

**DNA CAPACITY ENHANCEMENT AND
BACKLOG REDUCTION PROGRAM ABSTRACT
FY2018**

ABSTRACT

The Sedgwick County Regional Forensic Science Center (RFSC) is an independent local government agency which serves all Sedgwick County, Kansas Law Enforcement agencies. The RFSC has five full time Biology/DNA Section positions, all of which are currently filled with qualified case-working scientists.

The DNA laboratory is on the brink of a caseload capacity crisis. In 2014, 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 resulted in a dramatic increase in submissions beginning in 2015. In April 2018, the task force issued formal notification recommending that 100% of the kits collected be submitted for testing. The RFSC currently receives only 30% of the kits collected within Sedgwick County, so kit submissions are expected to triple. In addition to the increased number of sexual assault kits requiring testing, violent crime has continued to rise in Sedgwick County; the DNA section issued twice as many reports/notifications in 2017 than were issued in 2016.

To address these caseload challenges, the Center is requesting resources to enhance the sexual assault screening process through the introduction of an automated extraction platform. Specifically, the RFSC seeks to implement technology that will allow automated differential extraction of mixed stains with the QIAcube and EZ1 Advanced XL robotic workstations, followed by male DNA screening via real time PCR quantification. Male DNA quantification is now considered the gold standard for sexual assault kit sample assessment, replacing less sensitive body fluid classification methods. However, due to the amount of analyst time required to conduct manual differential extractions on mixed stains, screening kits for male DNA is currently not feasible at the RFSC.

Implementation of the automated extraction platform requires validation. Therefore, the RFSC is requesting one full time technician and a budget for chemistry to carry out the validation of the new platform so that automation can be integrated into the workflow as quickly as possible.

This acquisition program enables the RFSC to enhance capacity and throughput by the introduction of robotics capable of carrying out automated differential extraction of sexual assault samples. The purchase acquisition will follow standard Sedgwick County [KS] purchasing policies. Funding of this equipment acquisition program will assist in the laboratory's goal of processing sexual assault kits in a manner consistent with nationally recognized standards.