Evaluating A Presumptive Drug Testing Technology in Community Corrections Settings

Final Report

By

Craig D. Uchida
Gordon A. Aoyagi
W. Riley Waugh
Shawn Flower
Shellie E. Solomon
Jonathan Mash

Justice & Security Strategies, Inc.

August 2012

This project was supported by Award No. 2006-LT-BX-K001 awarded by the National Institute of Justice, Office of Justice Programs, US Department of Justice. The opinions, findings, and conclusions or recommendations expressed in this publication/program/exhibition are those of the authors and do not necessary reflect the views of the Department of Justice. NIJ defines publications as any planned, written, visual or sound material substantively based on the project, formally prepared by the grant recipient for dissemination to the public.

Evaluating A Presumptive Drug Testing Technology in Community Corrections Settings

Table of Contents

Acknowledgements

We extend our heartfelt gratitude to all of the community corrections sites that participated in this study. Without their cooperation, collaboration, and interest in the evaluation this could not have been completed. In Wyoming, Alabama, and Florida we were greeted warmly and we were provided full access to clients/offenders, staff, and to data that were essential for the evaluation.

We thank Mr. Charles Griffiths of Mistral Security Inc. who worked very closely with the JSS project staff in explaining the intricacies and nuances of the Presumptive Drug Testing Technology. He clarified a number of issues for us, demonstrated the technology, and assisted in training personnel.

Our thanks to Mr. Jack Harne, Physical Scientist at the Office of Science and Technology, National Institute of Justice, who was keenly interested in our work and provided us with guidance and support throughout the project period.

This project was funded by the National Institute of Justice via Purchase Order 094075/NIJ from Mistral Security Inc.

The opinion, findings, and conclusions or recommendations expressed in this report are those of the authors and do not necessarily reflect those of the Department of Justice, the National Institute of Justice or Mistral Security Inc.

The authors:

Craig D. Uchida
Gordon A. Aoyagi
W. Riley Waugh
Shawn Flower
Shellie E. Solomon
Jonathan Mash

August 2012

Evaluating A Presumptive Drug Testing Technology in Community Corrections Settings

Executive Summary

Justice & Security Strategies, Inc. (JSS) conducted a multi-site evaluation of a presumptive drug detection technology developed by Mistral Security Incorporated (MSI). Funded by the National Institute of Justice (NIJ) the evaluation used multiple social scientific methods to determine whether the technology could be used in community corrections settings and whether the technology was cost-effective. The evaluation was conducted in a work release program, with probation and parole, and in a drug court in three states -- Wyoming, Alabama, and Florida.

The presumptive drug detection technology (PDDT) involved the use of aerosol sprays which were used with specialized paper that react with trace elements of cocaine, heroin, methamphetamine, and marijuana. Basically, the specialized paper is swiped onto a surface (desk, chair, or any item) or a person (hands, arms, etc.) and then the paper is sprayed with the aerosol. If the paper changes color then it indicates trace elements of a specific drug. Unlike urinalysis, Mistral's products are not meant to determine whether a person has ingested drugs, only that the person has touched, handled, or come into contact with an illegal substance.

JSS staff worked with corrections staff to test the technology on clients within community corrections settings. JSS collected data on 562 tests, interviewed clients, correctional officers, and staff, and observed the use of the spray and specialized paper.

The major goal of the evaluation was to determine whether the PDDT has a place in the field of community corrections. This evaluation asked:

1. Will this technology increase agencies' success in identifying offenders and/or settings that have been exposed to drugs?
2. Does the technology help to decrease the overall cost of drug testing (i.e., less use of urine analysis)? and
3. What is the overall cost/effectiveness of using this product?

Findings

Table 1 shows the sites, type of facility, number of tests and the number of positive tests from PDDT and urinalysis. Across six sites we found17 tests that were positive for cocaine (3%) and 90 tested positive for marijuana, heroin, and methamphetamines (16%). Twenty clients tested positive in their urinalysis (3.6%). Out of the 562 clients, only two tested positive for both the PDDT and the UA.

Table 1 PDDT Test Sites

	Type of Facility	Date of Tests	# of Tests	# of Pos Coca	# of Pos D4D	UA positives
Cheyenne, WY	CTC-Work Release	Feb and Aug 2011	113	4	20	1
Cheyenne, WY	Probation and Parole	Aug-11	44	0	15	0
Montgomery, AL	Probation and Parole	Aug-11	57	4	12	3
Mobile, AL	Community Corrections (Drug Ct)	Oct-11	104	3	14	4
Plantation, FL	Probation	Nov-11	150	4	14	6
Miami, FL	Probation	Dec-11	94	2	15	6
	Total number of confirmed tests		562	17	90	20

Overall, the evaluation found:

1. The PDDT was useful in community corrections settings.

2. The PDDT testing process was readily accepted by clients and corrections staff.

3. Most of the PDDT positive test results were for marijuana

4. There appeared to be some very modest potential cost savings with using PDDT as a screening tool over using UAs. This assumes that PDDT can serve as a screening mechanism and used instead of UAs under certain circumstances and conditions. For 'low-risk' clients the PDDT could be used as a precursor to using a UA test, or the PDDT could be used to periodically and randomly replace UAs. Under these circumstances it may be cost effective.

