Navigating the Challenges of Deploying Wireless Technology in Behavioral Health Facilities

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Behavioral health services and institutions include a wide range of facility types, functions, and services designed to address mental health and substance use disorders. These range from specialized units within hospitals that offer tailored treatment options to dedicated behavioral health centers providing targeted interventions and long-term management for complex mental health issues.

Wireless technologies are essential for supporting these services and critical building operations across all types of facilities.

In today's digital healthcare landscape, healthcare facilities of all types are increasingly relying on wireless technologies to enhance patient care, improve operational efficiency, and support essential building functions. These facilities, which cater to a diverse range of mental health and substance use disorder treatments, often face unique challenges in implementing wireless solutions that can meet stringent safety and security standards while still providing the necessary connectivity.

From ensuring seamless communication between healthcare providers to enabling telehealth services and patient tracking, robust wireless networks play a critical role in supporting both clinical outcomes and facility operations. However, the sensitive environments within these institutions demand thoughtful consideration and specialized approaches to ensure that wireless deployments optimize performance without compromising safety.

Wireless capabilities enhance the functionality and efficiency of behavioral health services across different settings, despite variations in their applications and requirements. Wireless access aids individual growth by improving communication with providers, offering access to educational and therapeutic resources, and increasing patient engagement, contributing to more effective treatment and recovery. Optimized wireless network deployment is crucial for enhancing performance, functionality, availability, and safety across all behavioral health facilities.

These facilities frequently encounter specific challenges when it comes to deploying products that satisfy strict safety and security standards while ensuring adequate connectivity. This article explores the complexities of integrating wireless network edge components into behavioral health environments and offers valuable insights on effectively navigating these challenges.

Types of Behavioral Health Facilities

Healthcare System

Behavioral health facilities within a hospital system vary significantly in scope and services, addressing diverse levels of care. Each type of facility is designed to meet specific needs, ranging from acute care to long-term support, helping individuals navigate their recovery journey effectively.

These types typically include:

1. **Inpatient Psychiatric Facilities:** Provide round-the-clock monitoring for individuals with severe mental health conditions, offering intensive treatment within a controlled environment.

2. **Partial Hospitalization Programs (PHPs):** Offer a transitional level of care, allowing patients to receive intensive therapy during the day while returning home in the evenings, therefore balancing structured treatment with a degree of independence.

3. **Residential Treatment Centers:** Provide a long-term living environment along with therapy and other treatments.

Other facilities include outpatient therapy clinics, substance use disorder treatment centers, crisis intervention centers, support groups and community mental health centers, among others.

Leveraging Wireless Technologies to Enhance Care and Efficiency in Behavioral Health

Wireless technologies are essential to the effectiveness of behavioral health facilities. In healthcare settings, wireless technologies enable real-time communication among providers, allowing for quick coordination and response during crises. Technological advancements, including integrated digital health systems and real-time location systems (RTLS), facilitate efficient tracking of patients and assets. Wireless communication technologies are essential for linking medical devices and platforms, ensuring the seamless exchange of information necessary for effective treatment, monitoring, and continuity of care.

The integration of these advanced technologies improves patient health outcomes, streamlines administrative processes, and enhances the overall efficiency of behavioral health services. Wi-Fi networks are crucial for transmitting various types of wireless information within the facility and for enabling mobile health applications and telehealth services, which support individuals in remote or secure settings.

Furthermore, Wi-Fi networks facilitate remote training and professional development for both staff and patients, providing crucial opportunities for long-term success and rehabilitation. They also enable secure video conferencing for legal consultations and visitor interactions.

Overall, wireless communication is vital for improving operational efficiency and patient care in behavioral health settings, with Wi-Fi serving as the foundation for seamless connectivity and information sharing.

Integrating Wireless Technology into Behavioral Health Facilities: Balancing Connectivity with Safety and Security

Integrating wireless technology into behavioral health facilities involves installing wireless network edge devices, such as access points (APs), in sensitive areas. This process presents complex challenges related to installation, functionality, security, and safety. The goal is to ensure both effective performance and the safety of everyone in the facility. Achieving this requires a thorough planning process that includes risk assessments and adherence to relevant guidelines and standards for each facility type. This approach ensures that the network delivers necessary performance while upholding stringent security and safety measures, fostering a safe and productive environment. It's always advisable to consult with a design professional specializing in this area of expertise.

Critical Installation Considerations: Ligature-Resistant Design

Most spaces within behavioral health facilities are classified as high-risk environments, as they accommodate individuals who may be prone to self-harm or harming others. One of the most crucial design recommendations for behavioral health facilities is to use products and materials that patients cannot access or manipulate in ways that could cause harm to themselves or others.

Ligature-resistant, often expressed as anti-ligature, refers to the design and construction of products or environments that are specifically created to prevent individuals from inflicting self-harm or harm to others. The goal is to maintain a safe environment for individuals at risk of injury while also fulfilling the requirements for wireless connectivity.

Installing ligature-resistant products in behavioral health is essential for ensuring the safety of all individuals, meeting industry standards and providing essential wireless connectivity.

