When leaders at La Rabida Children’s Hospital in Chicago decided to completely upgrade wired and wireless networks, interim CIO Vincent Vitali first sought out the input of doctors and nurses who would be on the front lines of clinical mobility. Their wish list proved long and daunting.

Clinicians wanted to use their own wireless devices with access to their work applications. Nurses wanted technology to improve workflow and productivity, as well as voice communication devices. They also wanted to use the Wi-Fi network as a location tracker for patients and assets.

Each of these requests "added a whole other layer of complexity to the wireless network," Vitali recalls. Still, he was determined to give clinicians everything they wanted.

“We want to architect it for the future,” Vitali says. “Anything we had on our wired network we were going to be able to provide them in a wireless mode. The issues were ours to figure out in terms of security and usability.”

It’s a common scenario at many hospitals. Clinical mobility is a challenging but necessary capability that most facilities must adopt to accommodate new wireless medical devices, meet healthcare workers’ growing demand to use mobile devices and match patients’ expectations of a modern healthcare organization.

**Healthcare and Mobility**

The healthcare industry has seen a dramatic increase in the use of mobile devices in the last few years — both personal and hospital-issued. Physicians and other caregivers are beginning to use mobile devices to access medical records, submit prescriptions and diagnose illnesses.

"It’s no surprise that the bring-your-own-device [BYOD] trend is happening. It’s kind of inevitable at this point," says Stephanie Sult, clinical mobility architect at CDW•G Healthcare, citing the influx of young, tech-savvy residents and nurses who expect to use familiar devices both at work and at home.

“A lot of organizations are just trying to catch up and limit whatever [devices] they can,” she adds. “A lot of them also turn a blind eye. But HIPAA [Health Insurance Portability and Accountability Act] compliance is pushing a lot of security measures forward.”

The key to managing clinical mobility in the healthcare environment, industry insiders say, is to first understand its components. Second it’s important to equip facilities with wireless networks to meet current and future needs and ensure that devices and networks are secure.

**The Challenge of BYOD**

Some 60 percent of the healthcare workers surveyed by CDW Corp. have begun using a tablet device in the past year. What’s more, 60 percent of those tablet users are using their own personal devices, according to the survey.

Users claim that tablets lead to productivity gains. In the survey, healthcare workers gained an average of 1.2 hours in daily productivity by using their tablets.

The challenge is to inventory the myriad devices and then control their access to the network. “Know what type of device it is and who owns it,” Sult adds. “This also leads to knowing what devices are compromised, which can obviously lead to other security threats to the back-end system if they’re connected to the network.”

Some camps say it’s easier to control devices with commercial-grade, hospital-issued products. About a third of healthcare workers say they use a tablet provided by their employer, according to the CDW survey. The rest use a personal tablet as well as an employer-provided tablet.

This doesn’t mean clinicians have given up desktops and notebooks. Only 1 percent of healthcare workers surveyed said they only use a tablet. Most respondents also rely on other, more familiar devices as well.

“Often in healthcare, devices need to be certified and vetted to work properly in the environment,” says Jon Karl, sales director for clinical mobility at CDW.

**MEDICINE GOES MOBILE**

As clinicians bring their own mobile devices to work, IT leaders must provide functionality while keeping data safe.
The solution is looking into more commercial-grade mobility device platforms that come with a more robust design and are better intended for long-term use and standardization.

Others say BYOD allows hospitals to save money on device purchases, wireless plans and support — not to mention giving clinicians what they want. For those reasons, “We are encouraging the bring-your-own-device movement,” Vitali says.

What’s more, organizations that treat BYOD as a strategic advantage — rather than as a headache — are able to resolve some of the biggest challenges, including security, access rights and data leakage. This according to a survey of nearly 1,500 IT heads in 10 countries by U.K.-based research firm Vanson Bourne.

Multipart Network

Wireless networking in a healthcare facility grows more complex as the number of devices increase and the type of communication, such as voice, data and tracking, expands on the network.

For instance, many physicians who work at La Rabida also work at other hospitals. Therefore, they typically carry several devices that access each hospital’s systems.

“They don’t want to carry six different mobile phones or a tablet and a smart phone and something issued by the organization — in addition to what they have personally,” Vitali says. So La Rabida is working to integrate one device for all staff needs.

Access points present another challenge. Clinicians often travel in groups. Some old wireless networks make it impossible for all of them to access the wireless network at the same time. Today’s access points must be strategically and generously located at congregation points to ensure all caregivers are able to connect to their network.

Mobile Device Management

Healthcare facilities must be ready to secure, monitor, manage and support all the mobile devices deployed across mobile operators, service providers and facilities — all while keeping sensitive data secure and within HIPAA compliance. This is accomplished with mobile device management software.

Today’s MDM solutions offer more than just email and basic encryption-level security. Most offer distribution of applications, content and document management, and the ability to encrypt secure attachments within the email itself.

One of MDM’s most important roles is to protect myriad mobile devices and keep IT managers in check with the new devices that are coming onto the network.

“MDM allows IT managers to make sure that if these devices do have confidential or patient information on them that they’re able to secure that information,” says David Wright, account executive for healthcare at mobile device manufacturer AirWatch. “And if need be, they can remove it if that device becomes jeopardized in any way.”

Inside the network, “There are a lot of [MDM] tools at administrators’ disposal to make sure all the information is protected,” Wright adds. “There is basic device management such as asset tracking and making sure there’s a pass code on the device. But now that’s expanded to make sure we’re able to manage the applications, the content on the device and even security policies.”

MDM also allows hospitals to authenticate wireless devices according to the users’ status. On La Rabida’s internal network, all wireless devices are authenticated to a server within its MDM policy.

“We have three separate security policies — for employees, contract physicians and nurses, and the visiting public,” says Vitali. “The level of security and restrictions on bandwidth and access are different for each level.”

MDM would not be complete without a governance plan, Sult adds. “Going along with MDM is having a mobile use policy in place for the end user that they’re actually signing off on,” she says. “That should be developed hand-in-hand with the MDM solution.”

Looking Ahead

In the next five years, Vitali expects that mobile technology will be extended to patients’ homes. “We’ll be able to monitor them, do remote treatment, teleconferencing for remote house calls.”

Home healthcare is publicized as a substitute to hospital and nursing home care. Mobile solutions help healthcare workers save time by equipping them with onsite patient and medical information and automating onsite paperwork.

But more immediately, clinical mobility will help attract and retain the best medical talent. “We really believe that having the right tools for our clinicians allows us to attract quality people,” Vitali adds.”