



TESTIMONY OF

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BEFORE

UNITED STATES SENATE
COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON HOMELAND SECURITY

ON

“THE ROLE OF DHS IN STOPPING THE FLOW OF OPIOIDS & OTHER DANGEROUS
DRUGS”

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WASHINGTON D.C.

Chairman Capito, Ranking Member Tester, and distinguished Members of the Subcommittee, thank you for inviting the Department of Homeland Security's (DHS) Science and Technology Directorate (S&T) to participate in today's hearing. I appreciate the opportunity to discuss S&T's work in response to the opioid crisis, and our support to the Department's frontline operators to combat illegal drug smuggling overall.

I have been the Acting Deputy Under Secretary for the last year and have been with S&T since 2014. Previously, I served as a Senior Leader and Science Advisor to the Under Secretary of S&T. Prior to my time at DHS, I worked at the Department of Defense's Intelligence Systems Support Office as the Director, Mission Support, and at the Crane-Division of the Naval Surface Warfare Center in support of the Special Capabilities Office focusing on RADAR and LADAR system testing, and network infrastructure integration.

S&T's Response to the Opioid Crisis

I thank the committee for its support in the Fiscal Year 2018 appropriation, and the funding provided to allow S&T to support the overall DHS response to the opioid crisis. The President's Commission on Combatting Drug Addiction and the Opioid Crisis final report recommended that DHS use additional technologies to detect and intercept synthetic opioids, like fentanyl, and noted, "Our inability to reliably detect fentanyl at our land borders and at our international mail handling facilities creates untenable vulnerabilities." The physical nature of synthetic opioids, which have no distinguishing features that allow facile detection in obscured bulk samples (i.e., packaging) and which can be shipped in small quantities, presents an immense challenge, particularly in the context of the complexities of the mail process, including speed of commerce and high volume of mail.

In direct response to recommendations from both the President's Commission and the INTERDICT Act of 2018, S&T has established a program in collaboration with U.S. Customs and Border Protection (CBP) on a phased approach to deliver improved field capabilities within 12-18 months. The program focuses first, on operations at international mail and express consignment facilities. Recognizing challenges within and unique to the mail process, this S&T technology development program focuses on a layered set of solutions, which includes both detection hardware and advanced analytics, to create efficiencies and provide flexibility in deployment to the existing operational infrastructure.

Prior to the Fiscal Year 2018 appropriation, S&T began planning and formulating the program, and included in the Fiscal Year 2019 President's Budget Request funding required to begin executing planned activities. However, with this initial Fiscal Year 2018 funding provided by Congress, S&T can fast-track research and development of innovative tools, to assist frontline operators in fighting the opioid crisis and help close this key conduit for illicit fentanyl importation into the United States.

S&T's Support to Develop Requirements

As a new research and development program for S&T, this presents an opportunity to create baseline indicators for success, starting with well-defined requirements. S&T has created a working group) to coordinate with CBP to analyze current capabilities and develop operational requirements to support the Office of Field Operations' mission to screen and inspect packages at international mail facilities. These requirements, validated through the Department's Joint Requirements Council, will directly inform rapid research and development efforts to help fulfill the most urgent needs for opioid and fentanyl detection at those facilities with solutions versatile enough to be capable of detecting other illegal substances (cocaine, methamphetamines, etc.). Such traceability between the operational requirements and technology program will ensure that the program delivers mission critical capabilities in the most effective and cost-efficient manner. Through this process, DHS will be able to establish a baseline for performance and cost parameters, and this baseline will serve as a management tool to monitor progress.

S&T's Collaborations for Rapid Innovation

The magnitude and urgency of the opioid crisis demands that S&T take an innovative and collaborative approach to this research and development program to succeed in producing near-term deployable solutions that impact the supply of opioids entering the United States. S&T has initiated several collaborative efforts in Fiscal Year 2018 to provide impactful results within the next 12 months.

First, S&T is partnering with CBP, with support from the Office of National Drug Control Policy, on a \$1 million prize competition, to begin within 4-6 months, that challenges American innovators to develop novel, high-throughput screening capabilities. S&T is also scouting technologies that could be readily modified and represent near-term deployment opportunities. Additionally, the Fiscal Year 2018 funds will enable S&T, through the Transportation Security Laboratory, to evaluate the performance of equipment, currently used by the Transportation Security Administration for explosives detection, against the synthetic opioid threat and begin work with industry partners to expand existing threat libraries and develop detection algorithms for those technologies.

Secondly, in partnership with CBP and the United States Postal Service, S&T is working to develop technical methods for exposing illegal mail transfers of opioid materials from foreign countries for distribution to domestic addresses in the United States. S&T is focused on examining data related to international mail (e.g. sender information, trans-shipment, and recipient information) in an attempt to better identify suspicious packages. For example, if a known narcotics dealer or manufacturer is sending international mail to a known dealer or consumer of illegal opioids, the package is considered suspicious. Working with the data associated with that package, it may be possible to better understand networks of production and consumption. This information will help the government work with its partners to increase barriers to illicit opioid trafficking. Through these collaborations, this effort will deliver new data-driven capabilities that identify high risk international mail.

Lastly, S&T is leading the interagency Illicit Drug Detection Working Group to coordinate communications between various government stakeholders inside and outside of DHS, including five DHS components, the Department of Defense, the Drug Enforcement Agency, and the Department of Justice, on synthetic opioid information, such as seizure and profile data, and approaches for detection and best practices for safe handling. The Working Group, with the specific support of the National Institute of Standards and Technology, is also working on the genesis of detection standards for illicit drugs to allow the consistent test and evaluation of detection equipment and inform protocols for operational use. Further, these illicit drug detection standards generated by the Working Group will guide industry in their development of detection equipment that will meet the operational needs of DHS.

S&T's Efforts for Personal Protection

Potential exposure to synthetic opioids presents significant risk to DHS front line operators and first responders. To provide capabilities that offer advanced warning of exposure to protect against potential injury, S&T will award Small Business Innovation Research Phase I contract(s) on a wearable fentanyl sensor for alerting DHS and first responder personnel to the presence of harmful levels of selected opioid compounds. The goal is to develop a device that warns the wearers of the presence of fentanyl and its analogs within minutes to provide responders and front line officers a window to take protective measures. This effort complements DHS policies and procedures to protect the workforce and first responder community from the occupational risks associated with opioid exposure.

Chairman Capito, Ranking Member Tester, and distinguished Members of the Subcommittee, thank you again for your attention to this important matter and for the opportunity to discuss S&T's work in support of CBP. I look forward to answering your questions.