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Case Study /
Healthcare

Transforming Cellular Coverage for Staff and Patients at Specialty Mental Health Facility



Case Study courtesy of
ihavesignal Limited
United Kingdom

Challenges
Poor indoor cellular coverage at a specialty mental health hospital disrupted staff communications, limited patients' contact with family and caregivers, and posed a business-continuity risk if IP telephony failed.

Solution
Nextivity QUATRA EVO system, designed and deployed by ihavesignal across approximately 10,000 m² of hospital space.

Installation
Two-phase deployment with 2 Network Units, 9 Coverage Units, 9 Fiber Range Extenders, and 43 indoor antennas across key hospital areas.

Results
Reliable cellular coverage in previously underserved areas, improving staff and patient communications and strengthening communications resilience.

Challenge

Harplands Hospital is a specialty mental health facility within North Staffordshire Combined Healthcare NHS Trust. Covering approximately 10,000 m², the hospital includes dedicated mental health wards, secure units and areas where patient privacy and safety are paramount.

The hospital had been experiencing poor indoor mobile coverage for some time. Signal was weak across key areas, and the construction of a multi-storey car park adjacent to the hospital made matters worse. The resulting blackspots affected patients, visitors and staff — from frontline communications to patients being able to stay connected with family and caregivers.

The challenge also extended to business continuity. With traditional landlines being phased out, the Trust had identified a risk due to the lack of reliable mobile connectivity should its IP telephony system become unavailable.

The Trust required reliable cellular coverage across key clinical and operational areas, better connectivity for patients and staff, and an additional communications layer to support its wider resilience strategy.



CEL-FI QUATRA EVO





Solution

Following a detailed site survey, ihavesignal designed a solution based around Nextivity CEL-FI QUATRA EVO.

Given the scale and layout of Harplands, Fiber Range Extenders were incorporated into the design to distribute coverage throughout the required areas while maintaining consistent service within the hospital.

The final deployed system comprises:

- 2 x CEL-FI QUATRA EVO Network Units
- 9 x CEL-FI QUATRA EVO Coverage Units
- 9 x CEL-FI Fiber Range Extenders
- 43 x CEL-FI Indoor Omni Dome Antennas

The distributed architecture allowed cellular coverage to be delivered across the hospital's wards and operational areas while working within the constraints of an existing specialty healthcare environment.

Installation

With Harplands remaining operational throughout the project, installation had to be carefully coordinated around the requirements of a live mental health facility.

ihavesignal delivered the project in two phases, installing the CEL-FI infrastructure and 43 internal antennas throughout the targeted areas of the hospital. Following installation, post-deployment testing demonstrated a significant improvement. Areas that previously had patchy, weak, or no usable mobile signal showed strong and consistent coverage.

Results

The CEL-FI QUATRA EVO deployment has transformed cellular connectivity across Harplands Hospital.

Staff now have reliable mobile coverage to support everyday communications, while cellular connectivity provides an additional communications option should the hospital's primary IP telephony services become unavailable.

For patients, the improvement is more personal. Better indoor coverage makes it easier for those receiving care to remain connected with family and caregivers.

The Trust also highlighted the quality of the project delivery, with the Digital Transformation Lead noting the smooth installation, minimal disruption to hospital operations, and significant improvement in mobile connectivity.

Reliable cellular connectivity now forms part of the hospital's wider communications infrastructure, supporting operational resilience, staff communications, and patient experience.

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