



Medical Device/ EHR Connectivity Success Story

Welch Allyn Spot Vital Signs® LXi and CardioPerfect™ Workstation Software Help Small Primary-Care Practice Enhance Patient Care and Satisfaction

Welch Allyn Spot Vital Signs® LXi is helping the staff at the South Austin Medical Clinic collect more complete and accurate vitals data. At the same time, the Welch Allyn PC-Based Resting ECG with spirometry option, along with CardioPerfect™ Workstation software, is providing the clinicians with noise-free traces that are easy to read and compare with previous results. With the click of a mouse, all vitals, ECG and spirometry data are quickly and accurately transferred from the devices to each patient's electronic health record (EHR), making it easy for providers to access them anywhere, at any time. These systems have increased the quality of care, as well as both patient and provider satisfaction.

The Challenge:

Improving Provider Access to Complete and Accurate Patient Data

Vital signs are the universal starting point for assessing patient health and often provide the first indication of a problem. Other data from ECGs and spirometry can help narrow down a diagnosis or spot diseases that might otherwise be overlooked.

But in today's hectic healthcare practices, it's all too common to skip a vital sign reading, record it incorrectly or simply misplace it. Paper ECG and spirometry traces can be fuzzy, difficult to compare with earlier results, and have to be scanned if you want to add them to an EHR.

Overview

Customer
South Austin Medical Clinic

Location
Austin, TX

EHR Partner
e-MDs

Customer Profile
South Austin Medical Clinic is a primary-care practice in an urban-suburban setting. Its eight doctors treat patients of all ages.

The Solution:

Eliminate Manual Transcription via Medical Device–EHR Connectivity

South Austin Medical Clinic started using two Spot Vital Signs LXi units in late 2006. While they were initially chosen for their ability to interface with e-MDs, the practice's EHR system, they have yielded unexpected benefits.

"They've made a huge difference in the completeness, accuracy and reliability of the vital signs data set," reports Eric W. Weidmann, M.D., one of the practice's eight physicians. "Many times the chart would have a blood pressure without a pulse rate when people did it manually. We'd never see an O2 saturation reading unless somebody went and found the meter. So the thoroughness and the complete data set have been a major improvement."

The practice's physicians also discovered Spot Vital Signs LXi units dramatically improved blood pressure measurement. "We were already going to extraordinary extremes to ensure the accuracy of our blood pressure measurements," says Dr. Weidmann. "But the LXi is clearly better, more accurate, more reproducible, and has intrinsic algorithm checks to assure it's accurate. My medical assistant doesn't have that." The practice's clinicians are now much more aware of poor blood pressure recording technique, and the more accurate and consistent readings have led to a rethinking of blood pressure control throughout the practice.

Having more comprehensive vital signs data—and having it readily accessible—is improving the quality of care in other ways, as well. If a patient's O2 saturation reading is slightly low, the doctors are able to compare it with the EHR history data to determine if it's a recurrent patient anomaly or an unexpected problem. "There's a common understanding in general healthcare that having the data set for retro review makes a huge difference," says Dr. Weidmann.

If the medical staff is uncomfortable with a new device, it can often go unused. But Dr. Weidmann reports that has been far from the case with the Spot Vital Signs LXi. "Our staff actually fight over the machine and get indignant if somebody left it unplugged overnight and the battery is low. So it is a good thing for staff, it enhances their satisfaction," he says. He adds that it took only about a week for staff members to completely integrate the Spot LXi into their preferred workflows.

Patient response to the digital devices has also been positive. "We did a survey, and about three quarters of our patients preferred the Spot Vital Signs LXi. They thought the technology was cool, that it gave better and more comprehensive information," says Dr. Weidmann. Most patients also noticed how the simplified vitals-taking process gave the assistant more time to talk with them and make them feel at home.



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- Dr. Eric W. Weidmann, M.D.

The Benefits:

Streamlining ECG and Spirometry Workflows

As with the Spot Vital Signs LXi devices, South Austin Medical Clinic initially chose the Welch Allyn PC-Based Resting ECG with CardioPerfect™ Workstation software for its clean, functional interface with the practice's EHR. And again, that turned out to be only the first of several unanticipated benefits.

It is one of the fastest electrocardiograms to use, according to Dr. Weidmann. "The time to get leads on and off, the time to stabilize, the capture time—all faster. I am more apt to do an electrocardiogram and not have it interrupt my workflow," he says. Patient demographics are imported directly from the EHR, saving additional time.

ECG acquisition is just the beginning of the workflow efficiencies. With the traditional ECG devices the practice used before, they would print out the ECG, review it with the patient and make notes on it, then it would eventually be scanned and added to the patient's EHR.

And now? "I go over the ECG with the patient onscreen, so they're still getting that instant feedback. But now when I sign off on it—whether it be spirometry or electrocardiogram—it immediately goes into the EHR and becomes available to my automated faxing or data interface. So right away I can send a complete report to the consultant—the new ECG, an old ECG for comparison, the lab from last week. Done. It doesn't sit on somebody's desk for two days. I think of it and it happens. That's a piece of artwork."

In emergency situations, that level of efficiency can save a lot more than time. "It didn't even occur to me that instant fax and online availability were going to be such an advantage until I stood there, literally, several times in a week with a patient needing emergency follow-up and I said, 'I can send this ECG right now, and the recipient doctor or ER will get it right away.' That is huge. It really elevates your practice, because you are providing all the information that's going to be necessary for the next set of providers to be able to do their job as best as possible."

Dr. Weidmann says the Welch Allyn system's ECG traces are some of the cleanest he's ever seen, because the digital processing cleans up noise, patient movement and other artifacts. That makes it easier to notice subtleties in the waveform, while the CardioPerfect software's ability to compare current and past ECGs and spirometry helps him spot anomalies he would have missed before.



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"I've found subtle year-to-year T wave changes on two patients who turned out to have significant corresponding coronary issues," says Dr. Weidmann. "There's no way I would've picked that up in an asymptomatic patient without being able to superimpose multiple tracings the way CardioPerfect does.

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Keeping the Practice Healthy

The Spot Vital Signs LXi has made it easier for the staff of the South Austin Medical Clinic to take more complete vitals and improved that accuracy and consistency of blood pressure measurement. The Welch Allyn PC-Based Resting ECG and CardioPerfect™ Workstation software have made it more convenient to take ECGs and spirometers that can be easily stored in an EHR and forwarded to consultants. Both have improved the quality of patient care and, ultimately patient health. Intriguingly, they may have also improved the long-term health of the practice.

"Being able to have an ECG up on a computer screen, let the patient look at it, type in an interpretation and it's done, that enhances patient confidence. Our patients are very pleased to see the clarity of information, that it's not blurred or lost. Having it clean and digital and stored and reproducible and easily retrievable enhances patient satisfaction significantly," says Dr. Weidmann.

"We look at our online satisfaction ratings and they're well above average. I think that's coming from our younger, wired clientele. The changes we've made have enhanced our image with the young-adult community, and sustaining that younger patient base is vital to the long-term health of an aging practice.

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