MOBILE COMPUTING IN HEALTHCARE

# Mobile Workflow Scores a Win for Patients and Providers

**A leader in orthopedics and sports medicine improves efficiency and enhances the patient experience with Allscripts touch-enabled mobile app, Windows* 8.1, and HP 2 in 1 devices with Intel® Core™ processors**

Can a full-featured, touch-enabled electronic health record (EHR) app running on an enterprise tablet help enhance clinic operations and improve the patient experience for a busy medical practice?

Yes it can, according to health and IT professionals at Resurgens Orthopaedics, Georgia's largest orthopedics practice. But they say the mobile solution must be well suited to the clinic's workflows and the demands of practice-wide deployment and management.

Resurgens conducted a proof of concept (POC) in which physicians and clinical staff modified their workflows to incorporate Allscripts Wand* for TouchWorks* EHR, powered by Windows* 8 and running on HP 2 in 1 devices with the Intel® Core™ i5 processor. Resurgens leaders say both the practice and its patients benefit from the Allscripts and Windows 8 solution running on Intel® processor-based devices—and that it overcomes issues they encountered earlier using an iPad*-based solution. They're now in the process of making the Windows 8 solution a standard option for their physicians and medical staff.

## Technology Innovation for Scalable, High-Quality Healthcare

A physician-owned practice with 21 clinics and surgery centers across Atlanta, Resurgens specializes in integrated care. It offers a full range of orthopedic, diagnostic, and rehabilitation services, with a focus on sports medicine, hip replacement, back surgery, joint replacement, and shoulder surgery.

Resurgens has long recognized advanced information technology as essential to the delivery of high-quality, high-volume care. The practice runs Allscripts TouchWorks* EHR and other Allscripts products. It is also a key client for Allscripts, providing valuable, real-world feedback as the company expands its solution suite.
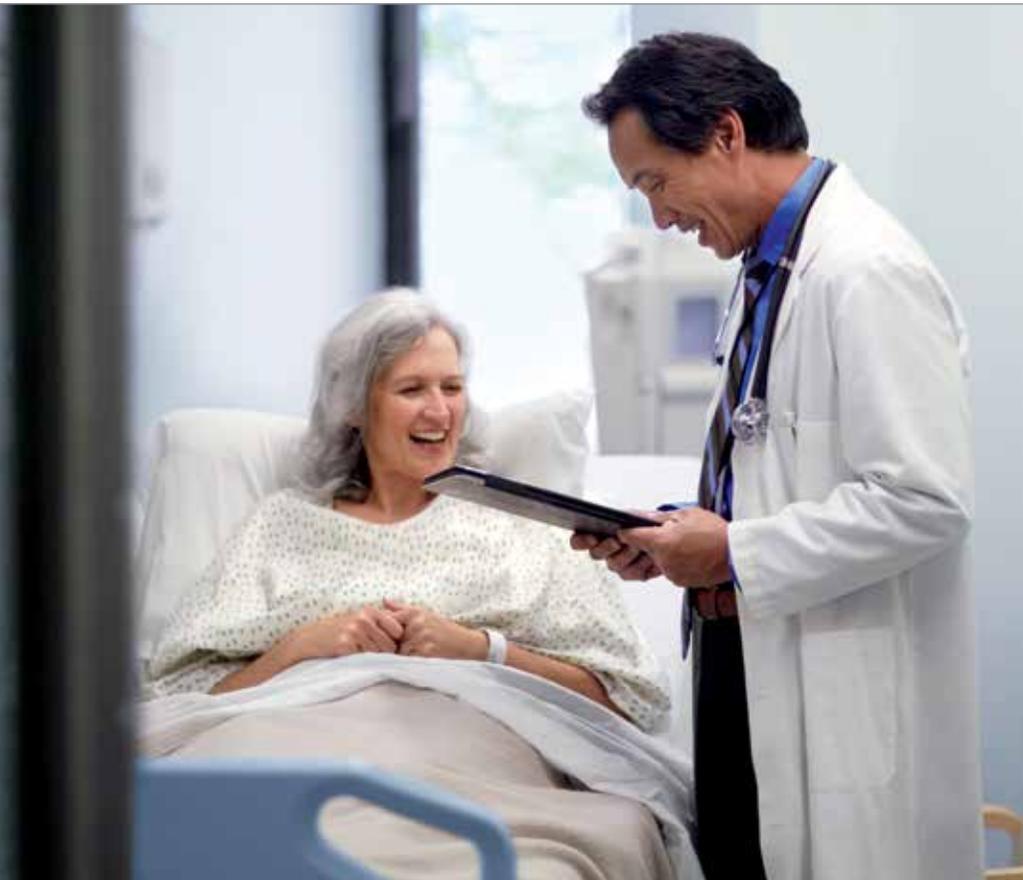
"We cover a 60-mile radius and have 600,000 to 700,000 patient visits per year," says Bradley Dick, chief information officer at Resurgens. "We are strongly focused on patient satisfaction. We acknowledged early on that the way to achieve scale,

