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Sent via ASCLDPresident@gmail.com

Subject: Rapid DNA Instrument

Dear ASCLD Members:

Last weekend, I attended the International Association of Chiefs of Police meeting in San Diego, CA. One of the topics presented at the meeting was the Rapid DNA Instrument. Invariably, law enforcement attending this meeting will be asking crime laboratory directors around the nation about this type of DNA technology while at the same time wanting to put the instruments in local booking stations, crime labs and crime scene technical units for DNA "profiling". The "hook" for law enforcement is that within 60 minutes--a DNA sample is produced, the suspect is arrested and a crime is solved. Although these instruments will have a place in the future, there are many issues that should be considered, prior to their adoption.

- NDIS adoption - The Rapid DNA Instrument has not been accepted by the NDIS (National DNA Index System) Board for uploading DNA profiles into the Combined DNA Index System (CODIS). Upon its acceptance by NDIS, the instrument must be configured so DNA profiles are automatically uploaded into CODIS across secure computer lines before any DNA profiles are uploaded from booking stations or crime labs.

- Validation - In order to be assured the instrument is working properly, the Rapid DNA Instrument must be evaluated during a site validation by both the local crime laboratory and respective law enforcement agency that it serves. Only after the site validation is complete, may it be used for any form of DNA analysis.

- Technology and procedural limitations -The Rapid DNA Instrument can only be used to analyze single source samples such as reference specimens. Evidence items containing more than one DNA donor are problematic. In addition, samples containing semen, such as a vaginal swab, cannot be analyzed using this instrument due to the need to use a differential extraction method to separate male DNA from female DNA. The instrument does not perform the differential extraction procedure. Furthermore, there is a need for police agencies to adopt strict training and interpretational protocols. Will a law enforcement officer recognize a tri-allelic pattern or contamination in a reference sample? How will law enforcement deal with these types of samples and will they even recognize them?

- Qualifications - Currently, anyone analyzing DNA samples, whether it be reference or evidence must adhere to the DNA Quality Assurance Standards, published by the FBI. These standards indicate an analyst must have the requisite science classes, be proficiency tested twice a year and participate in a crime laboratory training program in DNA analysis before they are able to do any type of DNA analysis. How does a law enforcement officer in a booking station or a technician in a crime scene unit meet these standards for field testing?

- SWGDAM Evaluation - SWGDAM (Scientific Working Group on DNA Analytical Methods) has formed an adhoc committee to address and create training, validation, and interpretational practices for the Rapid DNA Instrument. These guidelines should be published before the instrument is put into use. The role of this group is to ensure the uniformity of DNA standards and improve processes within the forensic human DNA laboratory community.

- Legal Challenges -The Rapid DNA Instrument and its user will no doubt have to go through a Kelly Frye or Daubert Hearing once it is used for casework. Law enforcement will need to take this into consideration when using officers to collect samples and type DNA profiles. Are they prepared to testify in these types of hearings? Have prosecutors been consulted?

- Funding -The cost of the Rapid DNA Instrument and the plates holding the samples are very expensive and can only accommodate a handful of specimens. Are the law enforcement agencies and the local leaders and community they serve ready to assume this expense? Are policymakers willing to forgo the cost/benefit of a high throughput laboratory in exchange for a more immediate and expensive process?

- Privacy -Local LDIS (Local DNA Index System) databases are springing up all over the country with law enforcement agencies wanting to use these instruments in their jurisdiction. In essence, law enforcement wants to have their version of CODIS to aid in solving crime. While this ultimately may be a noble and worthwhile goal, shouldn't lawmakers and policymakers be included in a discussion about this trend? Should there be state or federal legislation regarding the development of a local LDIS outside the realm of a public crime laboratory? Is this putting CODIS as we know and use it at risk?

These are just some of the issues that should be considered before the instruments are used in forensic DNA analysis of samples. Many questions need to be answered, procedures created and technology modified before these instruments are routinely used in crime laboratories or law enforcement agencies. The instruments are a part of our future, but first some of the issues discussed above need to be brought forth, discussed and presented in a national forum.

Jill Spriggs
ASCLD President