COVID-19 and Healthcare Security: Challenges and Opportunities for Building Enduring Systems of Safety

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ABSTRACT

COVID-19 has impacted health security throughout the pandemic and into the future in a variety of ways. Our response to the pandemic has highlighted existing challenges in health security, created new vulnerabilities and provided opportunities to build resilience against future threats. Exacerbating a long-term trend, violent incidents in healthcare continued to rise after the start of the pandemic. Workplace violence involving patients and visitors increased significantly in traditional and non-traditional healthcare settings. As alternate clinical care and storage sites popped up, malicious actors ramped up attacks on healthcare infrastructure and supply chains. These threats demanded that healthcare organizations become more agile and flexible in their security response (He et al., 2021). Beyond these attacks, shortages of critical supplies made it clear that medical supply chains have fundamental weaknesses in our twenty-first century landscape (U.S. Food and Drug Administration, n.d.). Supply chain experts assert that to avoid repeating these mistakes, we must build more robust and intelligence-driven medical supply chains, on both domestic and international levels. At facilities within health systems, more collaboration between departments produced positive results overall for security and safety. Where it makes sense, this enhanced collaboration should be continued as regular practice. These kinds of efforts also created more security consciousness among all stakeholders, a development we must seize to prepare for the challenges that lay ahead.

GLOBAL TRENDS FOR VIOLENCE IN HEALTHCARE SETTINGS

Exacerbating a long-term trend, violent incidents in healthcare continued to rise after the start of the pandemic. Workplace violence involving patients and visitors increased significantly in traditional and non-traditional healthcare settings. In a large mixed methods study, healthcare workers were about 50% more likely than others to have been harassed, bullied, or hurt due to COVID-19 (Dye et al., 2020). In the United States, physical attacks on healthcare workers were increasing well before the pandemic hit. Injuries caused by workplace violence in healthcare settings increased by 67% between 2011 and 2018 (U.S. Bureau of Labor Statistics, 2020). Healthcare and social service workers in the private sector also had five times the risk of suffering from workplace violence than all other private sector workers (U.S. Bureau of Labor Statistics, 2020). Mirroring global statistics, the pandemic amplified this trend in the United States. (Devi, 2020; Larkin, 2021; Wieffering & Housing, 2021). Between Feb 11, 2020, and July 31, 2020, the International Committee of the Red Cross found 611 attacks related to the pandemic in healthcare settings across 33 countries. This number is likely a massive undercount, as healthcare workplace violence has been consistently underestimated, even before the pandemic (Devi, 2020; Joint Commission on Accreditation of Healthcare Organizations, 2018; Arnetz et al., 2015). Multiple studies show that 60% of incidents go unreported (Larkin, 2021). A strong body of evidence reveals that personnel are least likely to report events that are non-physical in nature or do not result in serious injury (Arnetz et al., 2015). Incidents which cause no, or minimal, bodily harm can serve as a leading indicator for the occurrence of more serious incidents (Arnetz det al., 2015).

Another under-the-surface hazard healthcare workers have faced is the burden of trauma or extreme stress. People who may not have had the resources they needed to manage this stress sometimes turned to unhealthy coping mechanisms (Prasad et al., 2021). Despite these struggles, many people continued to show up to work every day. However, this resilience has taken a toll on individuals and organizations that ripples into the future. Unresolved tension between healthcare workers exacerbated what was already a chaotic environment. Failure to address these trends threatens the health and productivity of workers as well as the environment of care (Gates et al., 2011; Centers for Disease Control and Prevention [CDC], 2002; Lanctot & Guay, 2014).