**Bradley Dick**
*Chief Information Officer,
Resurgens Orthopaedics*

*"What we are after is a single device that physicians and medical staff can use to do all their job functions. If a device can only handle part of your job, it's a toy, not a tool. You might enjoy using it when you have plenty of time, but when you're in a time crunch, you need one device that can do everything."*

Bradley Dick,
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Resurgens Orthopaedics

## At a Glance

**Project**

- Explore the potential for a touch-enabled, mobile EHR app with Windows* 8 and Intel® processor-based devices to improve efficiency, patient care, and IT support

**Accomplishments**

- Conducted a POC in which physicians, PAs, and MAs incorporated Allscripts Wand* for TouchWorks* EHR, powered by Windows and Intel-based tablets, into their ambulatory care workflows
- Demonstrated diverse benefits and gained experience that will pave the way to smooth deployment

**Lessons Learned**

- Recognize the need to innovate. Have an ongoing team of clinical and IT staff to identify opportunities.
- Identify everyday bottlenecks that affect provider efficiency, clinic operations, or the patient experience. Then look at how mobile technology can help.
- Look beyond physician productivity. Streamlining the workflows of clinical staff can help make better use of the physician's time.

provide the best possible care, and deliver a great patient experience is to invest in technology."

Dick's team proactively investigates new health IT solutions, and was quick to identify mobile computing's potential to improve clinician workflows. When Allscripts introduced its first iPad EHR app, some clinicians began to experiment with it. But they soon encountered its limitations.

Working within the iOS* environment, clinicians could not access all the applications and functionality that were essential to their workflows. They could take clinical notes on the iPad, for example, but had to leave the patient room and go to a stationary PC to schedule follow-up appointments, order diagnostic images, or print reports. Instead of saving time and energy, this added extra steps, frustration, and time, and interrupted the flow of the patient encounter.

In another drag on productivity, moving between the iPad and the PC required logging in and reopening the patient's chart. "If you're seeing 60 patients a day and logging in takes 30 seconds, that's half an hour a day that you're not seeing patients," says Dick. "That's not going to work."

The iPad-enabled workflows also meant that patients had to line up at a central registration desk to schedule follow-up visits and complete the checkout process. This step took more of their time, and if other patients were waiting to check out, it presented a risk of privacy and compliance violations.

"What we are after is a single device that physicians and medical staff can use to do all their job functions," Dick says. "If a device can only handle part of your job, it's a toy, not a tool. You might enjoy using it when you have plenty of time, but when you're in a time crunch, you need one device that can do everything. We liked the mobility the iPad gave us, but we really needed to solve those workflow problems."

### A Simpler, More Powerful Solution
For the proof of concept, Resurgens used a new version of the Allscripts EHR app designed for Windows 8 and Intel processor-based devices. "We rethought every aspect of the product and the user's interaction to take advantage of all the power available in the Intel and Windows 8 environment," says Stanley Crane, chief innovation officer at Allscripts. "We reimagined how the user would interact with the EHR, and redesigned the user interface to use touch and all the other navigational capabilities. We provided intuitive new controls, so it's easier and faster to enter data and navigate the app. The product is simpler and more powerful to use, and the Windows and Intel environment gives users additional flexibility."

*"The tablet lets you minimize time and maximize effort, and patients like it. That's what we're all about. I think anyone who is open to change and gives it a try, once they use it, they're going to love it. They will not want to do without it."*

Tony Griggs, OPA-C,
Physician Assistant,
Resurgens Orthopaedics

## Key Technologies

- HP EliteBook* Revolve* 2 in 1 devices with the Intel® Core™ i5 processor and hardware-enhanced virtualization
- Allscripts Wand* for TouchWorks* EHR, powered by Windows*
- Allscripts TouchWorks* Electronic Health Record
- Allscripts Practice Management*
- Windows 8 Enterprise
- VMware Horizon View Client for Windows*

To see how well the new solution addressed the issues Resurgens encountered in the iPad environment, the practice deployed HP EliteBook* Revolve* 2 in 1 devices at a sports medicine clinic and a foot and ankle clinic. Users included physicians, physician assistants (PAs), and medical assistants (MAs.) The HP Revolve 2 in 1 devices are lightweight notebooks that rotate to become tablets.

POC users found the Intel Core i5 processors in the devices delivered ample performance. The systems responded instantly to a swipe, tap, or keyboard command. Digital images—an essential part of the orthopedics tool set—were crisp and sharp.

In the Windows and Intel environment, users could run both the full TouchWorks EHR application and the touch-enabled app on their devices, moving between them with just a swipe. Users could also access the full range of Microsoft Windows 8 applications, including Microsoft Office. Plus, using a virtual desktop interface (VDI) capability enhanced by Intel's hardware-assisted virtualization capabilities, they could quickly and securely access applications that would not otherwise be available. They could easily switch between touch and keyboard data entry to suit their workflow requirements and personal preferences.

