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White paper

Mobile duress in healthcare

Security Concerns in Healthcare

Roughly two million Americans are victims of workplace violence every year.[1] In the healthcare industry, the dangers are even more pronounced. As reported by the Center for Personal Protection & Safety, "healthcare professionals are 16 times more likely to be attacked on the job than any other service professionals."[2]

Figure 1 Healthcare professionals are 16 times more likely to be assaulted than any other service professional

The number of assaults is staggering, with roughly a half a million nurses being the victims of violent crimes every single year.[3] In a study by the Emergency Nurses Association, 55 percent of emergency nurses report having experienced verbal abuse or physical violence in the last week alone, with 25 percent of nurses reporting being the victims of frequent physical violence — more than 20 or more reported assaults — in the last three years.[4]

500,000 nurses are victims of violent crimes every single year.

1.US Department of Labor, accessed 2021. "DOL Workplace Violence Program." https://www.dol.gov/agencies/oasam/centers-offices/human-resources-center/policies/workplace-violence-program
2.Center for Personal Protection & Safety, 2010. "Workplace Violence in Healthcare Settings." http://www.fha.org/acrobat/JohnW/CPPSHealthcareWPV.pdf
3.Ibid.
4.Institute for Emergency Nursing Research, 2011. "Emergency Department Violence Surveillance Study"
http://www.ena.org/IENR/Documents/ENAEDVSReportNovember2011.pdf
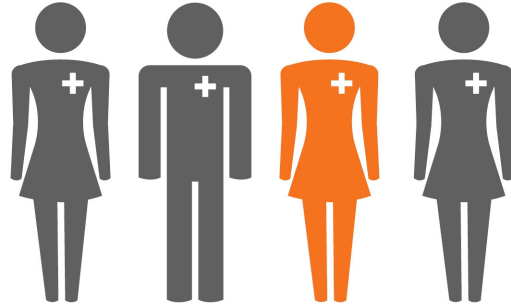
Figure 2 One in four nurses report having been assaulted more than 20 times in the last three years

At best, only one in five assaults on nurses is reported.

As incredible as those numbers seem, they are only the reported events; at best, only one in five incidences of verbal abuse or physical violence is reported.[1]

Worse, the problem is increasing. A 2020 article from *The American Journal of Managed Care* states:

> The problem of violence against health care workers, especially in critical care units, prevails and escalates across the world. It has been confirmed time and again that the vast majority of physicians, nurses, and supporting staff fall victim to WPV [work place violence] during their careers.[2]

There are a number of reasons to ensure the safety and security of the healthcare environment. In addition to the obvious moral obligation, violence in the workplace can impose tremendous financial costs, even just in the lost days required for workers to recuperate. OSHA writes:

> From 2002 to 2013, incidents of serious workplace violence (those requiring days off for the injured worker to recuperate) were four times more common in healthcare than in private industry on average.[3]

Moreover, failure to provide a secure environment can result in loss of accreditation from licensing and regulatory agencies at the local, state, and federal levels. Juries also continue to level higher and more frequent punitive damages

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1.Michael R. Privitera, *Workplace Violence in Mental and General Healthcare Settings.* (Sudbury: Jones and Bartlett, 2011), 10

2.The American Journal of Managed Care, 2020. "The Persistent Pandemic of Violence Against Health Care Workers." https://www.ajmc.com/view/the-persistent-pandemic-of-violence-against-health-care-workers

3.Occupational Safety and Health Administration, 2015. "Workplace Violence in Healthcare: Understanding the Challenge, 2015. https://www.osha.gov/sites/default/files/OSHA3826.pdf

at institutions deemed not to have taken appropriate security measures in the event of an emergency.[1]

While it is impossible to entirely eliminate the possibility of violence in the workplace, there are measures that can greatly reduce the risk. Of those measures, studies have found a wireless duress system to be the most effective. After surveying the complete range of security options available to emergency departments, the Institute for Emergency Nursing Research came to the following conclusion: "Only 1 [environmental control measure] was significantly associated with lower odds of physical violence – panic button/silent alarm."[2]

Duress System Requirements

Unlike other security options, duress buttons are designed to protect individuals from personal harm.

Unlike other types of security products, a duress button is used for the sole purpose of protecting people from personal harm. It does so by providing instant alerts to security personnel in case of an emergency event.

When a mobile duress system is deployed, each staff member carries a duress button to be activated in case of an emergency event, providing them the ability to send a call for help immediately. This can be when an employee considers his or herself in imminent danger, needs immediate assistance, or even becomes aware of a broader emergency in need of reporting. A duress button provides protection not only for the staff member carrying it, but for the entire workforce and healthcare environment.

Location

Though security systems can easily associate a fixed pendant with a specific location upon installation, determining the indoor location of a mobile duress pendant is significantly more difficult, and usually cost prohibitive to deploy even when possible. But in the event of an emergency, no information is more important to responders than the location of the activation.

1.Tony W. York, Don MacAlister *Hospital and Healthcare Security*, (Burlington: Butterworth-Heinemann, 2015), 23
2.Institute for Emergency Nursing Research, 2011. "Emergency Department Violence Surveillance Study"
http://www.ena.org/IENR/Documents/ENAEDVSReportNovember2011.pdf

A mobile duress system that cannot demonstrate its ability to deliver precise room and floor level location accuracy is of little use in large commercial settings. Through rigorous and repeatable testing, Inovonics has proven the location precision of its mobile duress system.

The Inovonics mobile duress system delivers an innovative location solution, built upon the reliability and cost effectiveness of EchoStream®. It delivers precise location accuracy — room, zone or floor, depending on what your specific location requires — using application programming interface (API) push notifications to integrate directly into a central station or other IP-based software application. Those in danger can easily and discreetly notify responders with the location of the incident, lowering response times when it matters most.