BUILDING A CULTURE OF VIOLENCE PREVENTION

A randomized controlled study on a violence prevention program in healthcare showed that proactive, unit-wide violence prevention strategies mitigate harmful incidents (Arnetz et al., 2017). At the organization level, stakeholders worked collaboratively to create a standardized process of data collection, interpretation, and dissemination. This data was used by unit supervisors and their teams to devise action plans to reduce violence in their unit. Team leaders also worked with a checklist of evidence-based violence prevention practices. Six months after the program began, the intervention

resulted in significantly lower rates of violent incidents in units that implemented violence reduction strategies. Intervention units experienced violent incidents at less than half the rate of units in the control group (0.48 Incident Rate Ratio). These differences mostly dissipated by 12, 18, and 24 months after this start date. However, well-designed “booster” interventions could translate these gains into sustained success (Arnetz et al., 2017). Studies to date on the effectiveness of reinforcement measures have seen mixed results, and more research is needed to determine the best booster interventions for different workplace contexts. The Arnetz et al. (2017) study demonstrated the importance of a participatory process that fosters buy-in from stakeholders at all levels. Within a structured framework, the flexibility to adapt strategies to the conditions of a particular unit may produce better outcomes (Stephens, 2019).

Many other evidence-based violence prevention programs have been developed (Somani et al., 2021). Not all programs are made equally. The most effective ones utilize a holistic approach that focuses on building a culture of violence prevention and emphasizes de-escalation methods, while teaching physical techniques that minimize harm (Somani et al., 2021). Clinical and non-clinical staff should be taught to recognize warning signs of aggression and be trained to use physical tactics only when necessary (Sawyer, 2020). Leaders are recognizing that a cohesive workplace improves safety, security, quality of care, and productivity. A strong culture based on mutual trust and respect does not simply emerge. It can take years to develop, and it requires all levels of the organization to embrace these values. This change starts at the top, as executives and managers must model these values early and often (Somani et al., 2021). Proactive, group-based educational sessions are more likely to boost self-confidence, social support, and job satisfaction than reactionary “crisis-oriented” meetings (Findler et al., 2007). While some incidents are difficult to avoid, it is more effective to prevent the conditions that contribute to violence than to deal with the downstream events.

During the height of the pandemic, violence prevention trainings moved online. This adaptation, although necessary from an infection control perspective, may have lessened the effectiveness of these trainings. Interviews with security professionals revealed that online violence prevention training does not facilitate the same level of learning for physical safety skills and de-escalation techniques as in-person programs. Moving forward, healthcare organizations should decide how to implement safe training programs without sacrificing effectiveness. This could entail smaller in-person group sessions, immersive virtual reality (VR) experiences, and other innovations (University of Nottingham, 2021; Somani et al; Rizzo et al., 2021). VR systems have demonstrated value for workplace safety trainings. A University of Nottingham (2021) study found that participants trained using VR showed more long-term knowledge retention, greater levels of engagement, and a more positive attitude toward occupational safety than those trained using traditional PowerPoint presentations.

SECURITY FOR REMOTE AND ALTERNATE SITES

For many healthcare organizations, alternate care sites proliferated quickly and remained a fixture during the pandemic. Alternate locations included fairgrounds, empty college dorms, closed prisons, convention centers and empty department stores (U.S. Office of Inspector General, 2020). These sites played a crucial role in providers' ability to more safely administer timely care. Workers at home or other alternate locations encounter some of the same physical threats as those working in traditional healthcare settings, as well unique challenges **(**American Hospital Association [AHA], n.d.). Access control, alarm and surveillance systems can be challenging for a structure that is not designed to be permanent (e.g., large tent or trailer) (Warren, 2021). Nevertheless, these tools can greatly improve a site's safety, especially when it has at least minimal security staffing. Workers can protect each other by knowing the surrounding environment and the average response times for first responders. The law enforcement annual report usually includes this information. Even if a clinic is near a hospital, it may have significantly different security challenges. Each clinic should conduct its own security vulnerability assessment to identify its unique set of needs (Reilly, 2019). However, even a thorough assessment can and probably will evolve as the facility takes shape. Security teams should expect the configuration of the space to change multiple times. Remaining adaptable to these changes will help ensure the security of patients and staff.