5. Anecdotally, PDDT was found to be useful in assessing what drugs might be present in corrections facilities. While we did not conduct an evaluation in the field, we believe that the use of PDDT might be cost effective when it is used to test and confirm the presumption of illegal drug detection of suspicious substances before submitting such substances to drug sniffing dogs or sending out the substances to laboratories for analysis.

6. Corrections officers, case managers, and administrators said that PDDT would be a useful tool to be used in a community corrections setting. They did not indicate that PDDT could or should replace the use of other drug testing protocols, such as urine analysis. They found that PDDT would be useful in supplementing existing drug testing.

7. Existing drug testing (urinalysis) reflects recent use or ingestion. PDDT helps monitor whether or not the client is presumptively handling or in the presence of illegal drugs.

8. A majority of clients, corrections officers, and case managers believed that the use of PDDT in combination with urine analysis and other drug testing methods would be effective in deterring client drug involvement behavior.

9. During the project evaluation, there were some technical problems in using the PDDT. In particular, problems occurred when dispensing the collection paper and JSS staff had difficulty in identifying and assessing some color changes on the paper. Corrections staff were concerned that using two swiping papers might remove traces of drugs after the use of the first one.

Recommendations

Recommendations for Administrators

1. Leadership. If PDDT is considered for implementation, leadership from the top is essential. Administrators will need to become familiar with PDDT – what it is, how it works, what it does, and what it does not do.

2. Policy changes are not necessary. Administrators believed that they had sufficient policy authority to utilize PDDT in community corrections settings.

3. Engaging Stakeholders. Administrators should include stakeholders in discussions before implementing PDDTs. Administrations should engage stakeholders early in the planning process to address concerns.

4. Due Diligence. Administrators should consider what scientific information they will need from MSI and/or other authorities to certify that PDDT is effective in identifying drug traces.

5. Role of Case Managers. The case manager is the key for risk-based client assessments. Case managers should be familiar with the client and the client's behavior. Results from PDDT testing should be considered in the context of a case manager's risk assessment. Accordingly, PDDT positive tests start the conversation between the case manager and the client.

6. Use of PDDT to Monitor Facilities. Using PDDT periodically within facilities could potentially identify illegal drugs that were present within their corrections program populations. It could also be helpful in testing rooms, surfaces, and lockers when there is suspicion of illegal drugs being introduced into facilities.

7. Revealing the PDDT Results. Administrators need to determine how to handle PDDT results with clients and what outcome is to be achieved. Consideration needs to be given on whether to show the client the actual PDDT results and what recourse, if any, is to be offered to the client to challenge the results.

8. Who should use PDDT aerosols for determining results? PDDT testing should be limited to case managers or administrators particularly if the PDDT test papers are sprayed immediately after swiping.

9. Implementing PDDT. The material costs for PDDT appear to be comparable or lower than *presumptive* UAs currently in use. Purchasing PDDT from available resources could lessen the number of UAs or other tests that could be conducted during the budget year. Accordingly, any expenditure for PDDT would have to be justified as a risk-based strategy for clients with low risk.

Recommendations for Corrections Officers/Case Managers

1. Using PDDT. To be effective, PDDT should be used in combination with UAs on a frequent, random basis.

2. Monitoring conditions of probation. PDDT expands the "tools" available to monitor client behavior. Currently, drug-testing protocols are limited to testing for ingestion. PDDT offers the opportunity to monitor the clients' behavior in handling or being in the presence of illegal drugs.

3. Case Managers to Handle PDDT Results - Opening Up the Conversation. PDDT positive results open the conversation with the client about behavior that may have caused a positive result. There may be discussions of people or places visited by the client where drugs may have been present and why the client was in such a place.

4. **Procedure Changes with PDDT.** Implementation of PDDT may require standard operating procedure changes as well as training in those changes.

5. Use of PDDT in the field. PDDT may be helpful when home and employment sites are visited by corrections officials. Case managers could test suspicious substances if they are encountered in the field. In addition, if the client knows that their residence, vehicle and place of employment may be randomly or routinely tested with PDDT, illegal behavior may be deterred.

Recommendations for Researchers and NIJ

1. Pre-plan, expect delays, and be open-minded. Evaluations of technologies in real-world settings take time and require careful planning and collaboration among a number of entities including the funder, the technology manufacturer, the sites, the focus of the study (the clients), and the researchers.

2. Human subjects and confidentiality are extremely important considerations. The value of the Institutional Review Board and its focus on human subjects cannot be overstated. The IRB's initial review extended the time frame of the project, but its objectivity and concern for the offender/client strengthened the methodology of the evaluation.

3. Conduct more evaluations of technology. NIJ and other agencies that fund technology for criminal justice practitioners should simultaneously fund field evaluations of products such as PDDTs. Measuring the strengths, weaknesses, and challenges of technology through independent evaluations can assist both the manufacturer and the user.

