E18 Improving Fire Investigations Through Partnerships, Case Reviews, and Training

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After attending this presentation, attendees will have learned how to improve fire investigations by: (1) developing partnerships with various stakeholders; (2) ensuring justice through forensic reviews; and, (3) developing a strategic approach to training.

This presentation will impact the forensic science community by describing the efforts of the Texas State Fire Marshal's Office (SFMO) to put into action the recommendations found in the 2011 Texas Forensic Science Commission (FSC) report on fire investigations. The fire-investigation challenges described in the FSC report are not unique to Texas, and the judicial system must demand that these investigations be conducted in accordance with national standards, rather than relying on myths passed from generation to generation of fire investigators. The term "junk science" is often used with reference to theories that have been — and continue to be — utilized in fire investigations, but in fact lack any scientific basis. Attendees will learn how to implement a systematic approach to improving fire investigations in their organization and community.

The Texas SFMO established a unique partnership with the Innocence Project of Texas (IPOT) and the FSC to make sure that fire investigations are based on science and best practices. There was a recognized need to restore public confidence in the quality of fire investigations, and the approach of the Texas SFMO has been to be transparent in its partnership with IPOT and the FSC as changes are implemented. This partnership has worked very well, since the only agenda is to make sure that justice is served by conducting fire investigations based on solid scientific methodologies.

The involvement of science experts in fire investigations, especially those conducted by public-sector investigators, is a significant issue that needs to be addressed. The participation of science experts in public-sector investigations has traditionally been very limited. The research into how public-sector fire investigators incorporate the scientific community into fire investigations did not yield any programs to model; this required creation of a forum for training, consultation, and case reviews. The creation of the Texas SFMO Science Advisory Workgroup has produced a panel of experts in the fields of forensic science, chemistry, electrical engineering, mechanical engineering, forensic pathology, law, and fire investigations. In Texas, these experts provide quarterly training to fire investigators, perform retroactive reviews of cases (including those presented by the IPOT), and serve as consultants to the Texas SFMO. This workgroup began work in January 2013 and issued its first findings on three cases in June. In one case, the panel supported the original fire investigation, but it found deficiencies in the other two investigations, concluding that the respective fire causes should have been ruled as undetermined. The local District Attorney and Texas Court of Criminal Appeals have received these reviews and will decide what needs to be done with regard to the two cases that did not meet current fire investigation best-practice standards. It is important to note that the Science Advisory Workgroup only looks at the science of a fire investigation and does not examine any peripheral issues, such as the materiality of the fire investigator's conclusions to the final outcome of a particular criminal conviction. The Workgroup leaves those determinations to the appropriate parties within the criminal justice system.

Training is critical in order to meet best-practice standards, and there must be a strategic plan to meet NFPA 921 and 1033 standards, and to ultimately exceed these minimum requirements. In the public sector, this is a significant challenge that requires coordination among various stakeholder groups. Partnerships are the key to providing excellent, cost-efficient training.

The status quo in the field of fire investigations must change in order to dispel public perceptions of investigators' use of "junk science" and to align the profession with proven forensic science.

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