To overcome these obstacles, several recommendations should be considered. Those charged with setting up the site should clearly define perimeters to securely manage access into and egress from the site while meeting the clinical and infection-control requirements of the facility (AIPC & UFI, 2020). These and other security considerations should be embedded into every stage of a temporary site, from initial set-up to dismantling (AIPC & UFI, 2020). The COVID-19 pandemic forced organizations to become more flexible and collaborative. Because of the fluid nature of pandemics, maintaining regularly scheduled staff meetings is critical to ensuring both security and clinical operations. These meetings should include any staff who are off-site (AIPC & UFI, 2020).

Embracing some key principles will promote a safe environment for patients and staff. While it is not realistic to run regular drills in a state of emergency, developing and drilling emergency egress plans can save lives in case of a fire, flood, active shooter or other unexpected events. The physical environment should complement these procedures. Site designers should choose a layout for the facility that supports the ability to promptly evacuate, lock down, and shelter in place as needed (Warren, 2021). While patient care and infection control may supersede security concerns during a pandemic, this only makes it more vital for security teams to work with other site leaders from the beginning. Security heads should not hesitate to voice their needs, as others may overlook them amidst the fast-paced conditions.

Active sites such as convention centers require a slightly different set of considerations. If an external security team is brought in, it should work together with any existing

security teams as these personnel are most familiar with the building. Additionally, the project design would ideally be integrated into the established security plan, “indicating a layered approach, which may include zones, control points, circulation routes, and required egress paths” (International Association for Healthcare Security and Safety [IAHSS], 2020a).

COVID-19 AND THE RISE OF TELEHEALTH

Physical distancing measures accelerated the adoption of telemedicine. To slow the spread of the virus and protect patients, providers utilized telemedicine on an unprecedented scale (Jalali et al., 2021). Some of these provider-patient contacts used non-HIPAA compliant, less secure communication technology, opening the door to a slew of privacy and confidentiality concerns. The Office of Civil Rights announced in March 2020 that it would use its discretionary powers to not enforce HIPAA rules on non-compliant telehealth communications. It also advised providers to “notify patients that these third-party applications potentially introduce privacy risks” and to enable all available encryption and privacy modes” (Kay, 2020). This decision allowed many patients to continue receiving care. However, the sudden shift to virtual medicine highlighted how typically secure technology can become vulnerable when providers and patients use it in an unsecure manner. These risks stem not just from unsecure networks or devices, but the surrounding environment (Muthuppalaniappan & Stevenson, 2020). Federal regulations, for example, fail to operationally define public and private space and the Office of Civil Rights notice did not offer guidance on maintaining secure Wi-Fi connections (Kay, 2020). Criminals seized this opportunity, exploiting the increased volume of virtual communication on unsecure devices and networks. Malicious actors targeted end-users with phishing, malware, and other hacking tactics. Cyberattacks on the healthcare sector increased by more than 100% in 2020 (Singleton et al., 2021).

In February and March of 2020, security teams and other departments rapidly adopted a variety of communication technologies. Virtual meeting applications such as Microsoft Teams and Zoom enabled enhanced collaboration between clinical and security practitioners. The technologies allowed staff to spend more time doing their regular work instead of traveling to in-person meetings. Many organizations plan to permanently adopt this innovation, as it creates opportunities for more effective coordination and shared knowledge. At the same time, it is critical that the U.S. adopt a set of regulations for this new era of telecommunication, and providers who wish to use telemedicine should complete training. Organizations should develop clear cybersecurity guidelines and ensure employees possess the competencies to follow these policies (Greene, 2020).

ON-CAMPUS SECURITY

Both novel and renewed physical threats to healthcare settings should provide an impetus for security teams to reexamine their security strategies. Civil unrest, staff

shortages, and workplace violence have increased since the pandemic began (Hollingsworth & Schulte, 2021). To properly address these threats in a prolonged crisis, security must maintain a heightened level of awareness. Sustaining this concentration level for several hours at a time takes a mental and physical toll on security officers. Security teams should avoid especially longs shifts and use strategies that reduce continuous periods of high concentration (e.g., rotating or clustering shifts) (Holden et al., 2021). If members of the security team request longer shifts to receive more off days, team leaders can assess the option of assigning officers duties that demand less vigilance (Holden et al., 2021).

