



The Check Is in the Mail

Ill and elderly individuals confined to their homes or hospital beds look forward to the postman's daily delivery, hoping their day might be brightened by the arrival of a card, a letter from a friend, or a package. Individuals confined to correctional facilities also anticipate the mail's arrival, but they may be hoping for something other than a friendly greeting: hidden drugs.

For correctional facilities, stopping drug contraband in the mail is a full-time job. With funding from the National Institute of Justice (NIJ), the U.S. Department of Defense (DoD) Counterdrug Technology Development Program Office (COTDPO) is conducting a study to identify technologies that would simplify the task.

"Our goal is to find a device and process to screen mail and packages for drugs," says Dr. Allan Turner, visiting scientist at NIJ's Office of Science and Technology. "Inmates and others try to introduce drugs through packages, letters, magazines—you name it, they try to slip drugs in it. The process of finding drugs is very labor intensive. We're looking for a way for technology to make it easier and better."

To determine which products might meet its criteria, DoD started with a survey to locate products already on the market, then moved into a three-step research process. The first step involved simply testing to see "how well the technologies found drugs, period," says Duane Blackburn, deputy program manager at COTDPO. This led to the discovery that ion spectrometry scanners could find mere nanograms of drugs. To visualize a nanogram, Blackburn says, consider a paperclip, which weighs approximately 1 gram. Divide it into 1 million pieces. Divide 1 of those pieces into 1,000 pieces. That would be a nanogram.

For the second step, a scenario evaluation, DoD set up a mock prison mailroom at the Thunder Mountain Evaluation Center in Fort Huachuca, Arizona. Thunder Mountain, established to test methods of detecting large amounts of drugs coming through U.S. Customs, provided the clean rooms and experience needed to create the mock mailroom.

Before testing began inside the mock mailroom, DoD set out to determine whether mail picks up trace contamination just in making its way through the U.S. Postal Service. "Keep in mind that even a clean envelope that you just bought at WalMart could test positive for minute traces of chemicals that could be drugs," Blackburn says. Researchers sent a test mailing from a local post office and another mailing from across the country and compared the results with a control batch. They found no increase in trace contamination due to an envelope simply being mailed.

Next, they "spiked" test mail with drugs (this batch always remained in the mock mailroom) to find out how well the various products located the contaminated letters. In addition to the scanners, DoD also tested x-rays and Mistral sprays, which change color in the presence of drugs. The last two products did not detect the presence of drugs in the small quantities typically smuggled through a penitentiary mailroom.

So far, research has yielded encouraging results for two commercially available ion mobility spectrometry scanners (one handheld and one desktop). Concern remains, however, about the possibility of too many false positive readings caused by trace amounts of drugs, and additional testing may be needed. Blackburn says that both vendors' scanners can detect the presence of drugs in nanogram amounts. Sometimes, however, that may be too sensitive. For example, money in any major metropolitan area with a widespread drug problem is likely to test positive.

Final analysis of the research may indicate that the next step is to set up a field test of the ion mobility spectrometry scanners in a correctional facility, but the analysis also might recommend that researchers turn their attention to other, more expensive technologies, such as mass spectroscopy, which also has shown promise in detecting chemical and biological agents.

"Once we get all the results back," Blackburn says, "we have a decision to make. Can we come up with procedures

to test the technology in an operational evaluation, or should we test other, more expensive technologies?” Blackburn adds that DoD began with products that use technology initially developed 10 to 15 years ago, which puts them within the economic reach of most correctional systems. Some correctional systems already use these products to search their mail for drugs.

If the completed research identifies a feasible existing product, it will be a real asset for correctional systems that now dedicate substantial staff time to searches for drugs. For example, at the U.S. Penitentiary in Leavenworth, Kansas, mail goes through two rounds of x-ray checks plus a hand check. Blackburn, who spent a day observing Leavenworth’s process, says the contraband detection process starts with Leavenworth staff picking the mail up at the post office instead of taking delivery. At the penitentiary, two x-ray checks are conducted to find concealed weapons and large amounts of drugs, while the hand search attempts to locate small amounts of drugs sent by those trying to be clever in avoiding detection.

“Staff working in a mailroom open each and every piece of mail and search it,” Turner says. “Some of the methods used to slip drugs in are very sophisticated. They’ll hide it in the folds of a newspaper, in the pages of a magazine. Sometimes the drugs are inside the seams of a standard envelope.”

Staff also search under stamps and address labels, and inside books and greeting cards. They look for, and find, almost every type of drug sold on the street: cocaine,

heroin, methamphetamines, and more. While the amounts found may seem small to agencies that enforce drug laws in the general public, they are large enough to provide income, power, and control when in the hands of inmates.

“Drugs in prisons and jails are a big problem,” Turner says. “You’d be astounded at the number of people arrested who have used drugs within 30 days prior to their arrest. Common sense will tell you that if you take these people and put them in a correctional system, they will try to get drugs. If there’s a market, there will be sales. For a product to be useful in helping to cut off the potential for such sales, it needs to be inexpensive, reliable, and easy to install and use. Further research will confirm if DoD has found it.”

For more information on the Identification, Demonstration, and Assessment of Drug Detection Technology study, contact Allan Turner, 202-616-3509, e-mail turnera@ojp.usdoj.gov; or Duane Blackburn, 202-305-8774, e-mail BlackburnDM@nswc.navy.mil.



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