



CASE STUDY | **Mercy** 

Mercy Prescribes Security Screening for Its Emergency Departments to Ameliorate Clinical Staff Safety Concerns

Mercy

FOUNDED: 1986 by Sisters of Mercy

EMPLOYEES: 40,000+

POINTS OF CARE: 600+

OPERATIONS: Arkansas, Kansas, Missouri, Oklahoma

WEBSITE: www.mercy.net

Solution Snapshot

Goals

- Help Clinical staff in Emergency Departments feel safe when delivering care
- Create seamless security screening that does not impact the speed or quality of patient intake
- Deploy a weapons screening solution compatible with gurneys, wheelchairs, and other emergency patient needs
- Minimize friction of secondary checks by pinpointing the location of threats
- Avoid excessive safety staff allocations and costs related to metal detectors and x-ray machines
- Focus security screening technology on hospital entry points of the highest risk
- Partner with a technology provider with a long-term security integration roadmap

Solution

People

- Worked with Public Safety and Clinical teams at each location for deployment
- Deployed the Evolv Express® systems at Emergency Department entrances for optimal flow
- Provided same-day deployment and training support

Process

- Evolv Solutions Engineer deployed Evolv Express systems at 8 Emergency Department locations across 7 campuses
- Provided industry best practices for integrating the Express system into Mercy's Security Operations Center
- Trained principal stakeholders on using Evolv Insights analytics

Technology

- 8 Evolv Express Single-Lane Systems
- Evolv Cortex AI®
- Evolv Insights®

Outcomes



Facilitates a feeling of safety for Emergency Department staff, enabling them to focus on providing urgent care to patients



65% fewer resources needed to manage Express systems over traditional metal detectors



Improved weapons detection with a dozen weapons found in one backpack, as one example



Trained security staff to differentiate between weapons and wheelchairs, gurneys, and other mobility devices



Screen up to 1,000 patients, family members, visitors, and staff each day at select Emergency Departments



Rapid, seamless deployment of Express systems at 8-plus Emergency Departments



Delivering Healthcare Where It Is Needed

Founded in 1986 by Sisters of Mercy, Mercy consists of more than 42 different healthcare facilities located in Arkansas, Kansas, Missouri, and Oklahoma.

Over 40,000 doctors, nurses, caregivers and other staff provide care to millions of patients annually.

As a Catholic-based ministry, Mercy locates its healthcare facilities in areas where healthcare is needed. Adam Whitten, Mercy's Vice President of Operational Excellence, explains: "We bring healthcare to those who need it, when they need it, and where they need it. You won't find Mercy putting hospitals in areas where it is most lucrative. We put them where they are most needed."

A central mission for Mercy is to ensure that patient and visitors feel as safe and secure as possible when visiting one of Mercy's facilities. It is also critical that hospital staff, or coworkers as Mercy refers to them, can provide care to patients in a safe environment. "Our patients, family members, and staff need to feel secure because everyone who is entering has gone through the same processes to ensure that no one brings a weapon into one of our facilities that they could use to harm themselves, one of our coworkers, or another patient or family member of a patient," Whitten says.

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- Adam Whitten, Mercy Vice President of Operational Excellence

Failures of Reactive Security Screening

The state of violence in the healthcare industry and within each hospital's community were considered when assessing their security policies.

"The unfortunate prevalence of gun violence, coupled with the fact that more people carry firearms, puts our public at an increased risk of violence," quoted Mercy's Executive Director of Public Safety Jon Belmar when stating why he looked at weapons screening systems for the hospital. "Health care settings are not immune to such threats, and after an incident where a weapon was brought into an Emergency Department, we decided we needed to do something."

Dr. Mark Griesemer, Mercy's Medical Director for the Emergency Department in Springfield, recalls the previous security process: "The lack of security created an environment subconsciously for patients and their families—whether it was in the exam room or waiting room upon their arrival."

Until recently, security screening was a reactive process at Mercy, and something Mercy has been actively changing. "We look to our clinical providers, public safety officers, and technology partners to give us advancements—enabling us to be proactive versus reactive in every situation," comments Belmar. John Spier, an RN and Clinical Manager for the Emergency Department at Mercy's hospital in Springfield, Missouri, agrees: "Individuals who enter our facility have a high priority, especially those in the Emergency Department. It is my responsibility to make sure questions of safety are answered. We have individuals who are able to step in appropriately and intervene in situations where we need to de-escalate patients, family members, and coworkers to diffuse situations before they become a bigger threat."

Violence in the Healthcare Industry

Before the pandemic, healthcare workers faced a disproportionate percentage of workplace violence. Nearly three-quarters of all nonfatal injuries related to workplace violence in the US occurred in healthcare facilities.¹ At the same time, nearly 50% of members of the American College of Emergency Physicians / Emergency Nurses Association were assaulted, with 70% of emergency room nurses reporting being hit or kicked on the job.²

These numbers only got worse during and after the pandemic. Almost one-third of registered nurses in the U.S. said they face increased on-the-job violence due to staffing shortages, changes in the patient population, and restrictions for visitors.³ In one quarter alone last year, 5,000 nurses reported on-the-job assaults.⁴ This comes to two nurses being assaulted every hour, or 57 assaults per day!