For many healthcare facilities (HCFs), personal protective equipment (PPE) storage and security was a novel challenge. Many health organizations faced major obstacles scaling up purchases and storage of PPE to levels not previously seen. These facilities needed to quickly find new storage space, sometimes in areas not designed for that purpose. This undertaking required an augmented security presence in the form of technology, such as cameras and card readers, and additional security officers. The cases of two healthcare organizations provide valuable insight into some of challenges hospitals faced and the solutions they implemented. COVID-19 forced Toronto's Baycrest Hospital to convert auditoriums and meeting rooms into storage locations (Personal Interview with Martin Green, 2021). Before the pandemic, they had a warehouse in a basement where they stored supplies. However, the influx of new supplies meant they no longer had the capacity to hold all of it. Three of the makeshift storage spaces remain to this day. Virtua Health in New Jersey needed to store a large volume of equipment outside in containers. They quickly had to find a solution for securing all of these valuable supplies. They worked with the security department, which provided officers to guard supplies throughout the day and night (Personal Interview with Bill Christie, 2021). This type of scenario should be covered in an HCF's emergency response plan so that workers can deploy access, audit and inventory control processes when the need arises (IAHSS, 2020b). Departments worked more closely with each other than in the past to ensure security, environment of care, and clinical care objectives were met. Clinical staff also trained security personnel on the proper use of PPE. Security staff, for example, learned what purpose each kind of mask serves, how to get the right fit, and basic safety measures against infection. Officers were also outfitted with "utility belts" to ensure they always had access to key protective equipment (Personal Interview with Marc Sano, 2021).

VISITOR MANAGEMENT

COVID-19 changed visitor management as hospitals have intensified security to mitigate the threat from the virus itself and physical threats from humans. Visitor management had gained increased attention before COVID-19, but the pandemic amplified this focus (Freidenfelds, 2021). During the peaks of the pandemic, many hospitals strictly controlled visitation. Exceptions were sometimes made for critically ill patients. However, hospitals should employ clear criteria for determining which patients have visitors. In times of less restrictive visitation policies, consistent enforcement is also critical. If officers give latitude to some people in terms of visiting hours, for

example, visitors may become agitated or aggressive (Larkin, 2021). Visitor management policies should also adapt to changing transmission and morbidity metrics. Healthcare organizations have tightened and relaxed restrictions based on metrics of community transmission. Although security teams have adjusted to these dynamics, the pandemic prompted unprecedented changes to policies related to visitor management. Toward the beginning of the crisis, hospitals needed more staff at entrances to control the influx of people. Security officers and staff from other departments worked together to carry out health screening. Effective communication was particularly important during this time, as visitor management teams had to be updated regularly on new protocols. In trying to address visitors' responses to these policies, security officers had to interact with them in a new way. One new essential function was managing people's expectations. In trying to pare down the crowd in the waiting area, an officer at a Dublin hospital asked the son of a patient to leave. The officer did not realize the son was there to translate for his father, which confused the father and son. This type of scenario presented an added challenge for security personnel.

HCFs limited not only the number of visitors but their points of access. At Mater hospital in Dublin, points of entry fell from 23 pre-pandemic to three (Personal Interview with Zachary Chambers, 2021). The hospital did not allow children to visit. ED convenience entrances for staff were eliminated or reduced to funnel all people entering the building through manned entrances and properly secured points of ingress. A non-random sample of healthcare security leaders throughout Europe, Asia, and North America reported that 24-hour visitor access has become more difficult to secure in this period of heightened tension (Personal Interviews, 2021). Concurrently, security departments are hindered by continued staffing shortages, a problem exacerbated by the pandemic. A non-random sample of healthcare security leaders in Europe, Asia, and North America interviewed for this whitepaper reported that reducing hours of access has allowed them to protect staff more effectively. HCFs will need to make their own decision about whether resuming around-the-clock access at some point is worth the additional security risks. This decision will depend on the resources available, an evaluation of current violence statistics, and the level of risk determined to be acceptable.

