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# Active shooter in emergency departments in Guanajuato State, Mexico

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## ABSTRACT

Mass violence events, especially in healthcare settings, have devastating consequences and long-lasting effects on the victims and the community. The rate of violent events in Mexico, especially in hospital settings, has increased since 2006, but has become more evident in 2018. Guanajuato State, located in central Mexico, is among the states most affected by the wave of violence, especially active shooter events. The year 2019 had the highest number of incidents. Therefore, the Silver Code and the components of Safe Hospitals, in accordance with the Hartford consensus and PAHO guidelines, were implemented in the hospitals of the Institute of Public Health of the State of Guanajuato, with a focus on the actions of healthcare personnel to prevent collateral damage. Although subsequently there were still fatalities and injuries in the events involving active shooters in the hospitals, there were no casualties among healthcare personnel, according to data from the Institute of Public Health, Guanajuato State. This paper presents information from the data from General Directorate of Epidemiology to describe the hospital mass violence situation in the State of Guanajuato, Mexico and recounts the step taken to effectively manage and prevent these situations moving forward. Specific recommendations based on international consensus and our experience provided include increasing the level of security checks for people entering the hospital premises, training healthcare personnel on violence-related preparedness and improving management of active shooter events consistent with published evidence, to reduce the possibility of casualties.

## INTRODUCTION

Mass violence events, especially in healthcare settings, have devastating consequences and long-lasting effects for the victims and the community. Such events are rare, difficult to predict and require rapid adaptation and recovery after occurrence.<sup>1</sup> Mass violence events, which are designed to kill or injure as many people as possible, are a global problem, but especially problematic in Mexico. The increase in the levels of violence in Mexico over the past two decades has been directly linked to criminal activities associated with drug trafficking and organised crime<sup>2</sup> with a notable increase in events involving the use of firearms,<sup>3</sup> specifically used for executions. While the events involving an active shooter in hospitals in Mexico are not frequent,

Guanajuato State located in Central Mexico is an exception with high rates of mass violence in the hospitals reported in the past few years.

An active shooter threat occurs when a person or persons enter facilities with a firearm, with the risk of injuring the working personnel, patients, family members or hospital visitors.<sup>1,3</sup> Most active shooter incidents last <20 min, with 50% of cases ending within 5 min of the first shot or the first harmed person. The primary objectives of the response to an active shooter event are to prevent or reduce loss of life, to limit further access by an attacker to potential victims and to prevent harm to medical personnel.<sup>1</sup>

Reports of an active shooter in the workplace are reported every week in the USA.<sup>4</sup> In the USA, events involving an active shooter in hospitals have increased in the past two decades, mainly in EDs or outpatient clinics.<sup>4</sup> From 2000 to 2011, there were 154 hospital-related shootings in the USA, and since 2010 an additional 7 events have occurred.<sup>5</sup> According to the Federal Bureau of Investigation, in 2019, there were 28 active shooter events in hospitals in the USA.<sup>5</sup>

According to the open report of criminal incidents of the Executive Secretariat of the National System of Public Security, as of June 2023, the State of Guanajuato of Mexico is one of the epicentres where homicides were committed. According to the Epidemiological Surveillance System of Mexico, since 2018, over 3000 annual events involving firearms or sharps have been reported in Guanajuato State. Of these reported events, 18 involved active shooters in hospitals, mainly in the ED.<sup>6</sup>

In this paper, we evaluate the data from General Directorate of Epidemiology, describe the active shooter events in Guanajuato State public hospitals, steps taken to prevent casualties and build resilience and suggest steps for healthcare systems to prepare for and respond to these events.