This expanded functionality turned the 2 in 1 devices into true productivity tools. "Users don't have to log in and out every time they leave the app," explains Treves Wynn, clinical applications manager at Resurgens. "They have all

the mobility, and they don't have to leave the patient and go to a different system to complete their workflow. It just becomes so easy—they swipe back and forth between the VDI environment and the Wand app, and everything is right there for them."

The benefits are significant. "This not only makes the staff more productive, but it means the patient can complete the discharge and checkout processes right in the room and not be having dialogue in more public areas," Wynn says. "It relieves the bottleneck at the checkout station, and does a better job of protecting the patient's privacy."

### 'They're Going to Love It'

Tony Griggs, an orthopedic physician's assistant-clinical (OPA-C) and 20-year Resurgens veteran, participated in the POC and quickly grew to love the new app. Before the POC, Griggs was a minimal user of technology. Instead, an MA captured data on paper and transferred it to the EHR.

"Tony was an unforeseen champion," Wynn says. "We gave him the Revolve device, and pretty soon he was entering the data himself and taking ownership of the patient for the duration of the visit other than the actual time with the doctor. This allowed for a more free-flowing

interaction with the patient and freed up some of the MA's time. Tony went 20 years without using technology, and within a few weeks, he was at a point where he felt lost without it. That speaks volumes about the power of this solution."

Griggs appreciates both the solution's productivity benefits and its ability to help him improve the patient relationship. "This tablet gives you the PC feel, which is great," Griggs says. "But it's better than a stationary PC monitor because you can face the patient. You can put the tablet anywhere you want, and turn the tablet any way you want. You and the patient can look and talk at the same time. But it's very mobile—it weighs less than three pounds."

Griggs finds the tablet solution helps him engage patients and relieve their anxieties. "There's always an element of fear involved in going to the doctor," he says. "When I come into the room with the tablet, right away patients are curious. They're impressed, and they like that I have this cool device. I sit with them, show them their X-rays, and start entering their data. They start interacting with the technology right along with me.

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Pretty soon, you've got them involved, and it helps relieve their fear. Patients like it."

The resulting workflow improvements provide other benefits for patients. "You get more face time with the patient, and you give them a higher-quality and more consistent experience," Griggs observes. "You're more one-on-one with them, as opposed to the patient finishing their visit and then having to see different people to take care of different steps in the process, and having to wait at each step. The tablet allows me to do it all, and they're on their way."

## Enterprise-Level Management and Data Security

As they focused on empowering physicians and clinical staff to improve workflow and quality of care, Resurgens IT leaders also wanted to make sure they didn't create management headaches or increase the risk of data breaches. "When you're talking about deploying at an enterprise level, you have to be thinking about application support, device management, data security and compliance, and overall enterprise support," says Dick. "Windows 8 on an Intel-based tablet is much more of a win-win for us. The mobile device management solutions and security technologies are more mature. We are much more familiar with them and confident we can handle the demands of enterprise computing in the Intel and Windows environment."

Crane says users also benefit from the wide range of choices and rapid rate of innovation that typically occurs in the open environment of Intel processor-based and Windows 8 solution platforms. "Things like barcode readers, front-facing cameras, and biometric devices are very important in healthcare," Crane says. "If history is any guide, we will see a proliferation of these types of devices as add-ons for Intel-based tablets. If you want to use a mouse, stylus, or keyboard, big screen or small, the Windows 8 and Intel environment will give you choices, enhance performance and security, and be fairly affordable."

## Clinic Efficiency

Resurgens leaders say they'll incorporate the mobile solution into their standard mix. They've received positive feedback from the physicians who used the 2 in 1 devices, especially younger physicians, but say they expect the biggest benefits will come from deploying the mobile solution to PAs and MAs.

"The whole clinic operates more efficiently when you make PAs and MAs more efficient," says Dick. "Healthcare tends to be very focused on making physicians more productive, but in many cases, their workflow is fairly straightforward. It's the staff members who are running around doing so many different things. If the device can save them steps and make them more productive, that's a huge win for

everyone. And patients love seeing the staff with the tablet."

## Improving Outcomes at the Point of Care

Dick says mobile point of care is a key to improving healthcare outcomes. "Everything needs to be happening right in front of patients," he comments. "The more engaged the patient is, the better the outcomes. When you use the tablet to show people, 'Here's your X-ray. Here's where I see the problem. Here's what we need to do,' they are much more engaged. Mobile point of care isn't just about making the provider more effective, although that's huge. It's about bringing the care to the patient, making them part of the process, and improving outcomes."

As for Griggs, he sees great potential for the mobile solution to produce a positive impact at Resurgens and beyond. "The tablet lets you minimize time and maximize effort, and patients like it," Griggs adds. "That's what we're all about. I think anyone who is open to change and gives it a try, once they use it, they're going to love it. They will not want to do without it."

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