COVID-19 AND AUGMENTED SECURITY MEASURES

Healthcare organizations have utilized a range of safety and security measures during the COVID-19 pandemic. Among the most ubiquitous tools used throughout the world are ID verification, on-the-spot health screening, increased personnel coverage, thermometers, and additional surveillance equipment. Some hospitals installed CCTV or card readers in sensitive areas such as drug storage rooms or entrances from car parks. Most health organizations required people entering the building to answer health screening questions and affirm they do not pose a risk to others at the facility. These questionnaires sometimes coincided with temperature checks, either with thermal cameras and/or handheld thermometers. One lesson the pandemic reinforced is that policies for screening should be clearly delineated and applied consistently, not at the discretion of security officers. An interdepartmental team should communicate regularly to adjust the policies as needed (Freidenfelds, 2021). Hospitals need to decide which

positions will be responsible for health screening. Will it be security staff, nurses, or greeters? Managers should account for any training that personnel may need for tasks outside of their comfort zone (IAHSS, 2020b). To harmonize access control and screening procedures, there should be a direct line of communication between security and the command structure (IAHSS, 2020b).

Telethermographic systems (thermal cameras) for fever checks have become more widespread in HCFs in response to the pandemic. Some security directors purchased this technology without understanding its proper application, operation, and training requirements. Thermal imaging has the potential to aid security teams during pandemics or other emergencies, as well as non-emergency situations. However, HCFs need to carefully consider a number of factors when deciding when and how to use it. Thermal cameras should be used in combination with thermometers because currently available thermal cameras measure surface temperatures, not core body temperatures (Baratta, 2021)**.**

Telethermographic systems can serve effectively as the first layer of temperature measurement when used in combination with devices that consistently and accurately gauge body temperature. The technology can be especially useful for buildings with a shortage of a handheld thermal measurement devices, as long as there is a recognition of its limitations (U.S. FDA, 2020). The cameras capture surface temperatures within a margin of error of 1–3 degrees Fahrenheit. A person's previous environment (i.e., outside, hot room, or car) can influence body temperature. Testing has demonstrated inaccuracy when measuring more than one person simultaneously. Even if it accurately measures temperature, infected individuals who are asymptomatic will not be identified (U.S. FDA, 2021). Additionally, using thermal cameras to screen people entering an area or building is a relatively new phenomenon in the healthcare sector and security personnel will need to participate in training to understand the installation and technological operation of these systems. Healthcare organizations should weigh the costs and benefits of these technologies against alternative methods such as increased staffing, investing in more handheld thermometers, symptom screening and other disease detection approaches. When feasible, managers should take the time to evaluate each tool's effectiveness, staff training requirements, financial cost, and privacy and data protection risks.

PREPARING FOR EMERGENCIES

To prepare for the next threat, healthcare organizations should employ an all-hazards approach to visitor management and aspects of security. (Freidenfelds, 2021; IAHSS, 2020b). Organizations should conduct an All Hazard Risk Vulnerability Assessment (HVA): an objective evaluation of the organization's key risks, the likelihood of each event, and its effects. The HVA factors in how internal and external preparedness measures mitigate these risks. Organizations should incorporate the HVA into business continuity plans to ensure "continuity of care and adequate security support of altered processes and measures" (IAHSS, 2020b). Health systems should consider bringing in a consultant to audit these policies and practices. It is imperative that communicable

disease emergency response plans be informed by a security vulnerability assessment. This assessment should be conducted by an interdisciplinary team including a qualified healthcare security professional as well as leaders in the areas of emergency management, clinical care, infection control, and operations (IAHSS, 2020b). As the COVID-19 pandemic made clear, healthcare security demands a team effort, and so everyone should know the playbook.

