

CHALLENGE: FIGHTING THE OPIOID THREAT

Drug abuse and overdoses continue to increase in the United States (U.S.) and, despite a decline in prescription opioids, more than three out of five overdose deaths involve an opioid like fentanyl. This public health crisis was responsible for nearly 50,000 deaths in 2019, causing significant pain and financial harm to families and communities across America. The Department of Homeland Security (DHS) has a significant role in countering the trafficking of opioids and other narcotics into the U.S., including detection and interdiction of illicit narcotics, as well as investigative efforts to disrupt and dismantle smuggling operations. These missions, however, are challenged by high volumes of trade and travel, limited rapid and effective automated detection systems, and exploitation of open source and dark web marketplaces and anonymized currency methods to support illicit manufacturing and smuggling.

RESPONSE: OPIOID/FENTANYL DETECTION PROGRAM

The DHS Science and Technology Directorate (S&T) Opioid Detection Program is developing and evaluating advanced detection technologies and analytics to better target, interdict, and investigate illicit opioid and other narcotic smuggling into the U.S. This Program supports mission requirements of U.S. Customs and Border Protection (CBP), Immigration and Customs Enforcement Homeland Security Investigations (ICE HSI), and state/local law enforcement.

PROGRAM SCOPE

This Program is focused on four primary areas:

- High-throughput, nonintrusive screening technologies to rapidly and automatically identify anomalous and suspected narcotics concealments;
- Automated alarm resolution technologies to provide confirmation of opioids and other narcotics, without having to physically open or handle the shipment;
- Improve effectiveness of handheld detection systems employed by frontline operators to detect small amounts of drug materials, even when diluted; and
- Advanced analytical tools for analysis of evidence, data fusion, and information sharing to enable automated

discovery of high value targets and criminal associations (new for Fiscal Year 2021).



MISSION IMPACT

This Program will deliver knowledge and tools to enable DHS Components to detect concealed drugs and identify patterns, participants, and methods used for trafficking in order to disrupt and dismantle drug trafficking organizations to stem the flow of illicit drugs into the U.S.

ACCOMPLISHMENTS TO DATE

- In partnership with CBP, the Office of National Drug Control Policy and U.S. Postal Inspection Service, S&T executed a \$1.55 million global prize competition that developed novel prototypes for high-throughput screening of international mail;
- Transitioned narcotics detection algorithm for primary screening technology for current operational pilot;
- Published three international standards documents to support test and evaluation of equipment and assays for opioid detection to facilitate decisions on the acquisition of the most effective capabilities; and
- Completed assessments of emerging, near-term commercial-off-the-shelf technologies that inform future research & development and acquisitions.

UPCOMING MILESTONES (NEXT 1-2 YEARS)

- In collaboration with industry partners, complete narcotics data collection for government-owned spectral library; and
- Initiate new Opioid Investigation and Intelligence Project to support ICE HSI.