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Sedgwick County

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Legislation Text

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CONSIDERATION OF A NATIONAL INSTITUTE OF JUSTICE (NIJ) 2017 CAPACITY ENHANCEMENT AND BACKLOG REDUCTION PROGRAM GRANT IN THE AMOUNT OF \$99,990 FOR NEW DNA LABORATORY INSTRUMENTATION.

Presented by: Dr. Timothy Rohrig, Director, Regional Forensic Science Center.

RECOMMENDED ACTION: Approve the application for the grant, and if awarded authorize acceptance of the grant, the establishment of budget authority as provided in the Financial Considerations section of this Request.

The Sedgwick County Regional Forensic Science Center (RFSC) is an independent local government agency which serves all Sedgwick County, Kansas Law Enforcement agencies. In 2016, Sedgwick County increased the number of full time positions in the DNA section with the addition of one scientist. Currently, all five full time Biology/DNA Section positions are filled with qualified case-working scientists.

A multidisciplinary task force convened in Kansas to determine the number of untested kits statewide and the study revealed that over half of the untested kits reside in Sedgwick County. The heightened awareness and increase in reported sexual assaults have resulted in a dramatic increase in submissions. Like other states, expanded kit testing is anticipated in Kansas which would result in the submission of substantially more sexual assault kits for biological testing. Should 100% testing be required, the RFSC would be faced with a capacity crisis.

To address the caseload challenge, the Center is requesting resources to enhance the quantification/sexual assault screening process and to replace equipment that is no longer supported or 20+ years old. Specifically, an additional real-time PCR workstation would be purchased, along with validation chemistry to enable validation and potential development of expedited screening for male DNA on sexual assault samples. There is also a clear need for acquisition of replacement thermal cyclers since current casework models have been discontinued. Thermal cycling reactions are the basis for DNA typing and analysis; therefore, discontinued models and verification probes must be replaced before parts and service are obsolete. Finally, the request includes resources aimed to replace aging equipment and hardware. Temperature control units used for incubations were acquired in the 1990s, as were household grade refrigeration/freezer units used for reagent and evidence storage. Scientist workstations are 32 bit systems and recent analysis and probabilistic genotyping software call for 64 bit systems. Therefore, the request includes resources for the replacement of standard lab and computer equipment that could enhance work flow and allow analysts to carry out all facets of data analysis on one computer.

This program is an acquisition program to allow the RFSC to purchase technology for PCR-based screening of sexual assault evidence and to replace instrumentation that is no longer supported. The purchase acquisition will follow standard Sedgwick County [KS] purchasing policies. Funding of this equipment acquisition program will allow the RFSC to maintain the current level of forensic services.

Grant Renewal: No
Never Applied: No
Applied; not awarded: No

Grant Summary and Timeline: The grant application is due March 13, 2017 with an award notifications to be issued prior to September 30, 2017. The Grant Award will cover the period January 1, 2018 through December 31, 2019. The program will start in January, 2018. The proposed Objective-Activity Timeline is included in the Attachments Section.

Financial Considerations:

Grant period starts:1/1/2018

Grant period ends:12/31/2019

Source of funding

Grant: \$99,990

Required Match: \$0

Required Cash Match: \$0

Required In-Kind Match: \$0

Other funding:\$0

TOTAL SOURCES \$99,990

Uses of funding (Note: Include any Required Matches in your totals)

Operational costs: \$

Personnel: \$

Contractual services: \$

Operational supplies: \$57,490

Equipment:\$42,500

Indirect administrative costs:\$0

Capital projects cost:\$

TOTAL USES \$99,990

Source of matching funds: N/A

Source of other funding: N/A

Budget Authority Adjustment: Budget requirements from 2018 are listed on the attached Budget Form.

Personnel considerations: N/A

Expected measurable outcomes:

- The funding allows the laboratory to address the need for an additional DNA quantification system. Every sample that undergoes DNA analysis is quantified, and one instrument is shared among five scientists. The new 7500 Real Time PCR quantification system may also be used for screening sexual assault evidence because it can provide insight regarding the presence/absence of male DNA collected from rape victims. The technology addresses the forensic question more quickly and with greater sensitivity than currently employed methods.
- A portion of the funding is aimed at replacement, validation, and ongoing quality verification of the thermal cyclers used by the laboratory to amplify DNA samples. Thermal cyclers carry out the polymerase chain reaction, the process most critical for achieving DNA profiles from crime scene exhibits. The current equipment was purchased in 2006 and, as of December 31, 2015,

Thermo Fisher Scientific discontinued the model used in the laboratory. The lab now runs the risk of processing samples on obsolete equipment. Future instrument failures could be highly detrimental to workflow.

- The third component of this request is aimed at replacement of temperature control equipment used by scientists throughout various aspects of evidence analysis, body fluid characterization, and throughout the DNA typing process. Many of the temperature regulation units used to store chemistry and evidence under controlled conditions were purchased when the facility was built and are household grade. As with all aging equipment, there is an increased risk of failure. The negative aspects of failures are the need for immediate repair or replacement; this consumes scientist time, impedes workflow, and may not be accommodated with budgeted resources.
- The final aspect of this request concerns funding for general laboratory and computer equipment that the Biology/DNA Section is facing due to the addition of an analyst and aging equipment. Current analyst workstations are configured with 32 bit operating systems which cannot accommodate upgrades that require 64 bit systems. By updating the scientist workstations, the analyst will no longer require both a desktop and laptop computer to fully interpret DNA data. Manual data transfers or relocating to other parts of the building to execute various aspects of interpretations would be alleviated by consolidating the software onto single workstations.
- The laboratory currently uses a database to track analytical case information. The ultimate goal is to increase case throughput and expedite results. The effect of these capacity enhancements, once received and validated, can be assessed by comparing baseline metrics to those achieved following implementation of the new technology.

Requirements from Sedgwick County: The grant requires that metrics be tracked and reported semi-annually. Sample throughput, turn-around-time, backlog, and number of CODIS entries/hits are among the metrics that must be provided. The data collected during the grant period must be available for review three (3) years post award. The County must comply with standard federal grant requirements including those found in the attachment section under "Certifications Regarding Lobbying; Disbarment, Suspension and Other Responsibility Matters; and Drug-Free Workplace Requirements" and "Standard Assurances."

Alternatives: Do not apply for these funds and appropriate equal funds from the existing County budget to address this need for replacement of old equipment and implementation of new software and technologies.

Policy considerations: None

Legal considerations: None