Evaluating A Presumptive Drug Testing Technology in Community Corrections Settings

Introduction

Justice & Security Strategies, Inc. evaluated the use of Mistral Security Incorporated's (MSI) Presumptive Drug Detection Technology (PDDT) within community corrections settings.

Through funding from the Office of Science and Technology, National Institute of Justice (NIJ), MSI developed a drug detection technology involving "wet chemistry." Aerosol sprays or ampoules are used with specialized papers that react with trace elements to presumptively identify four drug substances and derivatives: cocaine, heroin, methamphetamine, and marijuana. The PDDT is meant to detect elements of drugs on surfaces (tables, chairs, clothes, doors, etc.) and on persons (hands, arms, etc.). Unlike urinalysis, Mistral's products cannot determine whether a person has ingested drugs, only that he/she has touched, handled or come in contact with a drug.

Justice & Security Strategies, Inc. (JSS) was contracted by MSI and NIJ to perform an independent process and impact evaluation using multiple, social scientific methods. JSS staff worked with community corrections staff to test the technology and collected data on 562 tests. JSS staff conducted interviews of clients, correctional officers, and staff to determine their perspectives on the use of PDDT within their environments.

At the behest of NIJ, the focus of the JSS evaluation was to determine whether the technology could be used in community corrections settings and whether the technology was cost/effective and resulted in cost savings for detecting the presence of drugs. The evaluation did not directly compare the PDDT to urinalysis or other drug detection technologies as the Mistral product was viewed as a screening mechanism and not meant to replace those technologies.

The evaluation was conducted in a variety of community corrections programs in three states. JSS staff worked with probation and parole, a work release program, and a drug court. The programs were located in seven sites in Wyoming, Alabama and Florida. JSS researchers visited Wyoming on multiple occasions as it served as an intensive case study site.

For each project site, JSS compiled the following:

- PDDT process descriptions
- Observations and timing of PDDT process
- Total PDDT tests conducted
- Total PDDT positive tests and type
- Number of urine analysis (UA) tests performed by corrections
- Number of positive UA tests for PDDT participants to determine whether clients had recently ingested drugs
- Interviews of clients, corrections officers and/or administrative staff

- General observations and comments

During the period of February to December 2011, 562 PDDT tests were conducted. This report describes and discusses the results of those tests and gives findings and recommendations about the use of PDDTs in community corrections settings.

MSI's Presumptive Drug Detection Technology

As part of its business portfolio, Mistral Security Incorporated (MSI) develops different types of drug detection technologies. Among its products is a field kit that comes with four types of aerosol sprays and three types of test papers. Used in different combination, the sprays and test papers can detect trace quantities of four important categories of drugs: 1) cocaine, crack and related substances; 2) heroin and related substances; 3) methamphetamine and other secondary amines; and 4) marijuana, hashish, and other cannabinols. Specialized training is not required as the operation of the spray and test papers is fairly straightforward. Basically, there are two steps in the process: wiping a surface or object with a piece of test paper, followed by application of one or more of the aerosol sprays to that paper. If the drug is present in sufficient quantity, then the test paper changes color within a few seconds. Sandia National Laboratories conducted tests in 2000 and indicated that the drug tracing spray worked as advertised. The test results from Sandia indicate that the method of detection works well "if there is direct contact of the test paper with a street sample of the drug or when swiping the hands of a person who has handled the drug. It is generally less effective when swiping a surface for fingerprints of a person who has handled drugs" (Parmeter, et al, 2000).

For our purposes, we evaluated two types of aerosol sprays -- D4D (detects marijuana/hashish, heroin methamphetamine/ecstasy, and amphetamine) and Coca (detects Cocaine). Aerosol drug detection technology is a *presumptive field test technology* that uses reagents to identify drug substances. For the evaluation we tested the use of two types of collection test papers - #630 is used with the D4D spray and #530 is used with the Coca spray. The collection papers are swiped over an object, hands or clothing. Both papers come with a protective backing that is removed before testing. The aerosol is held no closer than about four inches from the paper that is to be sprayed. With a short burst of spray from aerosol, the collection paper is covered with reagent. Mistral indicates that color reactions occur almost immediately, though the Coca test may take a few seconds longer depending on the amount of residue present.

