E80 Motor Vehicle Crash or Auto-Pedestrian: Are Stranded Motorists (SM) Left "Stranded"?

Stacy A. Drake, PhD, MPH, The University of Texas Health Science Center, 6901 Bertner Avenue, #748, Houston, TX 77030; and Dwayne A. Wolf, MD, PhD, Harris County ME, JAJ Forensic Center, 1885 Old Spanish Trail, Houston, TX 77054*

After attending this presentation, attendees will differentiate between motor vehicle crashes, auto-pedestrian fatalities, and SM deaths. Attendees will understand the need to differentiate the SM death from other categories of vehicular fatalities and will identify one method for documenting SM deaths for purposes of data abstraction.

This presentation will impact the forensic science community by serving as an example of how medicolegal death investigation agencies can aid in better categorizing trauma deaths for purposes of stratification of injury data, with the long-range goal of injury prevention in their communities.

Every day thousands of people travel the freeways and hundreds of these become stranded. Regular highway travelers will encounter a stranded motorist or become a stranded motorist. Non-intentional injuries are a leading cause of death. Categories of non-intentional injuries tracked by the Centers for Disease Control and Prevention (CDC) include motor vehicle crashes, auto-pedestrian fatalities, and water incidents.[1] Current literature identifies risk factors and prevention strategies for motor vehicle crashes and vulnerable road users including pedestrians; however, scant literature provides risk factors or prevention strategies for the SM or those coming upon the SM.[2-6]

To fill this gap, a pilot case series was conducted.[7] SMs are defined as any occupant of a vehicle that is stopped in or on the side of a public road. Forty-six SM deaths in Harris County, TX, were identified between 2004 and 2014. Of those deaths, 74% occurred while outside the vehicle. The majority of motorists became stranded due to mechanical problems with the vehicle (67%). Hispanics represented the majority of SM deaths (41%), followed by Caucasians (28%).

Although the SM pilot study identified interesting trends and characteristics, it was limited by the small sample size; however, anecdotally the number of SM deaths in Harris County is higher than these numbers reflect. In other words, the small sample size resulted from an inability to retrospectively identify SM, rather than an actual paucity of SM fatalities. This was because these cases are routinely characterized as "pedestrian" fatalities, or "vehicle occupant" fatalities in medical examiner practice and are not identified by any field on the standard death certificate.

Because accurate identification of the SM subpopulation has implications for public health measures that may ultimately impact public safety (e.g., "move over laws" or even changes in road or vehicle design), measures to prospectively identify and track incidents of SMs were initiated. These measures included the addition of a drop-down box within the electronic investigators' software (PathAssist) that allows prospective identification and retrospective data gathering; this was supplemented with training for the investigators regarding the definition of SM, the importance of identification of the SM, and the appropriate use of the drop-down box. The result of these changes was the identification of a much larger population of SMs. In the ensuing year following implementation of this tracking method, preliminary data indicates that 15 SMs were identified between May 2014 and May 2015. Compared to only 46 SM deaths identified in the preceding ten years, this suggests that a simple tracking measure allows a much more comprehensive identification of this population of vehicle-related deaths. A similar categorization of SM non-fatal incidents was undertaken within local trauma hospitals. Preliminary data indicates that similar to fatalities, a much larger population of these incidents exist than could previously be identified. Studies are now ongoing to compare demographic characteristics and injury patterns of fatal vs. non-fatal incidents of SM crash occurrences.

The implementation of a simple tracking measure to identify the population of SMs is worthwhile, cost-effective, and can be initiated within any medicolegal death investigation system. Attendees will understand the importance of accurate identification of the SM population, and will hear of implications for public health and community safety. Ultimately, a more in-depth understanding of the SM population rests on accurate identification and characterization.

*Presenting Author

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*Presenting Author