¹ [Fact Sheet: Workplace Violence in Healthcare, 2018 | April 2020](#). U.S. Bureau of Labor Statistics, accessed August 20, 2022.

² Tony W. York, "Combating Patient-Generated Violence with Safe Hospital Design," SecurityInfoWatch.com, March 2, 2021.

³ "National nurse survey reveals that health care employers need to do more to comply with OSHA emergency temporary standard," National Nurses United, September 27, 2021.

⁴ "The alarming rate of violence against nurses in Q2 2022," Advisory Board, September 15, 2022.



We would need 12 full-time security guards to manage a walkthrough metal detector versus 4.2 full-time security guards for Evolv."

- Jon Belmar, Executive Director of Public Safety, Mercy

Prescribing Proactive Security Screening with Evolv

With the above in mind, Mercy embarked on a search earlier this year to identify a technology that would create a safer environment while not inhibiting patients from getting care.

As a result, Mercy Public Safety Leaders "... ruled out metal detectors - both walkthrough and hand-held wands - and x-ray machines from consideration right out of the gate for several reasons. Aside from being highly inaccurate in discerning between nuisance and threat alarms, they require a high volume of staff to operate and cannot accommodate bariatric wheelchairs and gurneys."

"Standard walk-through metal detectors are not conducive to a care environment for multiple reasons. They are a hindrance to normal pedestrian traffic only allowing one person through at a time. With the Express, we can have multiple people enter the system together side by side and successfully screen all at once," says Whitten. "With Evolv, our patients and visitors do not need to empty their pockets or keys, phones or coins nor be subjected to follow up searches that a metal detector would necessitate. Our officers can also man the Evolv system with one person versus the two to three necessary to efficiently utilize a standard metal detector."

Dr. Griesemer concurs with Mercy's new direction in security: "The Evolv Express is fantastic because it creates an additional safety net and raises the conversation around individual safety and others in the emergency department. It makes it easier for our public safety officers to do their jobs and identify those people who may have something on them."

Patients come to the Emergency Department with heightened anxiety and awareness. They often aren't certain what to expect. "The Express system provides them with assurances that we take their safety and security seriously," Belmar says. "And if they do have a weapon on their body or in their bags, we want the detection and screening to be as seamless and unintrusive as possible."

“ Evolv is a safety net for all of us. It lifts the burden off the shoulders of coworkers, empowering them to treat patients while continuing to feel safe, knowing the Evolv reduces the potential for harm to both coworkers and patients served.”

**- John Spier, Clinical Mgr.,
Emergency Department,
Mercy, Springfield, MO**



This photo shows an Evolv team member walking through the Express system at Mercy Springfield.

Emergency Departments Targeted for Initial Deployment

When it came to determining where to deploy the Evolv Express systems, Mercy concluded that the entrances to the Emergency Department would be the best place to start.

Mercy looked at years' worth of hospital, community, and industry data to formulate his approach on where and how to deploy. "We went back through our incident logs, not only to see how many events of workplace violence took place but where they occurred," Whitten says. "The vast majority take place in our Emergency Departmental and Behavioral Health areas. There is a precipitous fall off from there. We also know that after a certain time of night at most of our facilities, the Emergency Department becomes the only access point to the entire hospital. All other doors are locked and guarded so no one else can come in."

With these two factors in mind, Mercy decided to begin the rollout of the Evolv Express systems at Mercy's Emergency Departments—and they began with the Springfield location. An Evolv Solutions Engineer worked alongside Mercy's security team and safety officers at the Springfield hospital to set up an Express single-lane system at the entrance to the Emergency Department. This included the integration of Express operating procedures into the Public Safety team's ConOps documentation.

The Evolv Solutions Engineer also trained the team on how to use the system—in particular, on how to differentiate between alerts on wheelchairs and gurneys versus potential weapons. "The Express is very easy to learn and use," Belmar says. "The Evolv team did a great job of training our security guards at each of our hospitals where we rolled them out. We are up to eight locations now, and we plan to continue adding them to locations where it makes sense."

The Express system is also designed to comply with the American Disability Act. Each lane is 39.8 inches wide; wheelchairs and gurneys easily fit through the Express lane.

When it came to the first day of deployment at the Springfield location, Mercy admits they were a bit apprehensive. "With any new technology, you're always looking for the red herring," Belmar says. "Our officers test the system for proper function daily. It is easily and quickly tested and calibrated to ensure it is functioning as designed."



“ Nobody can control human nature. But if we can control certain areas of our campuses to ensure that we’re providing the best and most secure environments possible, then we are doing what we need to be doing—and the Evolv system is an important linchpin in making this possible.”

- Adam Whitten, Mercy Vice President of Operational Excellence

Using Evolv Insights® Analytics and Cortex AI® for Greater Efficacy and Efficiency

Advanced capabilities in the Express system are something Mercy is especially excited about.