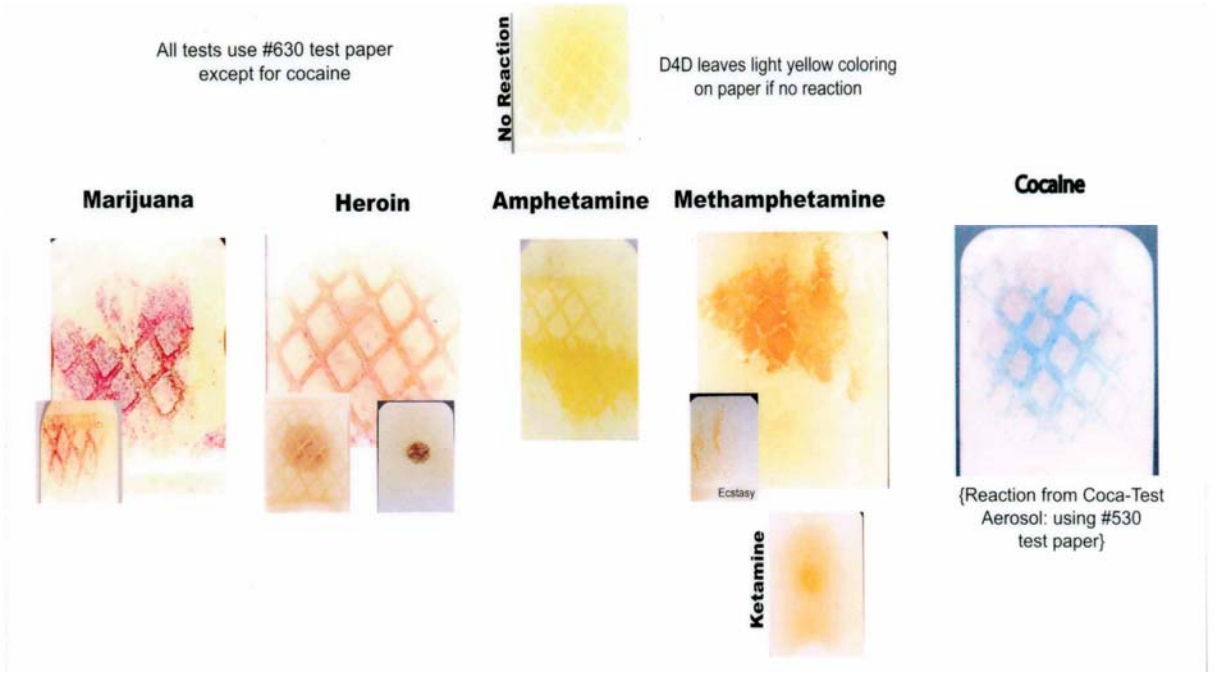
The MSI Presumptive Drug Detection Technology (PDDT) kit can be purchased for about $200-$322 according to GSA. The kit includes sufficient amount of test papers and aerosol spray to conduct 80 to 100 tests for each class of drug.

When used appropriately, the following outcomes occur:

Negative D4D Reaction. If no drug or drug residue is present, the spray will leave a light yellow background, as shown below.

Negative Coca Reaction. If no drug or drug residue is present, the spray will leave a light pink background.

Positive Drug Reactions. Only the colors shown in the color charts below are considered positive reactions.



Research Questions and Methods

The major goal of this evaluation was to determine whether this technology has a place in the field of community corrections. This evaluation asked:

1. Will this technology increase agencies' success in identifying offenders and/or settings that have been exposed to drugs?
2. Does the technology help to decrease the overall cost of drug testing (i.e., less use of urine analysis)? and
3. What is the overall cost/effectiveness of using this product?

The original research design included several different scenarios to reflect the nature of different release programs in community corrections. After a lengthy site selection process and after input from the JSS Institutional Review Board, the evaluation consisted of two major scenarios – 1) Direct testing of offenders during visits to the probation/parole office or other locations and 2) Screening of offenders returning from work release programs.

In both instances, we measured the testing of PDDT in the environment in the following ways:

1. Observation of adherence to study protocols. Officer compliance with device instructions (using test papers on the requisite areas)
2. Examination of PDDT result records -- number and type of reactions (e.g., single or multiple drugs present).
3. Track follow-up urinalysis results to assist in determining positive/false positive rates.
4. Develop a system for tracking the number of transactions, successes or failures in using the PDDT.
5. Interviews with correctional officers and/or staff at each testing site to obtain their opinions as to how well PDDT worked and the operational efficiency of PDDT and to ascertain what, if any, challenges occurred during the study.
6. Interviews with a sample of offenders subject to PDDT at each site to elicit their opinions of the experience. Questions included an assessment of their level of objection to the swiping on their skin and/or possessions (e.g., did the offender find the procedure was invasive or offensive? In addition, offenders were queried as to their perception of the effectiveness of the spray to detect different types of drugs.
7. Obtain limited background information on the offenders who were subject to a PDDT in order to determine if participant characteristics and criminal background may be factors if the PDDT results differ between the community corrections locations.

Process Evaluation

Process evaluations occurred at all of the sites selected for the program. JSS staff appraised the extent to which the technology was implemented as planned.

For each community corrections agency we developed appropriate measures and collected pertinent data. At all sites, we collected contextual information about the jurisdiction (e.g., state laws governing corrections), the agency (type, staffing, facilities), and the offender population (demographic information, types of offenses committed, average time served, etc.).

In Wyoming, we conducted more intensive work than in the other sites and analyzed more data because Wyoming was a 'pilot location' prior to the commencement of the project . The information from Wyoming provided a deeper understanding of the community corrections population and of the context for the use of the PDDT.

