To continue providing state-of-the-art healthcare services, Tim Armstrong and his team at the Brant Community Healthcare System required a leading edge Wi-Fi system to replace the organization’s legacy wireless network.

“We needed to provide physicians, healthcare professionals and staff with streamlined Wi-Fi onboarding in a reliable, secure and high-performance mobility environment,” says Armstrong, CIO of the 265-bed, 1500-employee Brantford, Ontario, organization.

“We also required the appropriate wireless infrastructure to enable our organization to deploy the latest Wi-Fi enabled medical devices and applications for improved patient care and outcomes,” he adds. “Given the vibrancy of the growing Brantford metro area, we’re serving more patients every year.”

Using its legacy Wi-Fi, BCHS struggled with labor-intensive maintenance and insufficient management tools. “MacGyver-like workarounds were all too common,” recalls Armstrong. “Plus the system was frustrating for end users. Every time someone acquired a new device, they had to bring it to the IT department for provisioning.”

BCHS also sought to incorporate guest access, rather than continue relying on a third-party service. “We needed a more cost-effective solution for guests,” Armstrong says.

Implementing a pervasive 802.11ac-enabled Aruba Wi-Fi, with ClearPass and AirWave, provides BCHS with the secure, reliable and flexible wireless network required for adopting innovations in medical equipment and healthcare applications to improve patient care and control costs.

“Pervasive Aruba WLAN, including 802.11ac APs, blankets multi-building medical complex.
- Provides robust, wire-quality Wi-Fi in demanding patient care areas.
- Mobility Access Switches unify wireless and wired environments for secure, streamlined user access along with improved IT efficiencies.
- ClearPass enables the robust, hassle-free, secure connectivity features of a wired network in a wireless environment.
- AirWave unifies management of multivendor network for high-quality user experiences, superior network planning and fast troubleshooting.

“Our 802.11ac-enabled Wi-Fi, with ClearPass and AirWave, gives us the flexibility and agility we need to take advantage of healthcare innovations to improve patient care and contain costs.”

Tim Armstrong,
CIO, Brant Community Healthcare System
ARUBA SOLVES PATIENT CARE AND VISITOR ACCESS

To help ensure its wireless infrastructure contributed to outstanding patient care, Armstrong’s team performed a comprehensive assessment of Wi-Fi vendors before selecting Aruba Networks, an HP company. “After a thorough technical evaluation, Aruba came out on top,” says Armstrong.

Working with Aruba and local integrator, Transformation Networks, BCHS determined it needed over twice as many access points to adequately blanket its 5-building campus. “Our partners supplied invaluable assistance with determining the proper coverage,” Armstrong emphasizes.

“Wi-Fi network benefits are a big win for our patients.”

Secure, Reliable Wi-Fi Blankets Multi-Building Complex

In all, BCHS invested in a pervasive enterprise Wi-Fi system that includes Aruba 802.11ac APs and Mobility Controllers. The organization also increased efficiencies by unifying its wireless and wired network with Aruba’s Mobility Access Switches. In addition, BCHS adopted Aruba’s vendor-agnostic management tools AirWave, for optimizing Wi-Fi experiences, and ClearPass, for strong security.

Together, these solutions represent fundamental elements of Aruba Mobility-Defined Networks. And, the infrastructure helps enable BCHS to meet the current and future needs of #GenMobile – the new breed of tech-savvy users defined by their strong mobility preference.

“Our new Wi-Fi system is enabling us to adopt mobile solutions that contribute to better patient care,” says Armstrong. In addition, BCHS can assist more patients more quickly than ever before.

CLEARPASS POLICY MANAGEMENT PLATFORM PROVIDES STRONG SECURITY WHILE STREAMLINING ADMINISTRATION

At BCHS, Aruba’s ClearPass Policy Manager has enabled the organization to reduce its IT overhead while ensuring total control over all Wi-Fi access.

With ClearPass, BCHS gains the robust security features of a wired network in a wireless environment, as the application combines context-based policy management with next-generation AAA (Authentication, Authorization, and Accounting) services for secure connectivity.

Comprehensively Managing Internal and Guest Access

ClearPass assists BCHS with comprehensively managing network access policies, onboarding and managing devices securely, and admitting guest users — all from a single platform. This includes automatically separating internal traffic from guest access via Aruba role-based policies, which is managed by ClearPass.

“Fully integrating Aruba and ClearPass into our authentication strategies gave us the necessary comfort to supply free guest Wi-Fi access,” Armstrong says. “And, we’re providing that access at a considerable institutional savings over our previous setup.”

