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Emergency Duress for Hospitals

As workplace violence increases dramatically in overstressed hospital environments, technology can help speed a response

Always a challenging problem, workplace violence in healthcare settings grew substantially over the continuing course of the COVID-19 pandemic. Many different stresses of the pandemic – mask mandates, limited visitation and lack of staff to name a few – pushed staff, managers, patients, and family members to the breaking point. This avalanche of stressors forced many hospitals to re-visit their preparedness and response protocols for workplace violence.

One such protocol is mobile and fixed emergency duress systems. This exclusive technology roundtable sponsored by Inovonics takes a closer look at these technologies, including benefits, installation tips and more from the experts who are deploying them.

How has COVID changed the risk paradigm for hospitals from a workplace violence perspective?

Jeffs: Many patients and family members are upset with the changes in hospitals due to COVID-19, such as visitor restrictions, limited bed availability, and more. This has caused an increase in violence towards hospital staff, making it more important than ever to provide the proper technology to allow staff members to quickly and easily alert for help.

McNutt: The combination of staff shortages, heightened mask/PPE requirements, and greater limitations on patient visitation accessibility all combine to lead to a more stressful work environment for all involved.

Hasserd: As workplace violence in healthcare settings grew over the course of the pandemic, many employers were at a loss for how to help overworked and overstressed staff members cope, simply because we had never seen this type of situation before.

Dever: Hospitals are operating at capacity due to the virus, and for some, the stressors become too much, and they leave the field altogether – which further exacer-

bates the stress caused by staffing shortages. Cases of violence at hospitals are rising as a result, with routine verbal and physical assaults on staff – and even visitors and patients – being well documented.

What role does mobile duress technology play on a hospital/healthcare campus?

Hasserd: Duress buttons that can be easily carried by staff members allow security professionals and police to arrive on scene within minutes of an alert. This duress technology can be integrated into an entire safety system that is designed to increase safety not only for workers but also for patients and visitors. A working duress system can also reduce hospital risk and financial exposure.

McNutt: Doctors and nurses are regularly moving from operating rooms, to recovery rooms, to work stations, to supply closets, etc. Mobile duress technology gives staff the ability to trigger an emergency with the push

of a button regardless of where they happen to be when an incident occurs.

Jeffs: With mobile duress technology in combination with advanced alerting technology, specific contacts or groups of users can be notified of an unfolding situation with the press of a button. After creating a hospital's desired alerting escalations, staff members will only receive alerts regarding what they need to know. For example, nurses, maintenance, and management can all be assigned a unique set of alerts. When an assigned group receives an alert, a single user can accept it, clearing the alert from their fellow staff members' devices. This ensures that only the necessary number of people respond to a situation.

Dever: Even in smaller facilities, it is unrealistic to assume security personnel can be readily on hand at all times. With fixed duress pendants, responders know where to go based on where the activated pendant is installed; however, a fixed pendant may not always be within reach. This is where a body worn mobile duress system comes in.

How do duress systems pinpoint location of a caller during an emergency, and how can that information be leveraged to increase safety?

Hasserd: Once they press the duress button, a signal is sent with the staff member's current location.

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— Johnathan Hasserd, Beacon Communications

By using Bluetooth, Wi-Fi or other RF devices, staff member location can be quickly [ascertained], even in a parking garage. These real-time alerts are displayed at a security command center using a desktop application or integrated into nurse call systems. Complete details are visible, including a map of the staff member's location. From this, several safety measures can be activated: Security professionals can be dispatched, a lockdown can begin, cameras and recordings can be activated, message boards can display visual warnings, emails can be sent, text messages can be used, and several other communication tools can be activated.

Jeffs: Hospitals that utilize repeaters are better able to pinpoint the specific location of a mobile duress signal. Using repeaters or "points of interest" throughout the hospital and vector mapping, staff receive alerts with the closest location to a triggered mobile duress device based on mathematical calculations. These locations can be

included in the detailed alerts that are sent to people responding to the situation. This allows for the quickest possible response, as well as informed decision making.

McNutt: Generally, our recommendation would be to assign each mobile device with a description of the location where the carrier is most likely to be located (NICU floor, Emergency Room, outpatient clinic, etc.). It is critical, especially in a large hospital, to ensure that first responders can be given accurate information about what part of the building they need to go to.