Our process evaluation was focused primarily on the use of the technology. We asked the following questions:

1. Does the PDDT work?
2. Does it function as originally intended?
3. How many tests were done?
4. What was the average amount of time for each test?
5. What was the average cost per test?
6. How many positive/negative tests were recorded?
7. What are the differences among correctional facilities?
8. Did the persons using the PDDTs find the technology easy to use?
9. What were the perceptions of staff and inmates regarding technology?
10. Was it easier to use in some locations than others? Why?
11. What were the unintended consequences?
12. What were the challenges?

For this part of the evaluation the following activities occurred:

- At all sites, JSS conducted interviews of executives, staff, and inmates to obtain perceptions and anecdotes of the program
- At all sites JSS staff conducted systematic observations of staff as they used the drug tracing technology
- At all sites JSS tracked the number of transactions and successes or failures in using specific drug tracing equipment.

JSS developed PDDT various forms to ensure consistency among all the project sites for appropriate voluntary consent to participate in the research project as well as to record observations, time lapses, PDDT and UA test results, and interview responses.

The JSS forms included:

1. Client PDDT consent forms to participate in the project. (Appendix 3)
2. Client consent form for interview. (Appendix 3)
3. Correction Officers' consent forms for interview. (Appendix 3)
4. Corrections Officer's Record of Perceived Times to Perform PDDT Collection Paper Swipes and Observations. (Appendix 4)
5. JSS Control Sheet for PDDT Time Lapse for Chemical Reaction, PDDT and UA Test Results and Observations. (Appendix 4)
6. JSS Session Summary Sheet for Number of PDDT Test Conducted and D4D and Coca Aerosol Spray Can Control Numbers (Appendix 4)
7. Revised JSS Control Sheet. (Appendix 4) This revised form combined Forms #4 and #5 above into a single form and were used for Mobile, AL; Plantation, FL and Miami, FL. This form recorded the perceived time to perform the collection papers swiping process as well as record the locations or items swiped.
8. Client Interview Guide. (Appendix 5)
9. Corrections Officers Interview Guide. (Appendix 5)

Cost Comparisons

Another focus of the study was upon the costs of using PDDTs to supplement the current means of client testing in community corrections settings. Typically community corrections officials rely upon urinalysis (UA) to determine whether a person used drugs or not. This can be viewed as an "all-or-nothing" approach as there are currently no tests available that could identify or screen individuals for drug testing. While the PDDT does not measure whether an offender ingested or used a drug, if it can determine whether the person touched or handled a drug, then this information might be of value to a community corrections official who could use the PDDT as a screening device. If the PDDT is useful and less expensive than a UA, community corrections could include it in their 'tool kit' as a means of screening for drugs.

A cost-comparison analysis was conducted based on the notion that the PDDT could be used as a first step in assessing whether the offender came into contact with drugs. If PDDT shows reliability and validity in the field, then it may be possible to supplant UAs for screening purposes only. It would not supplant UAs as the basis for determining ingestion of a drug.

From this perspective we ask, "how does the cost of PDDT compare to that which is currently in place?" The intervention with the lowest cost ratio is the most favored policy.

For this analysis we collected and used the following types of data:

- Financial data including costs of the units and other associated costs
- Temporal data including the time spent on using the current system versus the PDDT
- Interview data from participating community corrections officers on their perceptions of efforts expended to learn the new technology and the benefits of employing the technology.

Other Considerations During the Process

While the primary purpose of the evaluation was to measure whether and how the product could be used on individual offenders/clients, other uses were readily apparent. As the project unfolded, we anticipated that there may be "second order" uses of PDDT, which could provide useful information to corrections officials regarding testing specific items. For example, a desktop, chair, telephone, or hat might raise suspicions to a corrections official. We allowed for the testing of these types of items with the caveat that any results were for informational purposes only - that the product could not be linked to an individual and that the information would not lead to administrative or criminal proceedings.

Impact Evaluation

While the process evaluation focused on the implementation process, the impact evaluation focused on outcomes. At one site (Wyoming), we conducted a systematic appraisal of the extent to which the drug tracing technology produced the intended effects. In addition to the questions about cost-effectiveness and timeliness, we asked the following questions in an interview of correctional officers and staff about the impact of the drug tracing technology:

1. Did the drug testing technology improve the efficiency with which the facilities screened drug users?
2. What were the changes in the perceptions of community corrections staff?
3. What were the other impacts on community corrections staff?

Other considerations

Perceptions of community corrections staff were also important to consider. What was their attitude toward the current state of drug testing in the agency? How did they feel about the effectiveness of the current tests? That is, how did they view the effectiveness of the current use of urinalysis or other forms of drug testing? Were tests done properly? Were results provided on a timely basis? With the use of the drug detection technology did attitudes and perceptions change?

Data Analysis

We used simple descriptive statistics and bivariate analysis to determine differences among the sites with respect to the PDDT results, controlling for offender characteristics and conditions of testing.

