Leveraging Technology to Optimize Physical Safety and Security in Healthcare

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Background

Improving physical safety in a healthcare setting can be a formidable challenge in terms of costs, manpower, and infrastructure, while also maintaining a patient-friendly and inviting atmosphere. According to the 2019 Healthcare Crime Survey produced by the International Association for Healthcare Security and Safety Foundation, the top three categories of healthcare criminal activity per 100 beds are Disorderly Conduct, Assault, and Theft. Top criminal activity categories at the Columbia VA Health Care System (HCS) closely mirror these results. Although it is not feasible to eliminate all safety and security risks, leveraging technology, including advanced high-resolution network camera systems and data analysis of security incident location trends, can provide cost effective mitigation of security risks with minimal disruption to patient and visitor traffic.

Objective

The objective was to increase physical safety and security, reduce criminal incidents by 20%, improve coordinated communication, and strategically address areas of greatest need by leveraging new technology while also providing an inviting atmosphere to visitors and patients. Additionally, this initiative supports our commitment to maintaining a culture of safety and quality through an enhanced, proactive program that integrates technology to minimize risk.

Planning/Research Methods

The Columbia Veterans Affairs Health Care System formed a multi-disciplinary team comprised of VA Police, Engineering, IT, and contractor staff to determine if current technology solutions could provide an effective substitute to security measures commonly found in airports, other government buildings, or comparable healthcare settings, such as metal detectors at entryways.

- Compared current systems with newer technology now available
- Identified vulnerabilities with current state and developed areas of focus
- Analyzed measures taken at comparable healthcare settings and other government buildings and performed cost/benefit comparisons, including cost in terms of patient and visitor experience

Implementation Methods

- Developed multi-phase implementation process
- Approved acquisitions packages for equipment and hired additional staff
- Constructed central monitoring room to house displays, other related equipment, and personnel
- Utilizing the areas of focus based on vulnerability assessments, deployed 425 state of the art cameras as part of Phase 1 with plans for over 700 total after Phase 2 implementation
- Developed data analytics reporting products to determine effectiveness of phased trials and to efficiently utilize existing traditional resources, including targeted police patrol areas based on incident trend analysis
- Launched automated call system capable of reaching over 1000 patients and/or employees per hour
- Implemented new employee emergency contact management and notification system
- Phase 2 will add additional cameras and Phase 3 will implement License Plate Recognition (LPR) image recognition system integrated with the National Criminal Information Center (NCIC)

Results

- 47% reduction in criminal activity in targeted areas
- 94.1% of surveyed staff indicated that these measures have enhanced safety and security, resulting in an improved sense of a safer and more secure environment for staff, patients, and visitors
- Several major events, including firearm involvement, were averted using new systems
- Multiple instances of improved evidence gathering capability to aid in criminal prosecutions
- Greatly improved communication with patients and staff during emergencies, inclement weather, and clinic cancellations

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