ClearPass and Mobility Access Switches work with MS Active Directory to Authenticate Users

To streamline and automate device identification and onboarding, BCHS combines Aruba’s ClearPass and Mobility Access Switches with Microsoft’s Active Directory.
The switches allowed assigning and managing one set of role-based credentials per user – rather than having separate wired and wireless credentials. Then, ClearPass automatically recognizes all connected devices via their MAC address and allocates them access rights appropriate to their status.

According to Armstrong, the system also enables BCHS to expand personal mobility devices beyond its 175 physicians. “Now, when any type of employee – whether nurse, technician or administrative worker – has a need for using their mobile device for improving patient care, we can grant them access,” he says.

“What’s more,” he adds, “we have complete control over exactly what each device may access as well as full control into which applications are being accessed by which devices. This visibility and security allows us to adopt a wider range of patient care tools than in the past.”

**AIRWAVE OPTIMIZES WI-FI PERFORMANCE WITH COMPLETE AND GRANULAR VISIBILITY**

For maintaining the overall health of its WLAN, BCHS relies on AirWave to supply critical and granular visibility and unify management of its multivendor network. This includes real-time and historical information based on user roles, device types, connection locations, application usage and time-of-day.

**Insights Aid Network Support and Steer Devices Clear of RF Obstacles**

With AirWave, BCHS enjoys a map-like interface for a centralized view of each AP and its location, including the number and types of devices connected to an AP. In addition, AirWave exposes sources of RF signal interference and automatically moves mobile devices to a cleaner channel.

**VisualRF Helps Reduce Troubleshooting From Hours to Minutes**

Another AirWave feature, VisualRF, not only provides current and historical device information, but also reports on applications and their performance. As a result, problems that previously took hours to resolve can be done in minutes, producing substantial savings through operational efficiency, reduced downtime and consolidated management toolsets.

“We really appreciate AirWave because it provides visibility into device locations and connections we lacked before,” says Armstrong. “It also speeds troubleshooting and helps us with other tasks, like network planning.”

**LEVERAGING WI-FI TO ADVANCE PATIENT CARE AND CONTAIN COSTS**

At BCHS, adopting the latest enterprise Wi-Fi opens up new opportunities for improving patient care while keeping budgets in check.

In addition to fully supporting the BCHS MediTECH electronic health record system, the organization is able to invest in new equipment and applications. This includes portable x-ray machines and ultrasound units, both of which are Wi-Fi enabled.

“We now have the flexibility to implement new care models as needs and innovations develop,” says Armstrong. “We can quickly provision equipment rather than using staff and budget resources to re-wire equipment.”

**Application Innovations Clear Bottlenecks and Inform Physicians**

On the application side, innovations range from clearing emergency department (ED) bottlenecks to mobilizing physician rounding.

“By mobilizing our ED patient flow application, our leadership teams can use their portable devices – wherever they are – to view information regarding patients who are awaiting an inpatient bed,” Armstrong says. “Then, immediate action can be taken.”

Moving forward, BCHS will implement a mobile physician rounding tool. It puts a patient’s current and historical data in the palm of a healthcare professional’s hand. “Without enterprise Wi-Fi, we couldn’t even think about adopting such a tool,” says Armstrong.

**Reduced Overhead Helps to Curb Expenditures**

Another Aruba Wi-Fi benefit is reduced overhead, contributing to lower healthcare costs.

“In addition to the IT automation benefits, we now have redundancy built into the system, boosting reliability,” says Armstrong. “We’ve also significantly reduced our help desk calls surrounding device onboarding. And, centralized network management permits us to remedy potential issues before they impact end users.”
Wi-Fi Advances Improve Outcomes for All

All of these advances, whether IT or clinical, infuse BCHS with unprecedented flexibility and agility, says Armstrong, translating to improved patient outcomes and reduced costs. “That’s a big win for us and, most importantly, a big win for those we serve.”

ABOUT ARUBA NETWORKS, AN HP COMPANY

Aruba Networks, an HP company, is a leading provider of next-generation network access solutions for the mobile enterprise. The company designs and delivers Mobility-Defined Networks that empower IT departments and #GenMobile, a new generation of tech-savvy users who rely on their mobile devices for every aspect of work and personal communication.

To create a mobility experience that #GenMobile and IT can rely upon, Aruba Mobility-Defined Networks automate infrastructure-wide performance optimization and trigger security actions that used to require manual IT intervention. The results are dramatically improved productivity and lower operational costs.

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