Caveats

The states of Wyoming, Florida, and Alabama have different laws, corrections procedures, and corrections populations. As such, comparing and contrasting the sites to one another could not be undertaken as planned. Instead we reported on the findings of each site and, where appropriate, aggregated the data to give overall findings.

The Research Process: Protecting Human Subjects

Evaluating the use of PDDT meant testing the product on human subjects, namely clients or offenders within community corrections settings. To do so meant obtaining permission and cooperation to conduct the evaluation from state departments of corrections and local offices (i.e., probation, parole, drug courts), and then obtaining consent from clients to conduct the tests and interviews. Because we wanted to know the perceptions of corrections administrators, staff, and officers we also needed to obtain consent to observe and interview these individuals. Importantly, the research had to be reviewed and approved by the JSS Institutional Review Board (IRB). (See Appendix 1 for the IRB review and report).

Originally, we planned to evaluate the PDDT tests by observing correctional officers as they swiped specific areas of a client's clothes, shoes, items in pockets, and other places and then sprayed the aerosol on the paper to determine if drugs were present.

However, this PDDT testing protocol was changed as a result of the JSS IRB. The board expressed concerns that the PDDT test results should remain confidential during this evaluation project. The board said that corrections officials who conducted both the swiping process and then sprayed the paper might treat the client differently if the test came up positive. The board felt that this would lead to negative consequences for the client and would change the nature of the relationship between the corrections officer and the client.

Accordingly, the process was changed to a "double blind" process where neither the corrections officers nor JSS researchers would know the identity of the client if a test was positive. This meant that corrections officers were only involved in the swiping process. Upon completion of the swiping process, the test papers were placed in plastic bags with the JSS unique project number for the client marked on the bags. JSS staff subsequently applied the D4D and Coca sprays in a private location and recorded the PDDT results by the client's unique JSS project number. These steps assured that client confidentiality and anonymity were maintained. *Individual PDDT results were kept confidential and were not shared with clients or any corrections staff.*

In Alabama, we altered the procedures because community correction officers were not fully involved in the process. In Montgomery County and Mobile County drug testing is conducted by in-house laboratory technicians. In Montgomery County, corrections officers are involved in the drug testing process on a limited basis -- they observe urine specimen collections. In Mobile County laboratory technicians who have no connections to or involvement in corrections programs, collect and determine the results of the drug tests. We consulted the IRB in advance about proposed changes in the PDDT evaluation methodology for both counties. The IRB approved the alteration to the double blind procedure. This allowed the laboratory staff to perform the PDDT swipes, use the sprays and read the results. JSS observed and assisted in the laboratory where the UA equipment was located. JSS also assisted in the swiping process at these two sites.

Implementation

This section describes the implementation and testing of Mistral's PDDT in seven community corrections situations.

PDDT Evaluation Project Sites and Community Corrections Programs

The JSS project involved seven sites in three different states – Alabama, Florida and Wyoming. The variety of community corrections programs involved in the PDDT research project included residential work release, probation and parole, drug courts, and parole. The project site visits occurred over an 11-month period. The PDDT research and evaluation program included 562 PDDT tests.

Table 1. PDDT Sites for Evaluation shows the dates of the JSS site visits, the community corrections programs involved in the JSS evaluation and research project, and the number of PDDT tests per site.

Table 1. PDDT Sites for the Evaluation, 2011

Site	Type of Facility	Date of Tests	# of Tests
Cheyenne, WY	CTC-Work Release	Feb 14-15	55
Cheyenne, WY	CTC-Work Release	Aug 21-22	58
Cheyenne, WY	Probation and Parole	Aug 23-24	44
Montgomery, AL	Probation and Parole	Aug 11-13	57
Mobile, AL	Community Corrections	Oct 10-11	104
Plantation, FL	Probation	Nov 2-9	150
Miami, FL	Probation	Dec 2-14	94
	Total number of tests		562

Using and Testing the PDDT in Community Corrections Settings

Project sites entered into a three-way letter of agreement/memorandum of understanding involving the project site local official, JSS and MSI before a JSS site visit was conducted. The letter of agreement specified procedures for obtaining voluntary consent of clients to participate in the MSI PDDT research and evaluation project conducted by JSS; PDDT use of collection papers to swipe client participant's hands, clothing and possessions; PDDT testing procedures and reading results in a separate, private location; confidentiality and non disclosure of client identity and PDDT test results; performance of UAs on clients participating in the project; provision of a private or semi-private room to conduct interviews with randomly select clients

and corrections officers participating in the project; voluntary consent for participation in the interviews and non-disclosure of any information obtained from interviews; and access to available client administrative data for research purposes only.

For the Wyoming and Alabama sites, MSI provided PDDT training to community corrections administrators (including contractors who operated the residential work release centers), officials, case managers and/or corrections officers prior to implementation of the PDDT research project. In Wyoming, JSS staff made a presentation to the Community Correction Board regarding the purpose and methodology of the PDDT research project (See Attachment F, PDDT Research Project Presentation to Community Corrections Board). In Alabama, a department head briefed his community corrections policy board on the PDDT project.