## GUANAJUATO STATE HEALTHCARE SYSTEM

The state of Guanajuato has a consolidated and efficient health system that guarantees access to free and quality services through 16 integrated networks and >20 specialised networks. These networks include the Emergency Care Network to detect, treat and follow-up on any clinical condition that involves risk of death or disability. There are emergency services available in 46 health units, which



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**Table 1** Description of active shooter situations, their outcomes and the locations where they occurred, spanning from 2018 to 2023

Number	Year	Alarm situation	Outcome of active shooter situation	Location of hospital facility
19	2023	Entry of a person with a firearm	Chasing in a hospital facility	Exterior and ED
18	2023	Entry of people with firearms	Kidnapping of the patient with a gunshot wound	ED
17	2022	Entry of people with firearms	Kidnapping of patient	ED
16	2021	Entry of people with firearms	Killed at the scene, previously hospitalised for a gunshot wound	Waiting department
15	2020	Entry of people with firearms	Kidnapping of poly injured patient	ED
14	2020	Entry of people with firearms	Chasing in hospital facility	Manoeuvring yard
13	2019	Entry of people with firearms	Kidnapping of hospitalised patient with a gunshot wound	ED
12	2019	Entry of people with firearms	Killed at the scene with previous admission due to injuries	ED
11	2019	Entry of people with firearms	Kidnapping of four patients with gunshot wounds	ED
10	2019	Entry of people with firearms	Killed relative of a patient at the scene*	Exterior ED
9	2019	Entry of people with firearms	Killed at the scene and one injured	Exterior ED
8	2019	Entry of people with firearms	Killed at the scene hospitalised due to gunshot wound	ED
7	2019	Entry of people with firearms	Kidnapping of patient	Waiting department
6	2019	Entry of person with firearm	Patient killed previously admitted due to injuries	ED
5	2018	Bomb threat	Bomb threat	Hospital facility
4	2018	Entry of people with firearms	Kidnapping of patient with a gunshot wound	ED
3	2018	Entry of people with firearms	Kidnapping of patient with a gunshot wound	ED
2	2018	Entry of people with firearms	Killed at scene, hospitalised for gunshot wound	ED
1	2018	Entry of people with firearms	Killed at the scene, the patient with gunshot wounds and the patient's guardian*	ED

Source: Data from General Directorate of Epidemiology, Epidemiology Surveillance System.

\*Collateral victims.

provide the service 24 hours a day, 365 days a year. Guanajuato general health system has 632 medical units of which 42 are hospitals, distributed in the 46 municipalities, to provide attention to >3 million people with primary healthcare services.

The Institute of Public Health from Guanajuato State (IPHGS) provides multiple services, including transfusion medicine, state laboratory of public health, emergency care, maternal children, code heart, organ procurement and transplantation and palliative care. Due to these actions, it is recognised nationwide as the best health system in Mexico. The IPHGS personnel is trained in medical and emergency care protocols for ED physicians, including the American College of Surgeons' ATLS course and other ALS courses. Additionally, training includes resources for providing emergency mental healthcare, such as mental health first aid, support groups and referrals.

### VIOLENCE IN GUANAJUATO STATE PUBLIC HOSPITALS

In Guanajuato State, violent acts have increased rapidly over the last decade. However, since 2018, violent incidents have begun to occur in hospitals, particularly in EDs, prompting the General Directorate of Health Services (GDHS) at IPHGS to initiate the implementation of the Silver Code. This involved conducting training sessions for healthcare personnel in preparation for active shooter events. The events in the EDs mostly involved attacks on individuals who had previously been injured and were present as patients. Their assailant enters the hospital either to kill the targeted individuals within the hospital facility or take them out of the hospital for execution elsewhere. Typically, the assailant does not intend to kill other individuals, although there is always the possibility of collateral victims, such as companions of the hospital service users or healthcare personnel.

Table 1 shows the events with active shooters in the IPHGS hospital facilities from 2018 to 2023. Of them, 18 involved firearms, and 1 was a bomb threat. Eight events involved kidnapping, affecting 11 persons. Fatalities involved eight executions in the EDs, two chasings and one involved the murder of a patient's relative.

