pen with drop-down menus and other application features, but now they can also take free-form notes with the pen because of the Motion tablet’s handwriting recognition capabilities. A keyboard is optional.

Along with the handwriting recognition, the Motion tablet’s lightweight, clipboard-sized shape and long battery life is enabling therapists to be more mobile than before. The therapists can now take notes electronically while they are with a patient, instead of having to walk away to a tethered device or remember their notes until the end of the day. This facilitates better interaction with the patients, leading to improved patient satisfaction.

Because of the Motion tablet, many therapists are now getting nearly all note taking done during the patient exams, saving them about an hour each day.

For these therapists, the quality of documentation is better with the Motion tablet. Notes are more detailed and accurate since they are being taken during the patient exam, and because the handwriting recognition works well. Improved data quality also helps with auditing in the case of Medicare, Workers Compensation and other cases.

Additional Motion tablet benefits cited by HealthSouth include:

- The Motion tablet is remarkably faster than the old pen tablets, according to Rusty Yeager, HealthSouth’s CTO.
- The Motion tablet is pen activated only, so that a finger or another object will not accidentally open programs.

- The 90-degree rotation of the screen enables document viewing from the best vantage point.
- The battery life indicator is useful, letting therapists know when to change batteries or plug in the tablets.
- The clinicians appreciate the ports - like USB - that make downloading items easier.
- The screen does not scratch or get dirty easily.
- The tablet is sturdy.
- The tablet is more reliable and versatile.
- Motion's built-in wireless capabilities are useful, because the wireless cards in the pen tablets could get in the way or be broken easily.