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Sweat Patch Toxicology Tests

Evaluating the feasibility of sweat toxicology tests

Agency: Pennsylvania Department of Corrections (PADOC) Board of Probation and Parole (PBPP)

Project Duration:
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Pracademics*: Jeff James, Danny McIntyre, Cheryl Scott, Tracy Smith, Lisa Faulkner, Maxine Stanley, Marlena Seguin, and Angela Grannas

Context
Substance use disorders (SUD) are common in justice-involved populations, and regular toxicology testing is often required of those under community supervision. Supervision requires appropriate methods to assess current drug use, both to evaluate the effectiveness of SUD treatments and to serve as a deterrent.

Key Finding
This pilot project, intended to assess feasibility of sweat-toxicology patches, revealed unexpected problems.

*BetaGov provides ongoing training to agency personnel to become research-savvy "Pracademics" who can lead trials.

Background

Substance use disorders (SUD) are more prevalent among those under community supervision than in the general population. Surveillance of drug use is required both to monitor conditions of supervision and as a way to mitigate the problems associated with SUD.

Urine-toxicology testing is the most typical method used to assess use of illicit substances, although most drugs of abuse are cleared from urine within two to three days. Urine testing must occur two to three times a week to effectively detect every instance of drug use. Conversely, a sweat patch can remain applied for two weeks, continually collecting evidence of drug use. Drugs that can be detected in sweat include alcohol, cocaine, opioids, amphetamines, THC, and PCP.

In an effort to reduce the frequency and invasiveness of drug testing, the Pennsylvania Board of Probation and Parole (PBPP) tested the feasibility of sweat patches for participants in the State Intermediate Punishment (SIP) program. This program is specifically for reentrants who have an SUD and require additional treatment after release from prison.

Design

SIP participants who were under community supervision at the York Community Corrections Center (YCCC, n=30) and Harrisburg Community Corrections Center (HCCC, n=60) were included in the trial, with half at each site randomized to the intervention (sweat patch and urine tests) or control (urine tests) conditions. Information was collected on drug-test results and on staff and participant perspectives.

Lessons Learned

At HCCC, 60 sweat patches were applied to participants, and at YCCC, There was very little drug use at either site and positive results were found with both testing methods. Only a few discrepancies between the urine and sweat-patch tests were found.

Both sites noted challenges in the use of sweat patches. The time required to put on and take off patches and necessary paperwork often exceeded 25 minutes. Because counselors were given responsibility for this task, the time required to do so detracted from counseling time.

The sweat patches purchased for this trial do not test for alcohol, buprenorphine, or fentanyl, which are the most-often used substances in this population. It is possible to add an alcohol sweat patch but it would be at additional cost. One participant had approval for the use of medical marijuana, although patch results were THC-positive for only two of four tests. The lab reported that THC levels were below cutoff values, which may pose a problem for detecting low levels of cannabis use with or without a medical-marijuana waiver.

Staff members reported not being comfortable putting on or taking off the patches, particularly when they were left on for the full two weeks. Participants also reported not liking the patches. Six participants developed allergic reactions to the patches, although clinical-trial results suggest that only 1% of participants would have such a reaction. Other participants mentioned sensitivity.

Next Steps

PADOC has opted not to contract for sweat-patch tests given the problems related to their use, and because the patch does not test for some of the most common drugs used in this population. This small pilot provided a hands-on demonstration of how sweat patches compare with traditional urine-toxicology testing.

Why BetaGov Spark?

Sometimes a rigorous trial of an innovative idea just isn't possible, but with a Spark project a practitioner can learn important information about the idea, the agency, and the sample. What's more, a positive signal may inform a future randomized controlled trial and more definitive results. Spark projects meet Pracademics where they are comfortable—giving them the opportunity to learn about research and apply that learning to internal research projects.