

Northwestern Medicine Lake Forest Hospital Chooses Hytera DMR Radio System

CASE STUDY



Northwestern Medicine Lake Forest Hospital DMR Radio Network

Hytera America and Alpha Prime Communications delivered a DMR radio system that provided communications coverage for the sprawling 500,000 square foot medical facility

About Lake Forest Hospital

Lake Forest Hospital is a wholly owned subsidiary of Northwestern Medicine HealthCare and one of the nation's premier academic medical centers.

Lake Forest Hospital is a newly constructed, 500,000 square foot facility on a 160-acre campus with five pavilions for inpatient and ambulatory care.



The Challenges

Prior to the construction of the new hospital, Lake Forest Hospital was operating out of a 75-year-old building and had been using an outdated analog radio system for many years. The existing system could no longer handle the capacity or coverage required for the hospital's expanding campus. With the approval to build a new facility, the hospital went to work on upgrading their operations infrastructure including the outdated radio system.



The approved construction plans for the new Lake Forest Hospital allowed for buildings that would have a maximum height of 3-stories. With the zoning height limitation, the hospital campus expanded outwards instead of upwards. The new, larger facility needed more flexibility to cover both the campus grounds as well as the underground tunnel system that would connect the buildings across the campus. The system would also have to handle additional capacity as the hospital continued to grow and add new users.

The Solution

The Manager of Engineering and Maintenance with Lake Forest Hospital turned to his trusted communications partner, Alpha Prime Communications, a leading wireless communications dealer, for recommendations on upgrading their existing radio system. Alpha Prime has been providing radio communications equipment and services to Lake Forest Hospital for more than 13 years. With their long-term relationship, Lake Forest Hospital trusted Alpha Prime to thoroughly evaluate the hospital's needs and provide a robust solution that would meet the demands of a growing campus.



Alpha Prime conducted an extensive review of the hospital's communications needs and discovered the cost to expand the existing radio system would be twice the cost of replacing it with an entirely new Hytera digital system.

Andy Kerman, the Sales and Service Manager with Alpha Prime, recommended the Hytera Digital Mobile Radio (DMR) trunking solution with DMR portable radios and mobile radios for dispatch services. These radios feature analog and digital operation, allowing for a seamless migration path that would allow the hospital the ability to transition from their existing analog system to the Hytera digital DMR solution over time.

Alpha Prime mitigated any coverage issues that might arise with a sprawling campus by designing and installing a Distributed Antenna System (DAS) with more than 3,000 feet of cable running the length of the tunnel system to ensure campus-wide coverage for the new Hytera 2-site, 6 channel DMR trunking system. The reason for the 2-site system was to ensure coverage for both the new hospital with DAS (Site 1) and the existing medical buildings (Site 2).

There are more than one hundred Hytera portable radios being used on the Lake Forest Hospital campus every day. Users on the system include the maintenance,

engineering, security, administration, emergency, grounds and environmental services teams. The hospital also has a communications department that uses the dispatch features of the mobile radios with select user groups on the system. The key features utilized include priority interrupt that enables medical and administrative staff to override existing radio calls during emergency codes, and monitoring channels

Hytera DMR radios are rich in features for both voice and data communication. The design is approved to rigorous IP67 and MIL-STD 810 testing.



during heavy usage. The radios were also configured with advanced digital encryption and restricted access to ensure secure transmissions and protect patient privacy.

Two-way radios also provide secure and reliable communications, even in times when cellular or Wi-Fi networks are down. During nature disasters such as fires, hurricanes, and earthquakes, two-way radios continue to be one of the only reliable communication devices.

The Results

The hospital staff at Lake Forest use their Hytera radios every day. The radios have become their lifeline for patient care and staff communication.

“The system coverage is top notch. We have not experienced any issues with coverage across the entire campus. The sound quality and clarity of the radios is excellent.”
– Lake Forest Hospital Director Facilities



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