## A191  Reliable, Accessible Dental Database Coding and Quality Assurance

*Warren D. Tewes, DDS\*, 108 Bakers Lane, Queenstown, MD 21658- 1101; Richard M. Scanlon, DMD, 27 Sandy Lane, #206, Lewistown, PA 17044-1320; Peter W. Loomis, DDS, 700 Ranchitos Road Northwest, Los Ranchos de Albuquerque, NM 87114; Stephanie Kavanaugh, DMD, 2731 Fairview Avenue East #4, Seattle, WA 98102; and John E. Filippi, DDS, 1325 North 127th Avenue, Omaha, NE 68154*

After attending this presentation, attendees will understand some principles of flawed dental database coding, comparisons and exclusions for missing (MP) and unidentified persons (UP) and how they can be made reliable via access to volunteer forensic odontologists, trained in the use of the NCIC and NamUs systems.

This presentation will impact the forensic science community by stressing the importance of using forensic odontologists trained in NCIC and NamUs dental coding to compare missing persons' and unidentified persons' dental records, x-rays, and data for medical examiners/coroners and law enforcement investigators across the country.

Logically, only subject matter experts would collect/process/interpret/etc information/evidence germane to their training and experience. Counter intuitively and since the inception of the Missing/Wanted Persons and Unidentified Persons files of NCIC (and more recently NamUs), much of the dental data is not being coded and entered by odontology subject matter experts. Instead, some law enforcement, medicolegal death investigators, missing persons clearing house personnel and non-forensic "family" dentists who willingly volunteer for their local community, and for the "novelty" of the event, interpret forensic odontology evidence. Therefore, it should be expected that the foundation of missing and unidentified persons' dental data is frequently flawed with a wide range of misinterpretations.

Realistically, odontologists do not expect this non-forensic dental coding/data entry situation to change unless there is an interdisciplinary effort to share methods and pathways of improving the accuracy and precision of evidence development, as well as the collection and interpretation of the dental data.

Criminalists may not be aware of trained, volunteer forensic odontologists networked in local communities across the country. It is the authors' objective through this presentation to advise a large segment of the criminalists about these vetted odontology subject matter experts' availability to assist collection, processing, and interpretation of dental evidence, pivotal to identification at the outset of criminal investigation and ultimately in judicial proceedings.

The woven complexities of dental coding and comparison, with flaws and error rate as well as human fallibility are examined with

remedies for each. Standards of reliable, forensic best practices, quality assurance as second opinions, and patient care are examined for relevancy and to address the National Academy of Science Report recommendation for medicolegal death investigation.

Examples of forensic odontology technique, translation, interpretation, imaging, and second opinion within the discipline will be demonstrated. This will heighten the attendees' appreciation of forensic odontology services in medicolegal death investigation.

Missing and unidentified persons' investigators, with their knowledge of any given case, are most likely the first to inquire and perhaps find dental information. The next step is critical to the coding of sound dental evidence, for case resolution, and subsequent man-hours invested into case development. Odontologists and the community of auxiliary personnel recognize the need for interdisciplinary team building. Trained and vetted forensic odontologists' resources, where all outcomes have quality assurance reviews, are available to the criminalists within their states at no cost. This presentation seeks to inform criminalists of these techniques/services and ease the odontology burden from the criminalist, enabling them to re-focus their experienced analysis on other elements of the case and also receive quality dental data delivered into case development.

During the conclusion, two access pathways will be presented for law enforcement, medical examiner/coroner personnel, and medicolegal death investigators to elevate the accuracy and precision of missing and unidentified persons' dental databases by seeking trained, volunteer, dental x-ray and records interpretation, and coding within their state and adjacent states, by email to these resources:

- FBI/CJIS/NCIC:    NDIR@leo.gov        Subject box:    Dental coding/comparison needed

- NamUs: namus.02@findthemissing.org Subject box: Dental coding/comparison needed
**Dental Identification, Quality Assurance, Best Practices**