



ERICSSON

From coverage to care:

Operationalizing clinical-grade wireless for modern healthcare delivery

Why basic connectivity is no longer enough—
and what clinical-grade wireless infrastructure
must deliver instead

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Executive summary

Connectivity coverage is now the baseline for hospitals—not the goal

Building on our earlier [analysis](#) of the operational and financial impact of inconsistent healthcare connectivity, the focus now shifts to how organizations can close these gaps at scale.

As healthcare systems invest in 5G and next-generation wireless, the key question has changed: it's no longer "Do we have coverage?" but "Can our wireless infrastructure reliably support the clinical workflows that care delivery depends on?" For CIOs and IT leaders, this is no longer a network optimization exercise—it's an operational mandate.

78% of nurses experienced at least one unplanned clinical technology outage in the past year¹

The stakes are high. Research shows 78% of nurses experienced at least one unplanned clinical technology outage in the past year, and the 2024 CrowdStrike incident disrupted digital services across an estimated 759 U.S. hospitals.² These are no longer isolated IT incidents—they are operational disruptions that slow workflows, burden staff, and put patients at risk.

This paper explores how healthcare leaders are moving beyond traditional connectivity models toward clinical-grade wireless infrastructure—and how neutral host and small cell architectures are helping health systems build more scalable, resilient foundations for connected care.

¹ Black Book Research, The Nurse Cyber-Downtime Gap: Why Hospital Cybersecurity Must Be Tested at the Bedside, May 2026.

² Tully JL, Rao S, Straw I, et al. Patient Care Technology Disruptions Associated With the CrowdStrike Outage. JAMA Network Open. 2025;8(7):e2530226.

The shift from connectivity to clinical operations

For years, healthcare connectivity strategies focused on coverage—eliminating dead zones, improving signal strength, and expanding Wi-Fi availability. That foundation is largely in place.

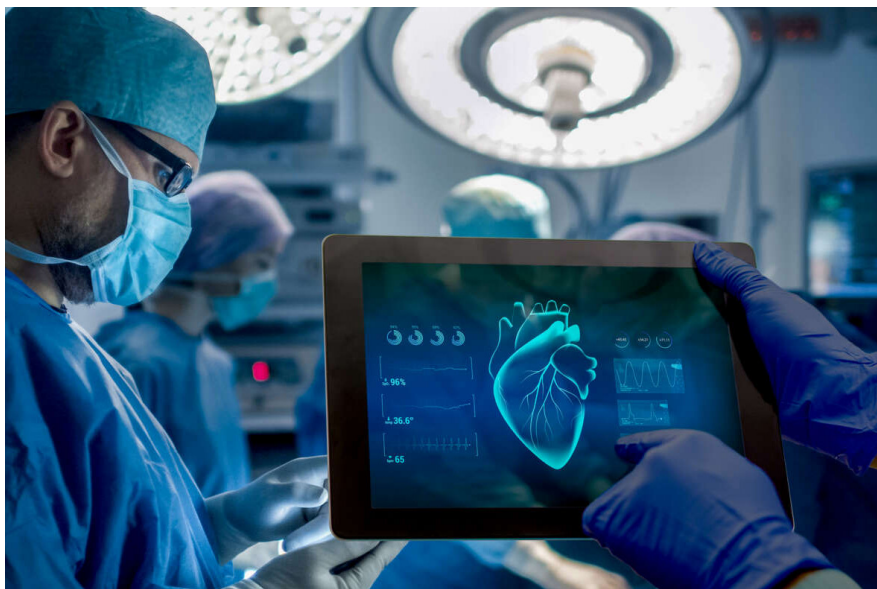
But a strong signal does not equal reliable clinical performance. In a hospital environment, a device may show full bars while still failing to:

- Complete a medication scan
- Deliver a critical alert in time
- Maintain a voice session as a clinician moves through the building
- Support uninterrupted real-time patient monitoring

The challenge has shifted from availability to connectivity performance and consistency—and in healthcare, inconsistency creates operational risk.

Today's hospitals depend on wireless for clinical mobility, connected medical devices, staff communications, patient engagement, The Internet of Medical Things (IoMT), and AI-enabled systems. As device density and real-time data demands grow, tolerance for unpredictable performance shrinks. Wireless is no longer an IT service—it is clinical infrastructure.

