



## Odontology Section - 2016

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### **G47 New Mexico Office of the Medical Investigator: Overview, Dental Identification Statistical Data, and Mass Fatality Incident Plan**

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After attending this presentation, attendees will: (1) be familiar with the Office of the Medical Investigator in New Mexico; (2) be shown a comparison of the statistical data of the dental identification cases in the state of New Mexico; and, (3) understand the dental identification aspect of the New Mexico Mass Fatality Incident Plan with an example of a small mass fatality that happened in 2014.

This presentation will impact the forensic science community by providing an increased understanding of the New Mexico dental forensic system and data, and the importance of having a mass fatality plan in place.

Medical examiner reports are an important and rich source of data for epidemiological research. The New Mexico Office of the Medical Investigator (OMI) was created by the New Mexico State Legislature in 1972 and became operational in 1973. The OMI replaced the county coroner system, and is the statewide, centralized medical examiner agency for investigating any death occurring in New Mexico that is sudden, violent, untimely, unexpected, or when a person is found dead and the cause of death is unknown. Each year, the OMI investigates approximately one-third of all deaths in New Mexico (2014 state population of 2,085,572), and all scientific procedures are performed at a centralized state-of-the-art forensic facility in Albuquerque, NM. The scientific services of the OMI include medicolegal death investigation, forensic autopsy, hospital and consult autopsy, expert witness testimony, forensic pathology consultation, forensic anthropology, forensic epidemiology, forensic odontology, and forensic radiology. It is the only medical examiner in the United States equipped with X-ray, Computed Tomography (CT), and Magnetic Resonance Imaging (MRI) scanners. The OMI also provides consulting services for requesting agencies since it does not have jurisdiction over certain federal areas in the state (military and tribal). The OMI has maintained electronic records of death investigations, autopsies, and dental forensic data since 1975; frequently, this information is very useful for epidemiological studies. The OMI is designated as a special program within the Department of Pathology at the University of New Mexico (UNM), School of Medicine; the program operates out of the OMI Central Office located near the UNM Health Sciences Center in Albuquerque.

In 2013, New Mexico had 5,577 deaths that met the criteria to become a reportable death. The OMI provided investigative services for each of these deaths. In 2014, the forensic odontology service completed 159 postmortem dental examinations on unidentified persons. Each year, the OMI processes 150 to 200 cases in which the remains are initially unidentified; 98% of those cases are eventually successfully identified through fingerprint, dental, anthropologic, radiographic, or DNA comparisons.

The forensic odontology service of the OMI uses WinID and DEXIS™ software. The WinID software stores data in a Microsoft® Access® database, which is helpful for statistical data studies. The WinID OMI database contains more than 1,200 postmortem entries from 2006 to 2015. Using this database, it is possible to analyze and compare the following parameters: year that the body was found, gender, race, postmortem condition, and dental information. There are still 89 active postmortem cases out of 1,200 postmortem dental records, reflecting the importance of odontological methods as a valid and reliable personal identification procedure. The statistical data of the 1,200 cases will be discussed during the presentation.

After several mass fatality incidents including the Oklahoma City bombing, the September 11 terrorist attacks, Hurricane Katrina, and the Joplin, MO, tornado, the use of dental records for human identification has become increasingly important. The 2012 New Mexico Mass Fatality Incident Plan provides detailed protocols and Standard Operating Procedures (SOPs) for processing and examination of postmortem dental evidence and comparing this evidence with antemortem dental and medical records.

In this presentation, a mass fatality incident will be discussed that occurred on 05/26/2014 in New Mexico and included 13 victims, 11 of whom were burned and two of whom were in an advanced stage of decomposition. This event will be presented to validate the necessity of having a mass fatality incident plan in place.

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#### **Forensic Odontology, Dental Identification, Mass Fatality Incident**