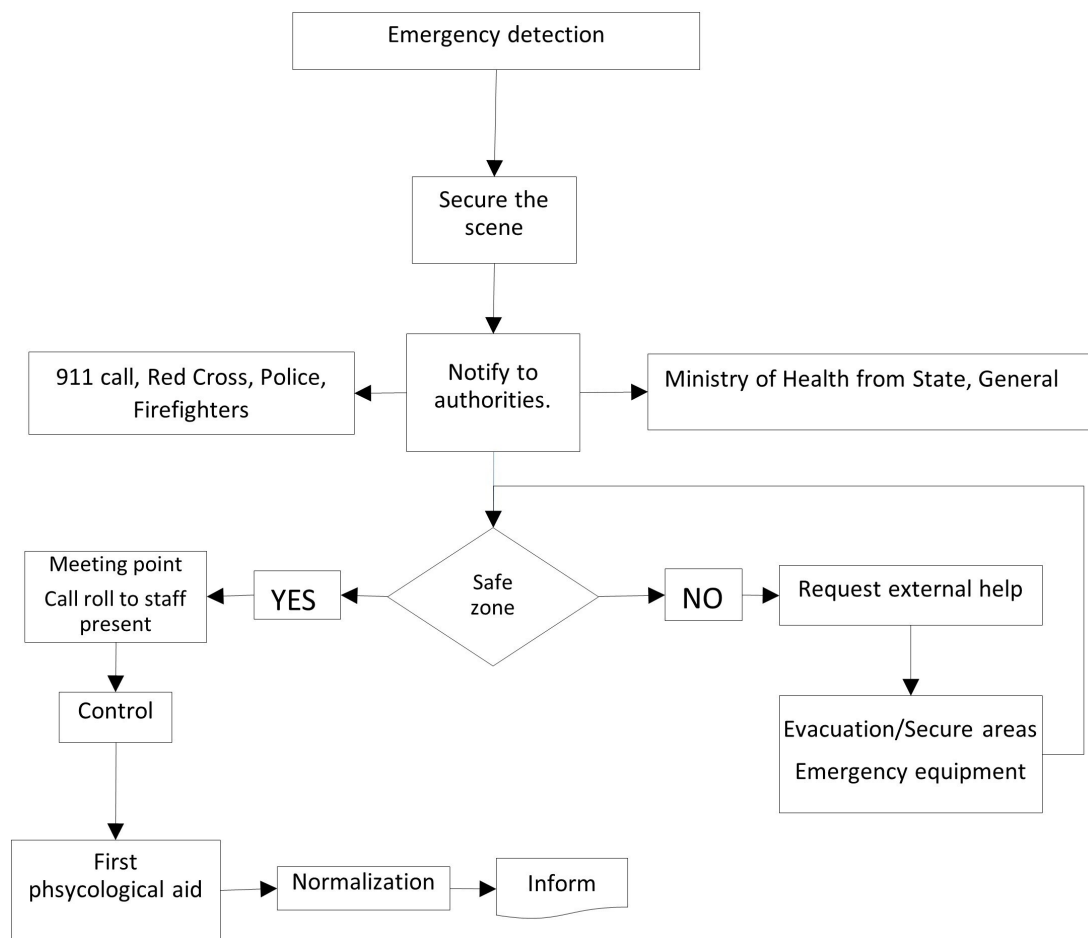
### RESOURCES FOR PREVENTING AND RESPONDING TO ACTIVE SHOOTER EVENTS: STEPS IMPLEMENTED

Hospitals represent an essential component of the Mexican national infrastructure and must be prepared to prevent, respond to and maintain operations after acts of violence.<sup>1</sup> The main problem with preventing active shooter events in health institutions is that hospitals are crowded and have multiple entries and exits available, which makes planning difficult in case of an active shooter situation.

In 2017, the National Health Council of Mexico proposed hospital security codes used globally to alert staff and responding agencies to several emergencies and convey essential information quickly and clearly. Guanajuato adopted the Silver Code (weapon or hostage situation), which includes measures for preparation/prevention, management and recovery of events in hospital settings, and implemented all measures from the Silver Code.

The Hartford consensus is a set of recommendations to improve survival from an active shooter event. This strategy trains people to react to an active shooting, offering communities a mechanism to minimise loss of life in these incidents. According to the Hartford consensus, everyone who responds to an event should be prepared to handle the emergency. The first action is to safeguard the personnel. This strategy consists of reacting to an active shooting by leaving the area if possible, hiding if the exit is not feasible and, finally, fighting if confronted by a person with a weapon.<sup>7</sup> In hospitals from Guanajuato State, all personnel received training on how to react in case of active shooter events.