SUPPLY CHAIN CHALLENGES

Shortages of PPE and medical supplies exposed the dangers of our existing supply chain systems (U.S. FDA, n.d). In the early weeks of the pandemic, hospitals scrambled to find and restock PPE before it was depleted. Security officers and patient care personnel were forced to reuse masks many times beyond the point of peak effectiveness**.** At some health systems, the supply dwindled to such a degree that personnel drove from building to building just to recover one mask (Personal Interviews, 2021)**.** Health organizations turned to grey market suppliers who charged exorbitant prices and would not verify the quality or condition of the equipment beforehand. This threatened not only the safety and security of staff and patients but the financial health of organizations. Shortfalls extended beyond critical care equipment and PPE to routine materials such as toilet paper.

Further complicating the crisis was the fact that some healthcare organizations had inadequate real-time understanding of their needs, while other organizations, such as non-acute care hospitals, had little experience sourcing PPE on a regular basis, because they do not use it except for emergencies. They lacked the expertise in supply chains and relationships with suppliers. As a result, these entities relied more on government distribution. These hospitals should consider strategies to address this problem in the future. On a healthcare organization level, a system for tracking real-time supply and demand metrics and the transportation of these materials can be a powerful tool. An up-to-date assessment of the national or global supply of various resources is also important to maintain.

There is only so much an organization can do, however, if the broader supply systems are inadequate. Supply shortages exposed the dangers of reliance on the global supply chain for critical resources (PPE, medical materials, equipment, etc.). Governments lacked a comprehensive plan for both domestic and foreign manufacturing sources capable of serving as redundant suppliers so that hospitals “are never put in the position of having to forage for PPE or other critical materials in an emergency” (Handfield et al., 2020). On both domestic and global levels, medical supply chains were not set up to handle the surge in demand. Even a large healthcare organization does not have the purchasing power to induce companies to invest in robust medical supply chains. This is where the capacities of national governments can make a big difference.

Another critical deficiency which contributed to the supply crisis was poorly managed national stockpiles. In the United States, the Strategic National Stockpile (SNS) serves as a buffer against medical supply deficits. Despite warnings following the 2009 H1N1

pandemic that reserves were running low, the SNS did not procure the recommended six to eight weeks of supplies. In February 2020, the SNS dwindled and because expiration dates were not easily accessible, personnel could not restock and distribute supplies in a timely manner. The SNS also lacked strategic sourcing, forecasting, and planning capabilities, including market intelligence. Its effectiveness also suffered from inadequate coordination and communication between supply chain managers at SNS and the clinical and emergency managers at CDC, FEMA, and HHS (Handfield et al., 2020). Furthermore, the relatively small budget of the SNS hampered the ability of personnel to remedy the PPE shortage anticipated the month prior.

Handfield et al. (2020) assert that the U.S. should employ a “commons-based strategy” entailing a “network of repositories, fluid inventories, and analytic monitoring governed by the experts.” Their review of scholarly literature concluded that, rather than simply pouring more funds into outdated systems, supply chain plans should be based on the principles of traceability and transparency, persistence and responsiveness, global independence, and equitable access. A National Academies committee formed in 2015 to advise SNS stakeholders came to seven key conclusions, among which are: 1) Inadequate medical supply chains compromise national health security, 2) The SNS had been successful in executing its original purpose, but the scope of its mission has evolved beyond the capacities of its budget, especially amid slimmer supply chains, 3) Insufficient investment in state and local departments of health have impeded last-mile distribution, and 4) The SNS should develop and maintain capacities to facilitate communication and coordination among supply chain stakeholders.

