

Leveraging Technology to Enhance Physical Safety and Security in Healthcare

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Background

Improving physical safety and security in a healthcare setting poses several challenges, including cost, patient experience, and disruptions to patient and visitor flow. Utilizing technology can provide increased safety and security while minimizing undesirable impacts and associated costs in terms of financial, operational, and patient experience.

Planning Methods

Utilizing a multi-disciplinary team comprised of VA Police, Engineering, IT, and contractor staff, the Columbia VA Health Care System took several key steps to determine the best course of action to improve safety and security within their facilities:

- 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
- Performed cost/benefit comparisons, including non-monetary costs including patient and visitor experience



Central Monitoring and Equipment Room

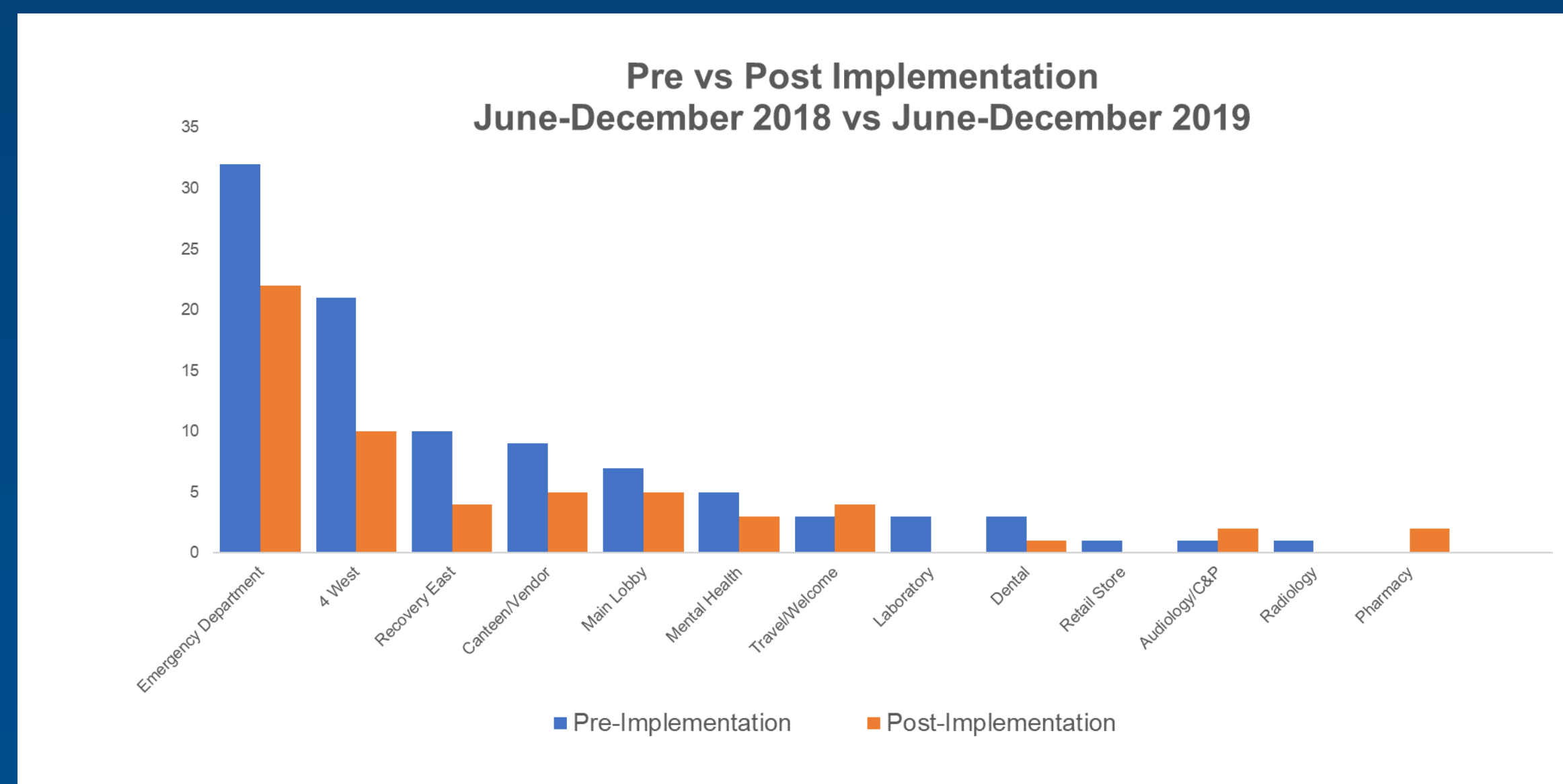
Implementation

The Columbia VA Healthcare System implemented this program through a multi-phased approach:

- Approved acquisition of equipment and hired additional staff
- Constructed central monitoring room for displays, equipment, and personnel
- Utilized areas of focus based on vulnerability assessments and 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 to determine the effectiveness and to efficiently utilize existing traditional resources, including targeted police patrol areas based on incident trend analysis
- Began utilizing automated call system capable of reaching over 1000 patients or staff per hour
- Implemented the use of new employee emergency contact management and notification system

Objectives

1. Improve safety and security through the use of new technology and data analysis
2. Minimize negative impacts to patient flow and experience
3. Mitigate safety and security risks as transparently as possible
4. Improve communication with staff, patients, and others during emergencies and in general



Location	Time						
	6	7	8	9	10	11	12
Emergency Department	3	1	6	10	7	10	8
Main Lobby/Entrance	1	1	4	4	6	4	7
Canteen/Vendor Area	1	4	4	5	3	6	5
Travel/Welcome		11		5	5	3	2
Laboratory			1	1	3	4	1
Pharmacy			1	1	3		4
Retail Store		1	2	1	3	2	
Dental				1		3	
Audiology/C&P						1	3
Radiology			1			1	1

Incident Heat Map by Location

Results

Post implementation analysis showed a 47% reduction in criminal activity in areas targeted through trend analysis, including heat map visualizations.

Improvements were realized in other aspects, including the ability to determine the cause of accidents and other events that were previously unable to be reviewed, both internally and externally. Several possible high visibility and major events have been prevented by this initiative, including firearm involvement. Thefts, disruptions, and other incidents have been quickly identified and addressed as a result of these improvements.

Other benefits as a result of this initiative include:

- Heightened sense of security by staff, patients, and visitors with 94.1% of surveyed staff indicating that these measures have enhanced safety and security
- Real-time monitoring of facility operations and identification of needs for assistance
- Enhanced ability to gather evidence for criminal prosecution
- Improved efficiency and effectiveness of VA and community police resources
- Greater ability to quickly contact patients and employees through the use of new automated call system and employee contact and notification system
- Through continuous effectiveness assessments, future actions identified include adding License Plate Recognition (LPR) system that will be integrated with the National Criminal Information Center (NCIC) and updating police radio communication to expand communications statewide, allowing for communication with all police and dispatch centers throughout the state