The Silver Code is an acting protocol in case of an active shooter event situation that is consistent with the Hartford consensus. It recommends running and escaping the threat, hiding and fighting with the aggressor as a measure of last resort. It aims to respond consistently and systematically to possible threats in a way that is consistent with evidence-based recommendations. The intent is to protect the physical integrity of the people in the place, to notify the authorities, to reactivate the provision of



**Figure 1** Silver Code flow chart. Source: Institute of Public Health from Guanajuato State.

health services as soon as the area is safe and to provide psychological support to the personnel involved (figure 1).<sup>17</sup>

Hospital training can help staff create an action plan in case of an active shooter event and improve the chances of survival in the event of an actual active shooter situation. The Guanajuato State has focused on emergency and disaster risk management, including response plans that could apply to multiple hazards to address violent events inside hospitals. Acts of violence also require specific prevention, preparedness, response and recovery measures<sup>8</sup> that may be specific to active shooter situations, based on the Hartford consensus.<sup>7</sup> The objective of the recommendations of the Hartford consensus is to safeguard personnel.

The GDHS integrated teams in each of the 42 hospitals. Each team comprised the director, the Chief of Emergency, the Chief of Nursing, Heads of Services and supervisors assigned to various shifts to implement the protocols of the Silver Code (figure 1), forming a team with the municipal and state police, with firefighters and municipal and state civil protection, in addition to the State Prosecutor's Office.

The GDHS trained the teams to identify risks associated with an event, with staff emphasising adherence to the Silver Code protocol, including notifying both the authorities and emergency services, as well as the IPHGS authorities. If the area was not secure, the evacuation would be directed to safer ones. If the area was safe, people would meet at a specific point. Subsequently, psychological support would be provided to manage feelings of anguish, anxiety and fear (figure 1).

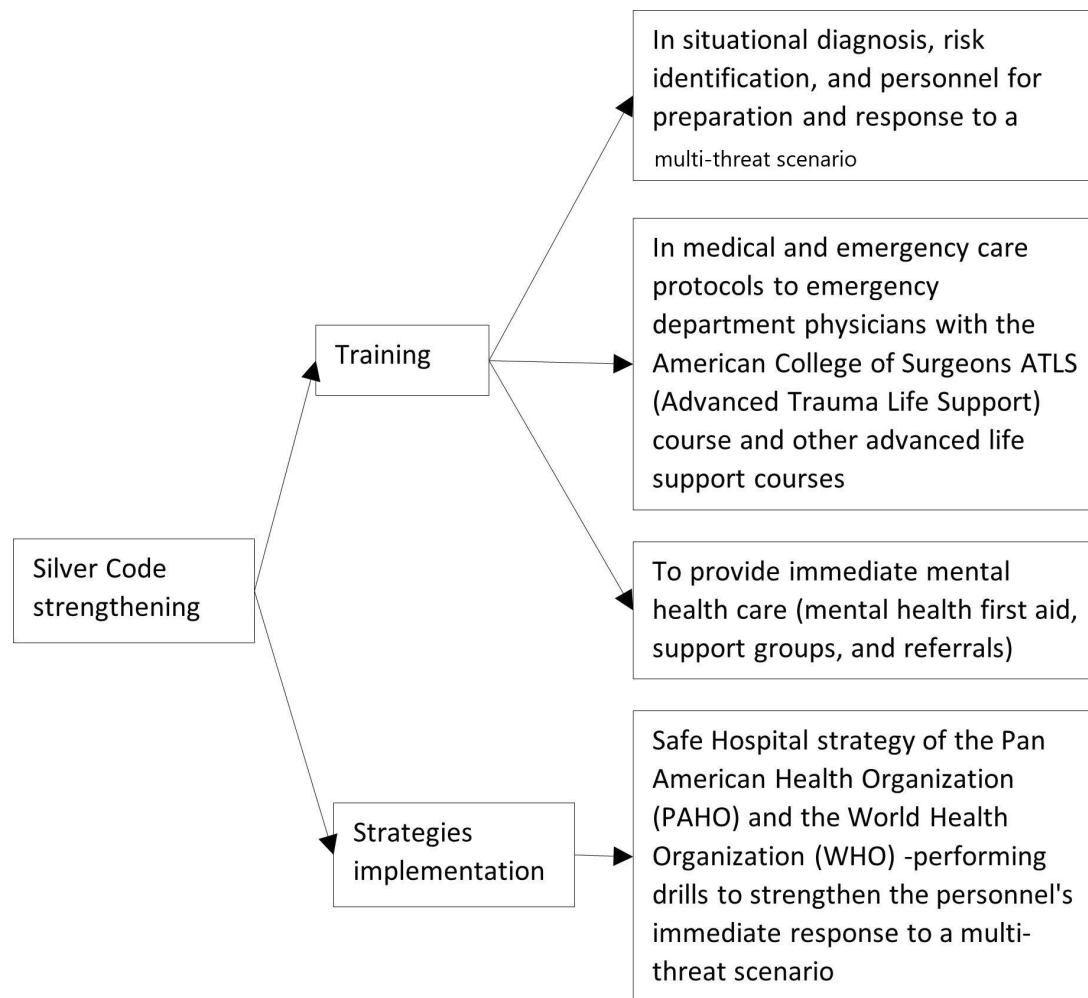
At the same time, additional measures have been implemented, recommended by the Civil Protection authorities, based on the Hartford consensus:

