B133 Geographic Information System (GIS) Functionality: A New Approach to Evaluating the Distribution of Seized Drug Evidence From Crime Laboratories in the United States

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After attending this presentation, attendees will have an enhanced under- standing of the spatial distribution of controlled substances seizures and indi- cators of controlled drugs availability by using Geographic Information System (GIS) display functionality. The presentation will be based on laboratory analysis and drug identification data from the National Forensic Laboratory Information System (NFLIS). GIS techniques will also be applied to the October 2004 – September 2005 NFLIS data to map the levels of selected drug items seized and identified by county within specific states and at the state level. These map displays by state will reveal important drug problem variation within a state as well as drug problem variation across states.

The integration of GIS functionality for data exploration and display, when applied to a drug seizure database, such as NFLIS, has the potential to reveal important drug problem variation within a state, as well as drug problem variation across states. This presentation will impact the forensic community and/or humanity by demonstrating how the ability to map the levels of selected drug items seized and identified within specific states and their counties offers a valuable and unique resource for state and local forensic laboratories that analyze substances secured in law enforcement operations across the country, significantly enhancing their efforts to monitor and understand illegal drug abuse and trafficking.

This presentation will provide timely data from the National Forensic Laboratory Information System (NFLIS) program which is a database system that provides nation-wide drug seizure and laboratory identification infor- mation. To date, approximately 247 individual forensic laboratories that perform drug analyses participate in NFLIS. The program's goal is to include all 306 state and local municipal forensic laboratories as well as the approxi- mately 20 federal laboratories that perform drug chemistry analyses in the U.S. During the period October 2004 through September 2005, an estimated 1,200,000 drug items will be analyzed by state and local laboratories in the United States. The number and percentage of analyzed drug items for the four most frequently reported drugs will be presented at the national level. Regional distribution of these drugs by state will be examined via appli- cation of GIS techniques and other analyses. Highlighted findings will include the estimated prevalence of drugs seized and analyzed with special emphasis on cocaine and methamphetamine. GIS generated maps will be used to display levels of cocaine and methamphetamine identified based on the county of seizure for several states in the western census region as well as some states from the other regions. The distribution of drugs by major drug categories (*e.g.*, narcotic analgesics and benzodiazepines) will be pre- sented conventionally and graphically as maps. Data on drugs identified in strategic geographic locations, areas bordering major interstate highways and selected major metropolitan areas will be summarized.

NFLIS state and local forensic laboratories analyze substances secured in law enforcement operations across the country and offer a valuable and unique resource for monitoring and understanding illegal drug abuse and trafficking, including the diversion of legally manufactured drugs into illegal markets. The integration of GIS functionality for data exploration and display further enhances the importance of the NFLIS data as an important information resource for drug policy and drug control agencies by providing timely information on drug trafficking and abuse spatial patterns across the United States.

GIS Functionality, Drug Seizures, Drug Database