

# Abstracts of Oral Presentations-WADEM Congress on Disaster and Emergency Medicine 2019

## COUNTER TERRORISM

### Chemical Warfare Agent Terrorist Attacks in Latin America and the Caribbean Region (CWA-LAC)

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**Introduction:** In the past five decades, the region of Latin America and the Caribbean (LAC) has been subject to several types of terrorist attacks, with most committed by local terrorist organizations. However, there have also been attacks by international terrorist groups. Internationally, terrorist attacks are increasing in both frequency and complexity. Significant concerns exist regarding the use of Chemical Warfare Agents (CWAs) in civilian settings. Asphyxiants (e.g. cyanide), opioids (e.g. fentanyl), and nerve agents (e.g. sarin) represent some of the most lethal CWAs. To date, there is very little published data on their use in the LAC region despite the fact that the recent attacks in Syria have sparked international interest in the use and regulation of CWAs.

**Aim:** To improve civilian health service preparedness in response to CWAs attacks by describing the types of agents historically used within the LAC region.

**Methods:** Information was extracted and analyzed from the open-source Global Terrorist Database hosted by the University of Maryland, regarding CWA-LAC from January 1, 1970, to December 31, 2017.

**Results:** During the forty-seven year period reviewed, there were 29,846 terrorist attacks in the LAC region, with 63.6% occurring in the southern region. Twenty-nine CWA attacks were reported, with the most common agents being tear gas (37%) and cyanide (29.6%). The most frequent targets were religious figures/institutions (22.2%), law enforcement (18.5%), and government agencies/personnel (18.5%).

**Discussion:** Cyanide is one of the most prevalent agents used for chemical weapons attacks in the LAC region. Preparedness should be enhanced for CWA terrorist attacks, especially those involving cyanide, given its life-threatening nature, prevalence, and the existence of reversal agents. First responders, physicians, and nurses should be aware of this potential hazard and be trained to respond appropriately. Additionally, regional stockpiles of antidotes should be considered by governmental bodies within the LAC region.

*Prehosp. Disaster Med.* 2019;34(Suppl. 1):s13

doi:10.1017/S1049023X19000451

### A National Model for Tactical Emergency Medical Support in Finland

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**Introduction:** Tactical Emergency Medical Response (TEMS) originated in the 1990s in Finland. It is a nationally standardized joint-effort with EMS and police special units, such as SWAT.

**Aim:** To describe a national system of TEMS in Finland.

**Methods:** In Finland, TEMS is a national response system of specially trained paramedics and pre-hospital doctors, working normally in HEMS or a local physician staffed rapid response car. There is a two-tier selection to get accepted in the basic course. The police run background checks for all participants before they are accepted to the course. The course itself is four days and it covers the basics of police tactics, protective gear, penetrating wounds, evacuation, etc. After graduating from the basic course, the paramedic/doctor is qualified to participate in missions. Although healthcare professionals are involved, a TEMS mission is under the police command and is used as one of the police's special teams to operate in areas where normal EMS cannot be allowed for safety reasons. TEMS does not carry any weapons. The Police provide the teams with the same protective equipment that the SWAT/CTU has. After some years, there is a three-day refresher course for active TEMS service. In this course, the main training points are working in austere environments, such as helicopters, boats, and in urban environments wearing civilian clothing. Police pay for the usage of TEMS in missions, but they do not pay for training days.

**Results:** TEMS has good national coverage. In 2017, there were 131 TEMS activations. The normal response to a mission is a team of one or two TEMS operators.

**Discussion:** TEMS has achieved good national coverage and is deployed often. TEMS has also channeled information and training, such as TECC, to normal EMS personnel and raised their preparedness as well.

*Prehosp. Disaster Med.* 2019;34(Suppl. 1):s13

doi:10.1017/S1049023X19000463