“We use Evolv Insights to look into details around how many people come into each of our Emergency Departments and at what time of the day or night,” Belmar said. “We look at how many weapons we’re finding per location and how many alarms we’re getting. We report these to the leadership team to demonstrate how we are keeping our facilities safe and the value we’re getting from our Evolv investments.”

Artificial intelligence and machine learning are additional factors that Mercy finds particularly useful. “Evolv Cortex AI gives us the ability to work with the Evolv team to constantly help the Express systems to learn and become more and more accurate in screening patients, visitors, and staff,” Belmar says. “With enough data, the Express system may eventually learn to distinguish between gurneys and wheelchairs, tumblers, and canes versus weapons.”

“ We can focus on caring for patients rather than worrying about them carrying and using it on the staff. At the same time, the Express gives our patients and families a feeling of safety and security—which is important for anyone who is experiencing a health event or has a loved one who is experiencing one.”

**- Dr. Mark Griesemer, Medical Dir.,
Emergency Department, Mercy, Springfield, MO**





Response to the Evolv Express® System

The response from everyone involved in Mercy's Emergency Departments where the Express systems have been rolled out has been very positive.

The Clinical staff in each of the Emergency Departments has been just as excited about the addition of the Express. “We were hearing a lot of concern from our Emergency Departments post-DePaul, post-Tulsa about our safety,” Dr. Griesemer recalls. “We were asking them ‘What are you doing to make us safe? How can I feel safe treating patients?’ At every location where we have rolled out an Express system, these concerns went away.” Dr. Griesemer adds, “Safety for me, as both a physician and medical director, means a lot of different things. We can focus on caring for patients rather than worrying about them carrying and using it on the staff. At the same time, the Express gives our patients and families a feeling of safety and security—which is important for anyone who is experiencing a health event or has a loved one who is experiencing one.”

Patient and visitor reaction to the Express systems has been positive as well. “I was worried about secondary screening checks with patients and family members,” Whitten recalls. “My concerns were unwarranted. The Express system pinpoints the area of a potential weapon with a red box. It allows our safety officers to avoid extensive checks of a patient’s or family member’s bag or person. People who carry a firearm are conscientious about doing the right thing, and in most instances, they simply forgot they were carrying and are very apologetic and quick to fix the issue.”

For patients or family members with mental health disorders, Whitten explains that the Evolv system enables the Public Safety team to focus on a particular area of the person’s body or bag rather than performing a full screening—something that could exacerbate certain situations. “Evolv is not a metal detector, it is a weapons detection system,” Whitten adds. “It helps reduce the risk and presence of weapons on our campus and helps us enforce our weapons free policy.”



Our officers test the system for proper function daily. It is easily and quickly tested and calibrated to ensure it is functioning as designed.”

**- Jon Belmar, Executive Director of
Public Safety, Mercy**



Security Staffing Savings with Evolv Over Traditional Metal Detectors

When staffing resources required to manage an Express system are compared to those needed for a traditional metal detector, the differences are dramatic.

“We would need 12 full-time security guards to manage a walkthrough metal detector versus 4.2 full-time security guards for Evolv,” Mercy’s security team notes. “When you look at the Evolv system, you’re really talking about something that is less expensive, less intrusive, and more efficient to operate.”

While this is a substantial operational gain for just one Emergency Department, the full-time staffing savings multiply quickly for Mercy as Express systems are rolled out to more Emergency Departments. Had Mercy opted to use walkthrough metal detectors or x-ray machines rather than Express systems, it would have needed to hire an additional 62 full-time safety officers.



Our officers have found multiple concealed firearms and knives that otherwise could have entered our facility. We have even encountered one patient with four firearms and multiple knives in a backpack.”

- Jon Belmar, Executive Director of Public Safety, Mercy

Evolv Empowers Clinical Staff to Feel Safe While Ministering to Patients in Need

**The Express deployments have delivered
great results for Mercy.**

At some of the Emergency Departments, such as the one in St. Louis, Missouri, Mercy screens up to 1,000 people daily. “Our officers have found multiple concealed firearms and knives that otherwise could have entered our facility,” Belmar says. “We have even encountered one patient with four firearms and multiple knives in a backpack.”

Spier sums up what Evolv means to him and the Springfield Clinical team: “Evolv is a safety net for all of us. It lifts the burden off the shoulders of coworkers, empowering them to treat patients while continuing to feel safe, knowing the Evolv reduces the potential for harm to both coworkers and patients served.”

“Nobody can control human nature,” adds Whitten. “But if we can control certain areas of our campuses to ensure that we’re providing the best and most secure environments possible, then we are doing what we need to be doing—and the Evolv system is an important linchpin in making this possible.”

“ Standard walk-through metal detectors are not conducive to a care environment for multiple reasons. They are a hindrance to normal pedestrian traffic only allowing one person through at a time. With the Express, we can have multiple people enter the system together side by side and successfully screen all at once. With Evolv, our patients and visitors do not need to empty their pockets or keys, phones or coins nor be subjected to follow up searches that a metal detector would necessitate. Our officers can also man the Evolv system with one person versus the two to three necessary to efficiently utilize a standard metal detector.”

**- Adam Whitten, Vice President of
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