

## The Evolving Role of Dental Responders on Interprofessional Emergency Response Teams

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## **KEYWORDS**

- Disaster response Disaster medicine Interprofessional relations Pandemics
- Dentist emergency responders Mass vaccination
- Pandemic and All Hazards Preparedness Reauthorization Act Emergency medicine

## **KEY POINTS**

- Oral health care professionals can serve as responders and should be actively involved in all stages of disaster and pandemic planning within their local communities.
- Through emerging state and federal laws, dental responders can legally provide triage, immunization/vaccination, and infrastructure support during declared pandemics and disasters.
- Dentists can serve a critical role as triage coordinators and "medic" members of tactical emergency medical support and forensic investigative teams.

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- The dental profession needs to continue to advocate for dentists and hygienists to be included as key members of the response team.
- Oral health care providers must be paramount in educating their medical colleagues on the importance of dental skills in catastrophic events and pandemic response.

#### INTRODUCTION

The number of natural, pandemic, man-made (anthropogenic), and terrorism-related events are increasing worldwide. These events are multifactorial, but are heavily influenced by increased population growth, increasing urbanization of populations, and global climate disruptions and their influence on societal well-being.<sup>1,2</sup> Because economic and health consequences impact climate-related events, deleterious events to humanity are only expected to increase in the future,<sup>3</sup> and significant international health concerns can arise from these events. Examples of recent events include Hurricane Katrina (2005), the Joplin, Missouri, tornado (2011), Hurricane Sandy (2012), the Ebola virus outbreak (2014), and the Zika virus outbreak (2015).

During Hurricane Katrina, 11 hospitals and numerous dental offices in New Orleans, LA, were flooded.<sup>4</sup> In Mississippi, the storm damaged another 14 hospitals and 3 federal medical facilities and caused partial or complete damage to more than 60% of dental practices in the affected counties.<sup>4</sup> The storm affected dentists on a personal level as well; a reported 44 dentists in Mississippi lost their homes as a result of the hurricane.<sup>5</sup> As such, these problems can be magnified when dental and medical personnel and facilities are situated in the area of the disaster.

Although disasters and pandemics are becoming more prominent in recent years, the concept of using medics and disaster response teams to respond to military and large-scale disaster events can be traced back to the early Greeks and the Roman legions.<sup>6</sup> This is not surprising; first responder duties have always had a strong association with military conflicts and disasters. During the Middle Ages, the Order of St. John of Jerusalem (later known as the Order of Malta International) was created and charged with providing military defense of the sick and security of medical centers and main roads,<sup>7</sup> and later filled a crucial medical role during the Crusades in Europe.<sup>8</sup> This set the foundation for modern traumatology and a military system of prehospital emergency medical services based on the triage and transport of casualties; the creation of this modern system is widely credited to Baron Dominique Jean Larrey (1766–1842).<sup>6</sup> This example of military medic duties from the 18th century, along with the continuous efforts of the various Catholic Orders providing medical and first responder care, continues to this day and serves as a model for the emergence of modern first responder entities such as the American Red Cross<sup>9</sup> and the worldwide civilian emergency medical technician and paramedic response systems.<sup>10</sup> This article reviews the history of first responders, their roles and important legislation as it relates to dental responders-specifically the role of dentists on an interprofessional response team, and with a particular focus on dentists providing immunizations.

# ETYMOLOGY OF "RESPONDERS" AND EVOLUTION OF INTERPROFESSIONAL RESPONSE TEAMS

Today the term "emergency response providers" is legally defined in Section 2 of the US Homeland Security Act of 2002.<sup>11</sup> This act defines the term as inclusive of

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