Governments must reimagine their role in supply chain management. If we hope to prepare for the next emergency, this process should start immediately. Preparedness will require a multi-pronged approach: 1) Building robust supply chains on both global and domestic levels and 2) Strengthening stockpiles to meet modern threats. It is essential to target multiple facets because emergencies manifest in unpredictable ways. The first waves of COVID-19 disrupted supply chains throughout the world. Lockdowns, restricted movement, and other safety measures, combined with soaring demand, resulted in a shortage of essential supplies (Chowdhury et al., 2021). Subsequent surges in just one region or country stalled production of PPE on multiple occasions, because the manufacturing of certain products was concentrated in those areas.

Governments have an abundance of tools they can use to promote robust supply chains. A government can guarantee a certain level of purchases so that companies invest in global medical supply chains (Associated Press, 2020). Creating an international stockpile and policies for contributing and dispensing these supplies would help governments fulfill these agreements, while building resilience in every region. Countries can enhance domestic supply chains through multiple policy angles: 1) In the United States, Congress could pass a law requiring manufacturing companies to have capabilities or plans in place to ramp up production upon invocation of the Defense Production Act., 2) Companies that want tax breaks or certain policies in trade deals could be required to manufacture a specified amount of supplies in the U.S., and 3)

Financial benefits could be provided in exchange for building and maintaining domestic manufacturing facilities. Eliminating loopholes is crucial to the success of this strategy.

Countries should also maintain a buffer against supply shortages. National supply stockpiles and management systems should be strengthened to meet modern threats. In the United States, officials should build a robust SNS system that has the resources to carry out proper supply chain intelligence and development. Maintaining a well-defined, substantial national stockpile of medical, emergency, and other key supplies helps protect national and healthcare security. The U.S. can strengthen its SNS by **e**nhancing strategic sourcing, forecasting, and planning capabilities, including real-time market intelligence. The country must also improve collaboration between supply chain managers at SNS and the clinical and emergency managers at CDC, FEMA, and HHS (Handfield et al., 2020). Organizations should take proactive steps to create resilience and geographic diversity in their supply chains. Building flexible redundancy into all tiers of the supply chain mitigates the risk of bottlenecks. Companies should invest in real-time intelligence and adaptive responses for inventory, capacity, and shipments (Ivanov & Das, 2020).

CREATING A MORE SECURE HEALTHCARE SYSTEM FOR ALL

Some security measures implemented during COVID-19 will likely persist, either continuously or intermittently, for the foreseeable future. While it is too early to tell which practices will prevail, learning from our response to the COVID-19 pandemic allows us to prepare for the next emergency (Handfield et al., 2020; Haig et al., 2020). At the same time, security professionals face a more violent and unstable world, and they should be supported by appropriate policies. As discussed in this paper, there are many lessons leaders in the public and private sectors can glean to inform decision-making. This pandemic, however, has brought one underlying theme to the forefront of healthcare security. Preparedness is not a static resource that can be tapped at the onset of a crisis. It requires a commitment from key stakeholders to maintain a culture of security consciousness. An all-hazards approach is an essential part of putting this mindset into practice. Organizations that also invest in proactive violence prevention programs and social support systems tend to fare better when dealing with stressful events. Hospitals should develop evidence-based security policies and enforce these rules consistently, even under extreme conditions. New technologies have the potential to support these efforts, but organizations should take the time to determine which tools fit their needs and capacities. Resilient supply chains are becoming increasingly vital as global threats emerge. We cannot know what form the next emergency will take. However, building a strong security framework from the organizational level to the global level would empower us to confront any challenge that comes our way.

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Benjamin Topiel is a Master of Public Health student at Temple University with a focus on health policy and management. After graduating from George Washington University with a B.A. degree in Geography, Benjamin completed a graduate certificate program in Sustainability Management and Policy from Pennsylvania State University. His academic and professional research has focused on understanding the connections between environmental challenges and other determinants of health. He currently serves as a Sustainability Consultant in the private sector as a member of T.H.E.M.'s Sustainability Task Force. His most recent professional experience includes a safety and security internship at Virtua Health. In addition, he served in policy and communications positions at the Environmental and Energy Study Institute and the American Clean Power Association.

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