Ligature-resistant products and environments are spaces "without points where a cord, rope, bedsheet, or other fabric/material can be looped or tied to create a sustainable point of attachment that may result in self-harm or loss of life."[1]

Products selected for installation in behavioral health facilities should be intentionally designed to reduce the risk of self-harm by removing potential ligature points—areas where individuals could attach items to inflict injury.

Industry recommendations include products with:

- **Smooth, rounded edges:** To minimize potential points where a ligature could be anchored.
- **Wrap-resistant:** Designed with features that inhibit objects from being wrapped around them.
- **Secure mounting:** Designed to be firmly attached to walls or other structures to avoid dislodgment or misuse.
- **Safety features:** Incorporation of elements such as tamper-resistant fasteners and non-porous surfaces that are easy to clean and maintain.
- **Robust materials:** Made from materials that are durable and resistant to tampering or damage.

By adhering to these and other rigorous guidelines, facilities can create safer environments that can help mitigate the risks associated with mental health crises. Implementing ligature-resistant designs not only helps protect patients but also aligns with best practices for maintaining a safe and supportive setting.

Oberon® Behavioral Health-Ready Infrastructure Solutions

Oberon brings a wealth of expertise and experience to the table, specializing in the design of wireless infrastructure mounting solutions tailored to the unique needs of behavioral healthcare facility environments.

Oberon offers wireless installation mounting solutions designed specifically for the integration of wireless network edge components into ligature-resistant environments, facilitating compliance with industry guidelines, and recommendations.

Oberon® Wi-Tile® Ceiling Enclosures (Model 1075 Series)

A modern and compliant method for mounting wireless APs on hard-lid ceilings in behavioral health settings

The 1075 series is the industry's preferred recessed ceiling enclosure which can be used in any interior application with hard-lid ceilings. It features a powder-coated finish, ensuring a professional installation that also considers aesthetic appeal. The interchangeable drop-down door allows for quick and easy access to the AP and cabling without needing to access the above-ceiling space, offering a cost-effective solution for future technology upgrades.

Product Highlights

- **Ligature-resistant design with rounded corners eliminates points of attachment**
- **Impact-resistant dome with a smooth exterior finish**
- **Mounts securely in the hard-lid ceiling with a unique screw-activated latching mechanism on all four corners of the inside of the product**
- **Knock-outs on all four walls for custom cable ingress, and an included fire-stop grommet allows cable egress/ingress while maintaining the plenum ceiling rating**
- **Features a full backbox that creates an effective dust barrier in the ceiling, simplifying infection control procedures**
- **Simplifies infection control procedures in behavioral healthcare facilities by allowing access to the wireless equipment without needing to lift the ceiling tile, which helps prevent the possible spread of airborne contaminants**

Oberon® Hi-Bar™ Surface-Mount Enclosures (Model 1014-IND)

A modern and compliant approach to surface mounting wireless APs in behavioral health settings

The Hi-Bar™ 1014-IND compact Wi-Fi Access Point enclosure is designed specifically to protect APs in challenging indoor environments. This rugged polycarbonate enclosure protects the AP and associated cabling from tampering and disconnect. The enclosure is virtually transparent to wireless signals so APs with integrated antennas will be protected. Additionally, the enclosure is paintable, allowing it to blend in and protect APs in various challenging indoor locations.

Product Highlights

- **Ligature-resistant design eliminates points of attachment**
- **Smooth exterior finish**
- **Mounts securely to the wall or hard-lid ceiling through the back and inside of the product**
- **Compact, durable, impact-resistant polycarbonate prevents breakage**
- **Polycarbonate plastic is easily drilled and machined for custom cable ingress**
- **Enclosure is paintable to blend seamlessly into the environment**
- **Cover attaches with four tamper-resistant stainless-steel screws**

Looking for more Oberon solutions? Visit us at oberonwireless.com for more information and essential planning for your upcoming project!

Need a customized solution? Contact us at sales@oberonwireless.com or 877-867-2312

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Bree brings over 35 years of distinguished experience in the Information and Communication Technology (ICT) industry, demonstrating expertise in management, training, speaking, and sales. As a subject matter expert, Bree is a prolific author of articles, tech tips and white papers featured in publications like BICSI ICT Today, Cabling Installation & Maintenance Magazine, Wi-Fi NOW, and various other industry platforms, including Oberon's website, social media, newsletters, and blogs. She is recognized as an accomplished BICSI RCDD actively contributing to numerous BICSI Working Groups within the BICSI International Standards Program and currently serving as Vice Chair of the BICSI Wireless Standards.

About Us

Oberon has been at the forefront of pioneering innovative wireless mounting solutions since 1999. We collaborate with top technology innovators to meet the pressing demands of modern business today. From Wi-Fi and 5G cellular to DAS antennas and medical wireless nodes/access points, Oberon delivers mounting solutions that streamline technology transitions, enhance physical security, meet codes and regulations, enable seamless authorized access for maintenance, and optimize performance/aesthetic standards.

Visit **oberonwireless.com** to learn more about how Oberon can help you optimize your next-generation wireless deployments.

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