Complete Integration

A duress button must be easily integrable with the systems used by mobile responders to ensure a rapid response.

According to Patricia Allen's *Violence in the Emergency Department: Tools and Strategies to Create a Violence Free ED*:

> Hospitals need to anticipate that violence will occur and have a plan to prevent it. Each staff member, whether employed full-time, part-time, or [per diem], needs to be trained in de-escalation tactics and to have the tools, support, and empowerment necessary to know how to act rapidly when a violent episode does erupt in the Emergency Department.[1]

The key word in that statement is *rapidly*. Due to the nature of the emergency situations that face the healthcare industry today, it is not sufficient that a duress button alarm be sent to only a central station or a single command center. Just as

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1.Patricia Allen, *Violence in the Emergency Department: Tools and Strategies to Create a Violence Free ED*, (New York: Springer, 2009, xii

employees are inherently mobile in a healthcare setting, so are healthcare emergency responders.

Figure 3 The ability to alert mobile responders is critical to a rapid response

Likewise, violence can arise from individuals forced to wait for healthcare due to understaffing or overcrowding; psychiatric patients, especially those not being medication-compliant; gang members and criminals seeking access to drugs; substance abusers undergoing withdrawal; and violent individuals who see medical facilities as providing easy targets.[1] Because of this, it is essential that the duress button be able to summon the appropriate response.

Which means that to be effective, the duress button, as well as the wireless network that supports it, must be easily integrated into the security systems the staff already counts on, and provides a response necessary to the emergency.

The flexibility of the Inovonics wireless network allows for duress buttons to be added to virtually any existing security system, allow for an easy system upgrade while leveraging existing infrastructure with minimal incremental cost.

The flexibility and integrability of Inovonics duress systems also allow for a variety of responses. For instance, when a duress button is pressed it can be configured to immediately initiate a hospital lockdown procedure. Having the ability to easily trigger an emergency response can save precious time when it matters most.

1.Patricia Allen, *Violence in the Emergency Department: Tools and Strategies to Create a Violence Free ED*, (New York: Springer, 2009), xi

Single Facility to Campus-Wide Coverage

Because of the size and complexity of healthcare campuses, the wireless network must be scalable. As Don MacAlister and Tony W. York write in *Hospital and Healthcare Security*:

> The deliver of healthcare changes rapidly and is vastly different from what it was just a few years ago. Hospitals are no longer an isolated group of freestanding buildings. They are critical infrastructures forming complex medical centers.[1]

A duress system must be able to protect employees in the entire healthcare campus, including parking garages, stairwells, and on the grounds.

Nor are the buildings on a campus the only places that need protection. Staff must also be protected in stairwells, parking lots, and on the grounds. As MacAlister and York continue:

> Medical center parking areas, whether surface lots or multilevel structures, are often scary and downright dangerous places. The random shooting death of a police officer in Wilmington, NC, as he and his wife were leaving the hospital at the close of visiting hours; the critically injured woman in Omaha, NB, who was shot in a medical center parking lot by an assailant who was attempting to steal her purse; the hospital parking attendant in Philadelphia, PA, who was shot to death during an armed robbery; the healthcare office worker in Indianapolis, IN, who was locked in the trunk of her vehicle while the assailant drove her vehicle out of the parking structure are examples of tragic incidents occurring with great frequency.[2]

1.Tony W. York, Don MacAlister *Hospital and Healthcare Security*, (Burlington: Butterworth-Heinemann, 2015), 1

2.Tony W. York, Don MacAlister *Hospital and Healthcare Security*, (Burlington: Butterworth-Heinemann, 2015), 589

Figure 4 Duress pendants must work no matter where the employee is

The Inovonics wireless network offers superior range and performance, especially in large campuses or multiple-building sites. The system can scaled from a single building out to an entire multi-building healthcare facility spread over acres. Parking lots, out buildings and even outdoor areas can be easily covered on a single system without costly wiring, trenching or additional configuration.

Mission Critical Reliability

Most wireless technologies are not capable of operating reliably in healthcare environments.

There is no requirement for a duress pendant than reliability. This is a function of the wireless network. There are numerous kinds of wireless technology, and most are not capable of operating in challenging healthcare environments.

The demands placed on a wireless network by the healthcare industry differ dramatically from those of most other industries. The building materials themselves create incredible challenges to RF propagation. A wireless duress system needs to penetrate a variety of structural materials, including bricks, steel, insulation, and even the lead used in radiology departments to shield patients and staff from radiation.

Because of these demands, many commonly used wireless technologies are inadequate for duress buttons. Those that allow other applications to run on the same wireless system can incur interference and down time, and those that are not

designed specifically to provide campus-wide coverage can experience unacceptable dead spots.

Designed to move small amounts of data over a moderate range in commercial environments, the Inovonics wireless network uses a frequency-hopping, spread-spectrum technology that sends redundant messages across multiple channels to avoid interference obstacles. Due to its low latency and high reliability, the commercial mesh network is an ideal solution for security applications. Moreover, the network is self-managed and dedicated, ensuring high priority alarm messages are delivered without interference.

Conclusion

Healthcare workers have a right to safety; Inovonics can help provide that.

Whether in emergency departments, behavioral health programs, or human resource departments, hospital employees are increasingly at risk of physical violence. The problem has reached epidemic proportions, and ignoring it is no longer morally, financially, or legally tenable. Beyond the considerations of accreditation and freedom from punitive damages, healthcare staff have a right to a safe working environment.

Inovonics mobile duress systems are available from certified dealers. For more information, contact an Inovonics sales representative by email at sales@inovonics.com or by phone at 800.782.2709.