Project site officials were responsible for informing clients about the PDDT research and evaluation project; obtaining voluntary client participation in the PDDT project; and maintaining signed client consent forms. JSS and the project site corrections staff integrated the PDDT research methodology into their existing drug testing procedures. All clients participating in the PDDT evaluation were scheduled for a concurrent UA. At some project sites, there was spontaneous and voluntary participation in the PDDT evaluation project as a result of the project being explained, participation solicited, or the process being observed. JSS staff and site corrections officials then explained voluntary consent and had the client read and sign the consent form.

Corrections officers were only involved in the use of PDDT collection papers by swiping participating clients' hands, clothing and possessions. To avoid any contamination of the collection papers, corrections officers wore sanitary gloves. Upon completion of the PDDT collection swiping, the papers were placed into separate plastic bags marked with the unique JSS identification number. In some cases JSS staff assisted with the process but maintained their distance and did not violate the confidentiality or double-blind aspect of the process. Additional JSS staff observed the collection paper swiping process to record the time lapse involved with the use of collection papers and to note any observations of client reactions or comments about the process.

JSS staff accumulated the bagged #530 and #630 collection papers. The PDDT collection papers were taken to an on-site, designated private location or laboratory. Sanitary gloves were worn by JSS staff or the laboratory technician and one PDDT collection paper, either the #530 or #630, was removed from its plastic holder and sprayed with the appropriate PDDT aerosol, respectively. Any chemical reaction was observed and matched against the MSI PDDT color chart. The gloves were then removed and disposed. Another set of gloves were donned to complete the PDDT aerosol spray on the other test paper as appropriate. The reagent PDDT papers were then returned to their plastic bags to be filed by JSS identification number. JSS staff recorded the PDDT test results as either positive or negative for the presence of drugs; the type of drug detected, if positive; and the time lapse to apply the appropriate aerosol spray and the appearance of chemical reaction, if any. The PDDT results and time lapse for each JSS identification number were recorded by JSS staff on the JSS PDDT Observation and Test Result Form (See Appendix 4).

Clients completing the PDDT swiping process were asked, on a random basis, if they would voluntarily consent to an interview about their PDDT experience with JSS staff in a private, semi-private location. Clients were advised they could stop the interview at any time, ask for clarification, or choose not to answer a question. They were also advised that they would not be compensated nor would there be any advantages or disadvantages resulting from participating or not participating in the interview. All responses to the interview questions would be kept confidential and reporting of the interview results would be cumulative and without attribution. At some of the project sites, private facilities were not available for interviews or there was not sufficient time to conduct client interviews.

Client interview questions asked about client enrollment or participation in drug treatment programs. As part of the question, clients were advised that the did not have to answer the questions about current or past drug treatment programs. The purpose of the questions was to obtain some information about client drug treatment participation.

Corrections officers involved in the PDDT collection paper swiping process were also asked to participate in an JSS interview about their experience with PDDT. Each correction officer voluntarily participating in the JSS interview was also asked to read and sign the interview consent form.

JSS staff completed most of the PDDT aerosol sprays on collection papers in private offices. PDDT test results were recorded by JSS staff on evaluation forms, which included the MSI spray cans control numbers, the number of sprays used on collection papers and the time involved in the chemical reaction for revealing the presence of drug traces.

One of the lessons learned was that it was often too time consuming to remove the PDDT collection papers from dispensers. The protector sheet on both the #530 and #630 collection papers would catch on a dispenser lip exposing the collection paper as the paper is dispensed. To avoid separating the protector sheet from the collection paper required manipulation taking too much time. Frequently there would be a waste of collection papers as they were dispensed with the protector sheet hung up in the dispenser.

After the Phase I pilot, JSS staff discussed this with MSI who indicated that they were in the process of redesigning the dispensers. The problem of removing collection paper from the dispensers was encountered at each of the project sites. To avoid unnecessary delays for the corrections officers and the participating clients, JSS removed the collection papers, #530 and #630, from the dispensers in advance and partially placed the collection papers into the plastic holders. This also facilitated the placement of the used PDDT collection papers into the plastic holders when the swiping process was complete.

Initially, the PDDT evaluation methodology specified four locations to be swiped with the PDDT collection papers. By standardizing the locations we could control the number of variables involved in the process. The four locations were: 1) hands and palm areas; 2) interior lining of the pants pockets or purse; 3) belt buckle or waist band button; and 4) shoelaces or areas on the shoe where hands would likely be in contact.

In Wyoming JSS staff learned that the effectiveness of PDDT collection paper swipes were affected by real-life conditions. Staff found that lint, dirt, and other extraneous materials in pockets and purse linings affected their ability to read chemical reactions. Dirt and mud on shoelaces or shoe tops also affected the paper swipes and made chemical reactions difficult to read. Snow and rain on shoelaces and tops of shoes were too wet to be swiped with the PDDT collection papers. Some clients did not wear belts and were not comfortable with corrections officers or JSS staff swiping their waist band, and/or buttons or hooks near the waist band. At times clients were asked to lift up their shirt or blouse to expose the waistband area, which met with resistance, particularly when the corrections officer and client were of the opposite sex.

