2017 ASCLD Symposium
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April 30–May 4, 2017 | Dallas, Texas | www.ascldsymposium.com
AMERICAN SOCIETY OF CRIME LABORATORY DIRECTORS
ASCLD

"Next Gen" Field Identification of Controlled Substances

Nancy Crump
Phoenix Police Department
Laboratory Services Bureau

Criticism of Colorimetric Testing

Busted

by Ryan Gabrielson and Topher Sanders
ProPublica, July 7, 4 a.m.

Tens of thousands of people every year are sent to jail based on the results of a $2 roadside drug test. Widespread evidence shows that these tests routinely produce false positives. Why are police departments and prosecutors still using them?

Unreliable and Unchallenged

by Ryan Gabrielson
ProPublica, Oct. 28, 10 a.m.

Years after the Las Vegas crime lab wanted to replace faulty police drug kits, they are still used in thousands of convictions.

Criticism of Colorimetric Testing

Florida man arrested when officer mistakes Krispy Kreme doughnut glaze for meth. by Cleve R. Wootson Jr.

July 29 ***The Washington Post***

A Brief History of the PPD Field ID Program

- Developed in 2000
- Allows for rapid charging of arrestees supported by a preliminary test (used for both possession and sale cases)
- Officers trained to perform field identification using chemical test kits
- Four drugs are designated for field identification: cocaine, cocaine base, marijuana and methamphetamine

National Forensic Science Technology Center FTCoE 2007

- The success of the Phoenix PD Field ID Program leads to a partnership with the National Forensic Science Technology Center (NFSTC)
- NFSTC uses the Phoenix PD Program as the training model for their Field Investigation Drug Officer (FIDO) training program for chemical testing of controlled substances

Field ID Program Set-Up or Expansion

- This type of program, while actively outside of the "Lab" must still provide reliable results
- Set up is best if it mimics a program in an accredited lab.
- Quality Assurance aspects are an integral part of the program
- Includes ongoing communication, initial practical and written tests, annual testing once initially trained, random reanalysis of work, and tracking program metrics

Use Available Information

National Forensic Science Technology Center

2009 FIDO Program Set up
https://www.nfstc.org/past-performance/field-investigation-drug-officer-fido/

http://projects.nfstc.org/tech_transition/fido/index.htm

2011 Field Testing of Various Technologies
https://www.nfstc.org/wp-content/files//Field-PurposingTechnologies_AAFS2011_ScreenRes_216.pdf

Use Available Information

RTI International FTCOE

Landscape Study of
Handheld and Portable Raman Spectrometers

September **2014**

Jeri Ropero Miller FTCOE Technology Transition Task Leader jerimiller@rti.org
Technical Contacts:
Jonas Hal I Product Landscape jonashall@rti.org
Moline Prak Pandiyan Technology Applications moline@rti.org

https://rti.connectsolutions.com/p5vnr9nk0g8/

Opiates and Field Testing

- In 2012, the MCAO asked the Crime Laboratory for a solution for the field identification of opiates (especially heroin)
- At about the same time, the Phoenix PD Bomb Squad invites the Crime Lab to a demonstration of a RAMAN device
- After seeing the demonstration, the Crime Lab plans a validation project for the device for controlled substances

RAMAN Device Validation

- The Crime Lab is allowed to use the device for five weeks in May 2012
- 126 items of evidence are scanned with the device followed by full lab testing
- Based on the full lab results the device demonstrates it is an effective solution for a number of commonly encountered drugs

Next Steps

- Validation results are presented to the Maricopa County Attorney's Office (MCAO)
- MCAO agrees to accept the device for field identification of controlled substances on an approved drug list

PPD Approved Drug List for Field Testing

- **Approved drugs**

Amphetamine
BZP
Carisoprodol
Clonazepam
Cocaine base
Cocaine HCl
Diazepam
GHB
Heroin (with prep)
Hydromorphone
Ketamine
MDA
MDEA
MDMA
Methadone (Amidone)
Methamphetamine
Morphine
Oxycodone
PCP
TFMPP
Zolpidem

Pilot Program

- In May 2013, the Crime Lab places a RAMAN device at a Phoenix PD precinct
- 22 Field ID officers are trained to use the RAMAN device
- Field ID officers are authorized to field test drugs on the approved drug list
- The pilot program runs for six months

Results of the Pilot Program

- Field ID officers test more drugs during the pilot than during the previous six month period
- Full Lab analysis is performed on all of the items from the pilot program
- MCAO asks the Crime Lab to provide a demonstration of the device for court commissioners and defense attorneys
- If plea agreement results in jail time, the items will receive full lab analysis

Quality Control/Quality Assurance

- Minimum amount allowed for field testing = 50mg. This allows for enough material for lab testing and enough material for independent testing. This has been reduced to 25mg with the RAMAN device.
- Field ID officers are required to have at least one case fully examined by the lab during any given year.
- Inconsistencies between field ID results and lab results are reported to MCAO and result in officer's privileges being suspended until remedial training is completed.
- If officers do not attend annual recertification training or do not pass, they are removed from the program.