What clinical-grade wireless actually means



Healthcare organizations are experiencing rapid growth in connected medical devices, remote monitoring technologies, and real-time data demands across clinical environments. As these demands increase, so does the cost of inconsistent wireless performance:³

- Clinical workflows are disrupted
- Staff lose time to workarounds
- Patient safety risks increase
- Downtime creates measurable financial impact

At scale, these inefficiencies translate into measurable financial cost, capacity constraints, and delayed care delivery.

Clinical-grade wireless is defined by its ability to consistently support mission-critical workflows, communications, and connected devices without disrupting care delivery.

Hospitals already experience multiple major IT outages per year—many during peak care hours. Each disruption compounds strain across care teams and systems.

The organizations making the most progress share a common mindset: they treat wireless not as IT infrastructure, but as operational and clinical infrastructure.

This shift is redefining expectations for IT and clinical leadership, where connectivity performance is directly tied to operational outcomes.

Clinical-grade wireless supports

- ✓ Clinical mobility
- ✓ Mission-critical communications
- ✓ Connected medical devices
- ✓ Real-time monitoring
- ✓ Workflow continuity

³ Vantage Market Research, IoT in Healthcare Market, accessed June 2026.

Why legacy wireless models are reaching their limits

Most hospitals rely on a combination of Wi-Fi and legacy distributed antenna systems (DAS) that were designed to provide basic wireless coverage and mobile access—not to support today's connected healthcare environment. Clinical applications, connected medical devices, IoMT sensors, operational technologies, administrative systems, and guest traffic now compete for bandwidth across the same shared infrastructure.

As digital health initiatives continue to expand, these legacy networks struggle to deliver the reliability, performance, and resilience modern healthcare requires. The result is inconsistent connectivity that disrupts clinical workflows, delays access to critical information, and forces clinicians to develop workarounds that impact efficiency and the delivery of patient care.

Common clinical workflow challenges:

Barcode medication administration (BCMA)

Connectivity slowdowns force repeated scans, delayed administration, or manual fallback—creating inefficiencies and error risk.

Real-time monitoring and alerts

Telemetry and alert systems depend on uninterrupted connectivity for timely clinical response.

Clinical communications

Secure voice and messaging require reliable mobility across campuses. Disruptions during handoffs or emergencies impact care team responsiveness.

RTLS and asset tracking

Inconsistent wireless reduces location accuracy and increases time spent finding equipment and devices.

Staff safety and duress systems

These are among the most critical operational requirements—where reliability is non-negotiable.

Traditional approaches—such as adding access points or expanding DAS—are increasingly challenged to meet the performance and scalability demands of modern clinical operations.

Why neutral host small cell architecture changes the equation

Neutral host small cell architecture offers a more unified and scalable approach to indoor healthcare connectivity. Rather than fragmented carrier-specific systems or congested shared environments, neutral host models create a shared indoor cellular platform that supports multiple mobile operators through a single infrastructure deployment.

For healthcare organizations, this approach can:

- Simplify infrastructure management across facilities
- Improve support for mobile clinical workflows
- Scale efficiently as device density and digital services grow
- Reduce the complexity of managing multiple indoor wireless systems
- Create a stronger foundation for future digital health initiatives

Most importantly, these architectures support the broader shift already underway: from connectivity designed for “good enough” access to wireless infrastructure built for operational performance, workflow continuity, and scalable digital care that must not fail.

