BLACK BOX

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5G Hospital:
Unleashing Private Wireless Connectivity
Is Your Hospital's Wireless Network Future-Ready?

Wireless technology is now indispensable in healthcare. The increasing number of wireless devices places substantial strain on hospital networks, with demands set to escalate dramatically.

Healthcare Networks are Facing Unpresented Challenges

Rapid growth in wireless devices continues to rise:

30% **Healthcare organizations are currently facing an annual increase in network bandwidth demand[1]**

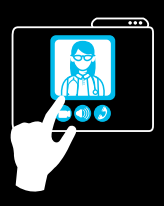
Healthcare facilities manage up to 20K daily connected devices, with an averaging of 10 to 15 wireless devices per bed[2]

By 2025 total cellular IoT connections are forecasted to reach 4 billion, with half of these being sensors[3]

The number of connected devices is expected to hit 75 billion[4] by 2025

Advances in Healthcare Require a Better Wireless Network

Current healthcare needs demand a wireless network with enhanced capabilities.



Real-Time Telehealth

- Communicate live between multi-stream collaboration everywhere and the hospital. Transmit video, voice, and large imaging files in seconds, both internally and externally.

Indoor & Outdoor Wireless Environments

- Equally serve & secure indoor and outdoor environments across campuses.

IoT and Wireless Robots

- Thousands of sensors in a hospital and real-time data speeds will not only yield new intelligence but enable sensor-driven robotic surgery in the future.

Augmented Reality AR / Virtual Reality (VR)

- Improve the knowledge and skills of clinicians. Wireless will need to support the manipulation of large images.

A private LTE/5G wireless network that supports these opportunities will give a competitive advantage in terms of patient care, clinician satisfaction, and critical-care communications.

5G: A Network of Networks

3 important improvements:

- **High speed mobile broadband —** Transmit data in gigabytes per second, 4K video and 5G assisted cloud connectivity will become commonplace
- **Massive machine-to-machine communications —** Enables low-powered IoT devices on a large scale, leverage thousands of sensors in a smart hospital
- **Ultra Wide Band** < 1 mSec latency – faster than human optical processing

5G rollout began in 2019 and is accelerating. In 2026 subscriptions are forecasted to reach **3.5 billion[2]**

Modern devices support OnGo, enabling monitoring and tracking of smart medical equipment efficiently.

Private 5G: Transforming Hospitals for Tomorrow

Beyond Wi-Fi: Elevating connectivity

- A private, enterprise-controlled network @ 3.5 GHz
- Better security, better coverage, better latency, better quality of service
- Leverages 5G technology, but without a carrier subscription
- Send large imagining files in real-time, integrate Enterprise IP-PX VoIP, and move your toughest clinical apps to a private network, eliminating competition with Wi-Fi.

Private 4G/5G enables the creation of dedicated medical wireless networks to support mission-critical applications, while integrating with existing wireless infrastructures.

Mission-Critical Wireless

Private 4G/5G, while powerful, are just one component of a comprehensive hospital wireless network. Integration with Wi-Fi, RTLS, DAS, Public Safety, and 2-way radio systems ensures support for ALL wireless needs.

To build such a network, choosing the right partner with deep experience in healthcare mobility is critical. Black Box can be that partner for you.

We use 3 principles when designing a wireless network for a hospital:

1. **Design the network based on application and device requirements.** This approach ensures that your network is ready for anything.
2. **Leverage the right network.** With private LTE/5G supporting purpose-built wireless networks, we significantly enhance the overall wireless capacity of a hospital.
3. **Deliver mission-critical performance across all networks.** Leverage coverage, capacity, and network selectivity across all networks.

To explore how private 5G can future-proof your hospital's wireless network, contact us at **855-324-9909** or email **contact@blackbox.com**.

1. https://www.himss.org/resources-analytics
2. https://www.beckershospitalreview.com/
3. https://www.ericsson.com/en/reports-and-papers/mobility-report/dataforecasts/iot-connections-outlook
4. https://www.ericsson.com/en/reports-and-papers/mobility-report/reports/june-2024