Dever: Indoor location technologies typically measure the signal strength of a radio transmission from a pendant to some type of receiver. The Inovonics system measures a Bluetooth signal generated at the time of the pendant press, using Bluetooth receivers called locators, which are strategically installed throughout the facility. This signal strength data then gets transmitted over the Inovonics EchoStream network to our mobile duress application. This step is critical, because without a reliable radio protocol to ensure the message gets through, the location information would never reach responders.

There are numerous protocols available for message transmission – WiFi, Bluetooth, Zigbee and Z-Wave can be all used for mobile duress solutions – but they are not capable of delivering messages with

> " When there are too many alerts, staff can become desensitized to notifications. To avoid this, it is important to implement mobile duress alongside an enhanced alerting platform."

— Amy Jeffs, Status Solutions

Technology Roundtable

the level of reliability demanded in RF-unfriendly, indoor commercial environments like hospitals. A mobile duress system's wireless backbone must have a proven track record of withstanding interference, overcoming obstacles, and guaranteeing multiple paths from the alarm device to the receiver.

What are some of the challenges when installing mobile duress systems in hospitals?

McNutt: One of the primary challenges is the deployment of sufficient RF repeaters to ensure coverage throughout the whole facility, or at least all of the areas of the hospital where coverage if needed. As most hospitals are already equipped with extensive technology for various WiFi/security/door access/paging/other healthcare systems, it can be challenging to find good locations to install repeaters where power is available and signal propagation is mostly unobstructed. It can also be a challenge to ensure location-accurate response if the wearer of the mobile device frequently travels throughout the entire building, and doesn't primarily stay in one area – such as a security guard who makes regular rounds.

Jeffs: One of the biggest challenges is avoiding alarm fatigue. When hospitals implement a new

> ❝ Any solution must ensure a coordinated response, and it should ideally leverage infrastructure already in place. The security integrator is well suited to make recommendations here.❞
>
> **— Craig Dever, Inovonics**

alerting system, it can be easy to inundate staff with excessive alerts and notifications. When there are too many alerts, staff can become desensitized to their notifications, leading to long response times and sometimes even alerts not being addressed at all. To avoid this, it is important to implement mobile duress alongside an enhanced alerting platform, which will allow the hospital to assign specific alerts to specific staff members, as well as provide staff with the ability to clear alerts from their coworkers' devices and receive detailed information so they are able to prioritize and respond properly.

Hasserd: The big challenge for our clients is to compile the capital to create a truly interoperable duress system; however, we can design and install a working solution that can be integrated with existing systems, significantly cutting costs.

Dever: Any solution must ensure a coordinated response, and it should ideally leverage infrastructure already in place. The security

integrator is well suited to make recommendations here. The goal should be seamless integration into existing systems, especially when it comes to alerting security personnel via a central station, access control or an onsite system. The last thing anyone needs is yet another application to access and manage. Not only will it be easier to manage an integrated system, in the long run it will be more cost effective when compared to installing a standalone system.

Finally, a word of caution: There are a number of solutions that rely on mobile phone apps – some are panic buttons on a phone that can alert personnel onsite, a central station, or directly to 911. Before considering such alternatives there are several questions to keep in mind. First, as phone-based apps, how are they determining location? They are probably reliant on GPS or cellular, which will often not be effective indoors, especially between floors. Second, will such an approach support the coordinated response needed? Most of these application work outside of a hospital's existing infrastructure. Third, if someone is in an emergency, will they have the time to get their phone, unlock it and navigate to the app? It is much easier to press a dedicated button and know help is on the way.

To learn more about sponsoring company Inovonics, visit www.inovonics.com or request more information at www.securityinfowatch.com/10213994.

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>
> **- J.T. McNutt, Bluepoint Alert Solutions**

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Mobile Duress

Delivering precise room and floor **location** upon mobile duress pendant activation

Learn why an ineffectively deployed mobile duress system is nearly as dangerous as having no system at all.

A key component of physical security is the mobile duress system, which, when thoughtfully deployed, ensures help is just a button press away. However, the flip side is also true. An ineffectively deployed system can create a false sense of security and put lives at risk.

Learn more and download educational materials here:
wireless.inovonics.com/locationmatters