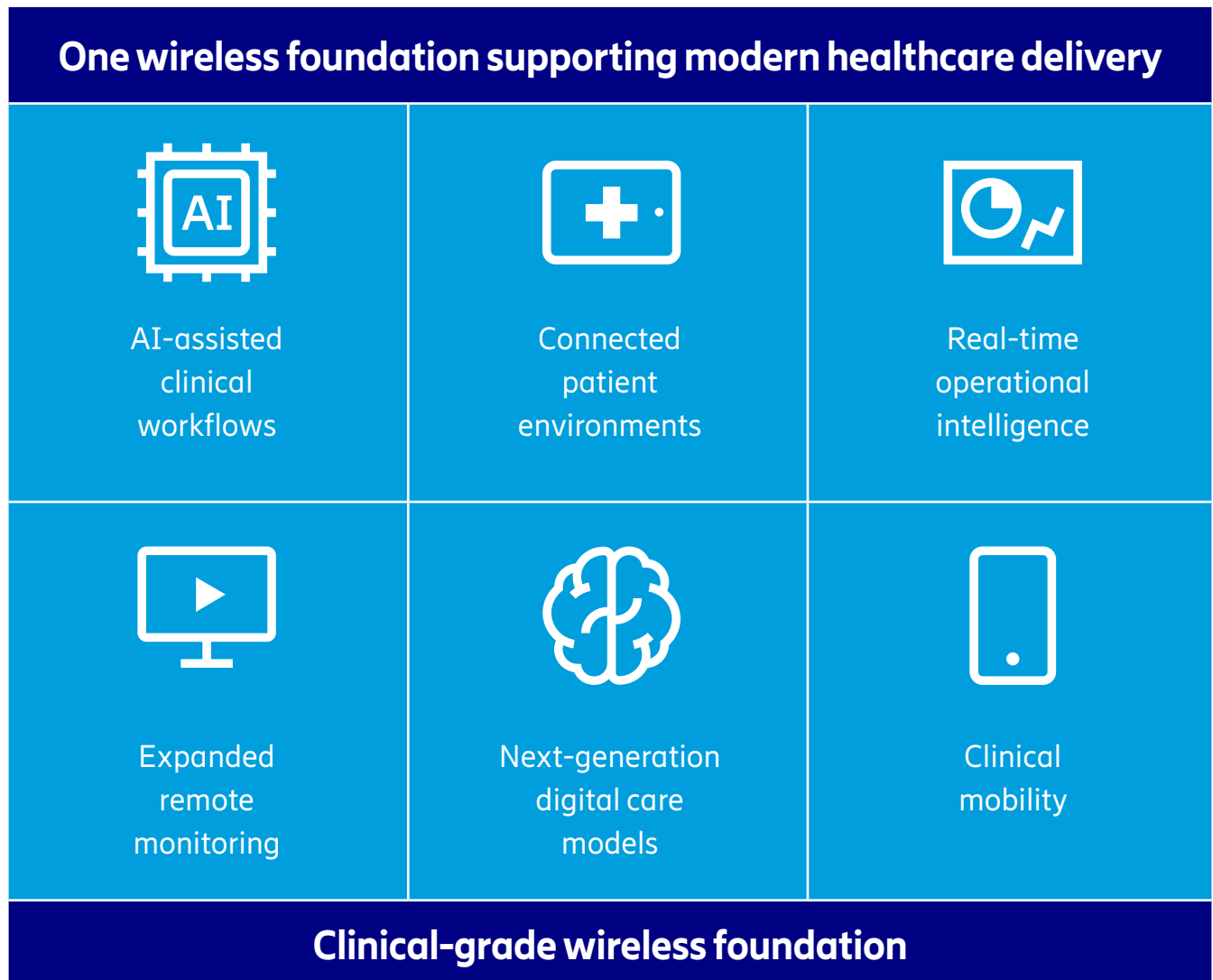
Leading health systems are adopting a “one infrastructure, many use cases” approach—building flexible wireless foundations that can evolve alongside clinical and operational priorities, rather than requiring constant redesign.

The emerging healthcare connectivity model

Healthcare organizations are moving toward a unified wireless architecture that supports clinical mobility, connected medical devices, smart facility systems, public cellular coverage, private 5G, and future AI-enabled applications through a single clinical-grade wireless foundation.

Rather than managing separate networks for individual use cases, health systems are adopting a "one wireless foundation" approach that provides the performance, reliability, and scalability required for modern care delivery.

This unified model enables a broad range of clinical and operational capabilities, including:



Performance improvement as an operational advantage

In healthcare, connectivity doesn't fail gracefully—it fails clinically.

Inconsistent wireless performance introduces friction into everyday care delivery—repeated scans, delayed alerts, dropped calls, unreliable asset visibility. At scale, this contributes to workflow inefficiency, operational strain, and clinician frustration.

The long-term implications are even more significant. Healthcare organizations are investing in AI-assisted workflows, autonomous monitoring, and connected care environments—all of which depend on secure, always-available connectivity. Organizations that build clinical-grade wireless infrastructure today are creating a stronger platform for future innovation.

