A175 Counterfeit Drugs and Their Impact on Forensic Science

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After attending this presentation, attendees will learn about counterfeit drugs and the challenges these drugs present to the global forensic science system. In addition, attendees will learn the best analytical approach to detect, identify, and source counterfeit drugs in the field.

This presentation will impact the forensic science community by describing complex factors and providing the background necessary to enable the forensic science community to successfully address the counterfeit drug problem.

The counterfeit drug problem is complex and integrates matters of science, law, criminal justice, public health, and public policy. There is a need to delineate the integral aspects of the counterfeit drug trade if an effective solution is to be proposed.

The counterfeit-drug problem is extremely complex and addressing this problem requires an integrative approach. Forensic science, local laws and law enforcement, drug-development regulations, international law, public treaties and policies, funding of drug development and Intellectual Property (IP) rights, and enforcement all need to be considered if an appropriate solution to this problem is to be presented. This presentation will describe each of these factors and provide the background necessary to enable the forensic science community to successfully address this problem.

Counterfeit drugs present unique and complex challenges to the forensic scientist. The impact of these goods is devastating, ranging from localized fatalities resulting from small-scale product adulteration to large-scale public health crises due to the development of drug resistance and fatal diseases caused by substandard medications. These goods present a significant regional and global problem and are a serious threat to public health and safety. They are forcing forensic science, criminal justice, and law enforcement organizations to reevaluate current policies and practices so that successful investigation and adjudication in these types of cases is possible. The nature of these goods as well as the internet and other factors that have streamlined global trade are rendering current practices ineffective.

The field of forensic science struggles to establish analytical methods to identity composition and provenance of counterfeit goods. No method has been shown to be universally applied to achieve this goal. The use of field-portable instruments to detect and identify counterfeits in the field is important emerging technology. These instruments must work effectively and must meet the standards for admissibility of evidence in court when field-test results are presented as scientific evidence.

Results of research performed on counterfeits to identify and source these drugs in the field as well as methods based upon infrared spectroscopy, Raman spectroscopy, and gas chromatography-mass spectrometry will be presented. Method limitations as well as discrimination potential will be reviewed. In addition, challenges to admissibility in court will be discussed.

Counterfeit Drugs, Forensic Science, Public Health

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