Field ID Program Expansion

- The success of the pilot program leads the Crime Lab to recommend use of the device City-wide by all Field ID officers
- The department currently has ten devices deployed at all precincts
- All Phoenix PD Field ID officers have been trained in the use of the device (November 2015)

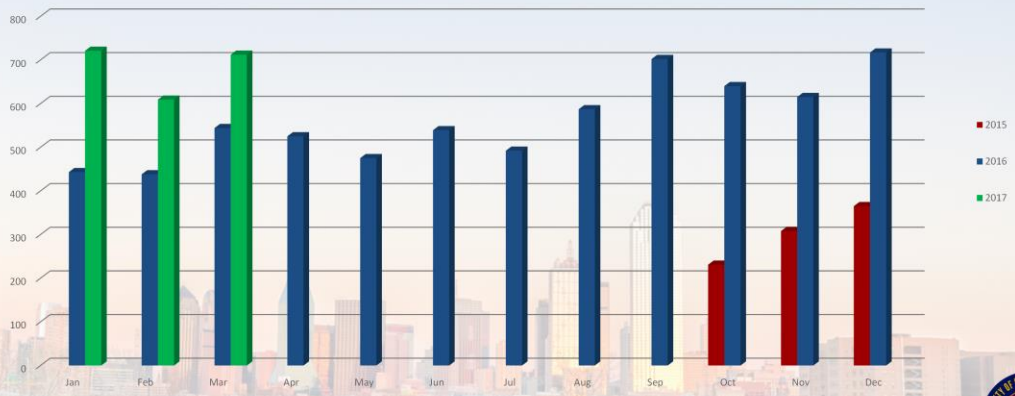
Field ID Program Expansion

- Chemical test kits orders for cocaine and methamphetamine test kits have been discontinued
- More drugs may be added to the approved drug list in the future (e.g. tramadol, alprazolam)

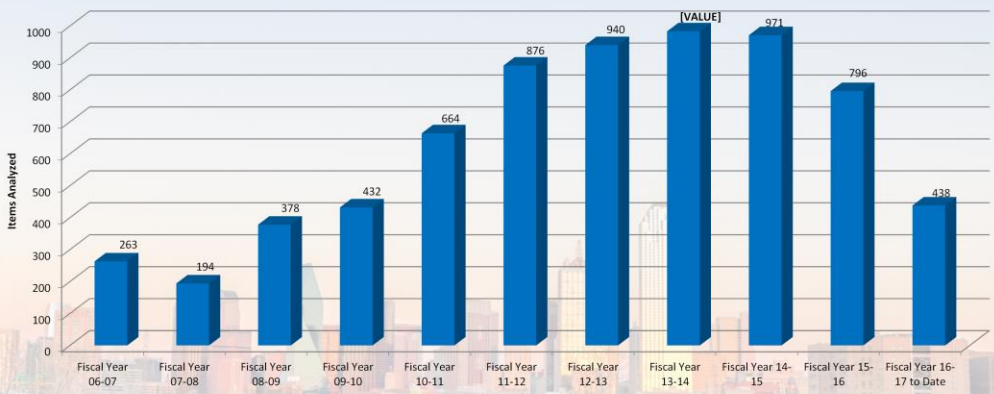
Requests to Expand Beyond Phoenix

- Neighboring communities are adding the device to their field testing programs based on the Phoenix PD model
- Phoenix PD has provided training for Scottsdale PD, Glendale PD and Surprise PD
- Training is pending for other local law enforcement agencies

Current Program Results



Heroin Items Analyzed by the Crime Lab



Additional Considerations – Officer Safety

- Fentanyl: ~100 times more potent than morphine.
  - Fentanyl evidence typically seen in the crime laboratory was from samples diverted from hospitals (e.g. IV solutions and patches)
  - In the medical field, fentanyl is used as a general anesthetic and for severe pain management
  - During the past few years fentanyl and modified fentanyl compounds (analogues) have been found in street drug samples
  - Samples seen by laboratories include powders being sold as heroin and tablets made to look like legitimate pharmaceutical tablets (e.g. oxycodone) but the samples contain fentanyl and/or fentanyl analogues
  - The fentanyl is not diverted from legitimate sources, it is illicitly made and distribute

Additional Considerations – Officer Safety

- Carfentanil: ~10,000 times more potent than morphine
  - Carfentanil is used to tranquilize/anesthetize large animals (e.g. 2mg will tranquilize an elephant)
  - Carfentanil has been found is street drug samples in the Midwest and has been attributed to a large number of overdoses and deaths
  - A bulk seizure (1 kilogram) of carfentanil was made by Canada Border Services Agency (CBSA) in Summer 2016
  - **Heroin Is Being Laced With a Terrifying New Substance: What to Know About Carfentanil by** Josh Sanburn *Time* 9/12/2016

Important Attributes of a Successful Field Testing Program

- Perform a laboratory validation of any instrumentation prior to implementation
- Compare your options to determine what works best for your agency
- Pilot the program in the field to determine feasibility
- Collect and evaluate metrics
- Safety nets along the way
- Communication with all partners/stakeholders

Points of Contact

- Nancy Crump, Assistant Crime Lab Administrator
- nancy.crump@phoenix.gov

- Roger Schneider, Controlled Substances Section Supervisor
- roger.schneider@phoenix.gov

- Nicole Harris, Field ID Program Manager
- nicole.harris@phoenix.gov