A practical roadmap:

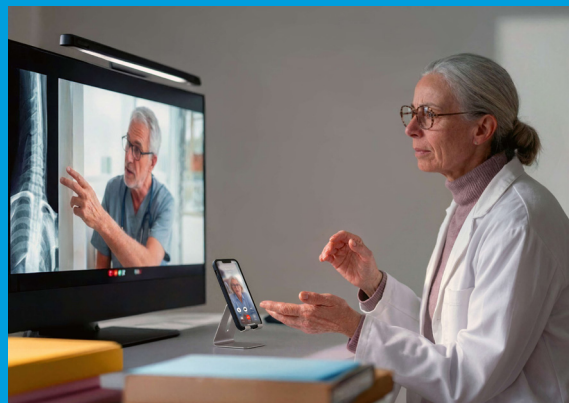
Three stages to clinical-grade connectivity

STAGE 1

Assess operational impact

Start by identifying where inconsistent wireless performance most directly affects clinical workflows, care team mobility, operational efficiency, and staff communications. Focus on high-dependency environments: emergency departments, ICUs, surgical suites, and high-density inpatient areas.

The goal is not to measure signal strength—it is to understand how wireless performance affects operational continuity and workflow reliability.



STAGE 2

Prioritize high-impact environments

Many organizations begin with flagship facilities or critical care environments where improvements can be measured quickly. Early outcomes help build momentum for broader modernization by quantifying operational impact and demonstrating value. Evaluate:

- Workflow efficiency gains
- Communication reliability improvements
- Clinician experience
- Operational resilience
- Infrastructure scalability

STAGE 3

Scale to a long-term platform

Once proven, scale the wireless architecture across facilities to support connected devices, AI-driven workflows, smart hospital technologies, private 5G, and advanced analytics. Connectivity evolves into a strategic enterprise platform.



Case studies: Neutral host and private 5G adoption in leading health systems

AdventHealth: Campus-wide mobility modernization

AdventHealth is working with Verizon and Ericsson to modernize connectivity across its healthcare campuses using a combined neutral host and private 5G approach. The initiative supports the health system's growing connectivity requirements as device density, digital services, and mobility needs continue to expand.⁴

Tampa General Hospital: Advancing healthcare connectivity

Tampa General Hospital is deploying a Neutral Host and Private 5G environment with Verizon and Ericsson to support increasingly complex healthcare connectivity requirements across clinical, operational, and public-facing environments.⁴

Both examples reflect the same trend: healthcare organizations are moving from viewing wireless as a coverage solution to treating it as a strategic platform for future-ready care delivery.

Wireless infrastructure as strategic healthcare infrastructure

Healthcare organizations are increasingly viewing wireless infrastructure the same way they view power, water, and medical gas—as mission-critical systems that cannot fail.

As digital health, connected care, AI-enabled workflows, and mobile clinical environments continue to expand, infrastructure reliability will increasingly determine whether these initiatives can scale successfully.

Organizations that continue treating wireless as a secondary IT concern risk:

- Workflow inefficiencies
- Operational fragmentation
- Clinician frustration
- Scalability limitations
- Inconsistent care experiences

Those investing in resilient, scalable wireless environments are positioning themselves for more connected, efficient, and future-ready operations.

⁴ Verizon Business, Healthcare providers rapidly adopting Verizon Neutral Host and Private 5G combo networks, October 2025.



Conclusion

Healthcare has moved beyond the era where connectivity alone was sufficient. Today's challenge is operationalizing wireless infrastructure so that clinical workflows can perform reliably, consistently, and efficiently in real-world care environments.

That requires a shift from:

- Coverage to operational performance
- Connectivity to workflow enablement
- Fragmented infrastructure to unified platforms
- Reactive troubleshooting to proactive, strategic modernization

Neutral host and small cell architectures are helping healthcare organizations make that transition—creating scalable, resilient wireless environments that support both current operational demands and future digital care initiatives.

The question facing healthcare leaders is no longer simply: "Do we have coverage?" It is: "Can our wireless infrastructure reliably and securely support the future of care delivery?"

Ericsson as a strategic partner for clinical-grade connectivity

As healthcare organizations modernize clinical mobility and connected care environments, they need long-term partners capable of supporting both immediate operational needs and future transformation goals.

Ericsson brings extensive experience in indoor cellular connectivity and neutral host deployments across complex, mission-critical environments—including healthcare, higher education, and large enterprise campuses.

For healthcare organizations, partnering with Ericsson provides:

- Support for long-term modernization roadmaps
- Simplified deployment and operational management
- Scalable infrastructure aligned to evolving digital health initiatives
- Architectural flexibility to support both public and private network models

Ericsson works with healthcare organizations to assess wireless performance gaps, define modernization roadmaps, and build scalable, clinical-grade connectivity platforms.

To get started, request a [complimentary consultation](#) to evaluate current infrastructure, identify connectivity gaps, and explore opportunities to improve clinical workflow reliability.



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