- ▶ Implement and sustain security checks for people entering the hospital premises.
- ▶ Train the healthcare personnel on violence-related preparedness.
- ▶ Improve management of active shooter events consistent with published evidence, to reduce the possibility of casualties.

The first step was to implement security checkpoints at the hospitals. It included the installation of metal detectors and visit restrictions policies. Each year, the number of security guards at access points to hospitals increased based on facilities' needs.

The second step involved training (figure 2) healthcare personnel in medical and emergency care protocols, using resources such as the American College of Surgeons' ATLS course and other ALS courses. Training was also conducted on how to provide mental health support and care. Moreover, following recommendations from the Hartford consensus, all personnel were trained in the following actions: leaving the area; hiding and ultimately fighting against the aggressor.

Since 2017, all hospital personnel in the services networks, mainly those in EDs, have been trained in preparation, response and recovery. The State Medical Emergency Regulatory Center, the prehospital personnel of the Guanajuato State Emergency System and other agencies that provide prehospital services in



**Figure 2** Actions to strengthen the Silver Code. Source: Institute of Public Health from Guanajuato State.

the state (Red Cross, firefighters and civil protection) were integrated into the training.

In the area of mental health, training is available to offer immediate mental healthcare through strategies such as mental health first aid, support groups and appropriate referrals to mental healthcare personnel.<sup>7</sup>

Since 2018, the Silver Code protocol has been activated in every shooter event. This has led to the provision of emergency medical services with a humanitarian approach, adhering to the current legal and regulatory framework and importantly, without any healthcare personnel injured in acts of violence.

By the end of 2023, the IPHGS achieved success in preventing active shooter events. From 2018 to 2023, the incidents involving firearm at IPHGS hospital facilities resulted in no injuries or deaths among the healthcare personnel of the institutions within the hospitals under IPHGS in Guanajuato State.

### RECOMMENDATIONS

These procedures were derived from recommendations from the Hartford consensus and implemented in hospitals throughout Guanajuato State, and these were further improved with additional security personnel stationed at access points within the hospitals.

To better prepare for active shooter incidents, it is recommended hospitals develop and implement a preparedness plan and update it yearly. In addition, it is important to implement

a zero-tolerance policy for any workplace violence and provide an avenue for reporting threatening behaviour. Also, preventive measures such as metal detectors, visit restrictions and background checks for any person entering medical facilities can be implemented as a way to reduce the probability of active shooter events in hospital facilities.

For the aftermath of an active shooter event, it is recommended to establish a recovery policy that includes a transition plan to resume normal operations after the event, while an investigation is ongoing. In addition, it is crucial to provide immediate and ongoing emotional support programmes for the personnel involved.

It is necessary to continue with preventive actions and strengthen them through comprehensive and well-coordinated developments of interinstitutional capacity. Multidisciplinary communication with a focus on human rights and violence prevention is also important. We recommend following and improving/updating when necessary, the established legal and regulatory framework for healthcare, with an ultimate aim of reducing the mortality and the economic costs generated by violent events.

Annually, the recommendations of the Silver Code and Hartford consensus are reviewed and updated according to the situations in the hospitals throughout Guanajuato State.

Building resilience and implementing preventive activities to manage active shooter events is crucial for healthcare systems

and community planning activities to prevent casualties, mainly in the EDs.

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