Problems with extraneous materials on collections papers were eliminated when possessions were swiped instead of swiping pocket linings and shoelaces. We tested cigarette lighters, coin purses, wallets, and keys. In lieu of swiping the belt buck or waistband, articles of clothing were swiped such as the shirt sleeve or collar areas, buttons, hat brims, and jacket zippers. To replace shoelaces, clients were asked if they wore watches or jewelry, used glasses (prescription or sunglasses), a comb or barrette, or carried a notebook or pen. These items were swiped with PDDT collection papers in lieu of shoelaces or the tops of shoes.

After the initial pilot phase, we standardized the locations to be swiped with PDDT collection papers: 1) hands and palms; 2) possessions routinely carried in the pocket or purse; 3) an article of clothing where the clients hands would routinely touch; and 4) an adornment, wristwatch, pen, etc. that the client would wear other than clothing.

The next sections provide details about each site and their findings.

Wyoming Department of Corrections: Phase I CTC

Wyoming served as the intensive case study site for the evaluation. JSS staff made four trips to Cheyenne and spent time with corrections officers and clients. We conducted 157 tests of the PDDT. In addition, observations and interviews provided insights about the use of PDDTs.

Setting

The Wyoming Department of Corrections (WDOC) operates Adult Correctional Center (ACC) Facilities and Programs. The program in Cheyenne, called the Cheyenne Transitional Center (CTC), is operated by WDOC under a contract to Avalon Correctional Services (Avalon Services).

CTC is a work release center. Avalon Services is responsible for management and programming services including housing, maintenance and supervision of up to 104 offenders, parolees and inmates who are transferred to CTC under direction of WDOC under terms of the contract and availability of funding. The CTC includes housing; subsistence; training and educational programs; employment counseling; appropriate treatment for medical conditions; counseling and therapy; supervised custody; maintenance of control and discipline; ensuring that sentences and orders of courts or parole boards are properly executed and compliance with applicable laws. CTC houses both male and female adult offenders. During the initial visit, CTC housed approximately 70 clients.

The Process

JSS and MSI met with WDOC and CTC staffs on February 14-15, 2011 to explain the project, the use of PDDTs, and the double blind process to ensure confidentiality of test results. MSI provided training on PDDT use. JSS also coordinated with WDOC regarding the project's data collection requirements.

Avalon Services, as the CTC manager, met with clients, explained that participation in the PDDT project was voluntary and obtained signed consent forms. Of the 70 clients in CTC, 60 signed consent forms to participate in the project.

JSS and CTC coordinated the PDDT test process to be integrated into the CTC intake/sign-in process to minimize disruption to existing procedures. When clients return to the facility, they are required to remove outer garments; provide for inspection of any carried items (back packs, purses, brief cases, etc.); place any coins, wallets, possessions from all pockets in a tray for inspection and were subject to full body pat down. The PDDT paper swiping process was accomplished during the client intakes.

CTC conducts frequent and random urine analysis of its clients to ensure compliance with court orders and to monitor client's use of controlled substances. CTC uses a presumptive urine analysis (UA) involving temperature and chemical reaction when the specimen is placed into the container. When a positive test result occurs, the specimen is sent out to a laboratory for

confirmatory tests. When confirmed, the client is counseled and is subject to progressive sanctions with repeated offenses involving positive UAs, which may lead to further restrictions, more frequent testing or removal from the program. CTC agreed to conduct its UA on the same clients participating in the PDDT research and evaluation project and concurrent with the PDDT test. CTC also agreed to report the UA results to JSS for research purposes.

CTC staff conducted the PDDT swiping process in a public area in the vicinity of the front desk after clients completed their physical inspections and pat down.

CTC staff used the PDDT test papers to swipe four locations:

1. Hands;
2. Interior of pockets;
3. Belt buckle or buttons; and
4. Shoelaces or tops of shoes.

JSS observed the PDDT collection paper-swiping process and recorded reactions and processing time. CTC staff followed the protocols and placed the swiped test papers in separate plastic bags and then into a larger, single plastic bag. JSS then marked the plastic bag with a unique JSS project control number. Clients were also scheduled for a urine analysis (UA) test immediately after their PDDT test paper swipes. CTC staff accompanied the client while the UA sample was collected. CTC staff subsequently reported the results of the UA to JSS.

JSS collected and took the PDDT test papers to a separate and private location to use the PDDT aerosol sprays. Both the PDDT test results and the UA results were recorded by JSS control number and were kept secure and confidential by JSS staff. No CTC staff or clients were permitted to be present during PDDT aerosol spraying and the reading of chemical reactions to determine positive or negative drug detection results.

Clients were selected randomly to ask if they would participate in an interview regarding their PDDT experience. The interviews were conducted by JSS in a private or semi-private room. Client consent forms were obtained for the interviews.

CTC staff was also interviewed based upon availability. The interviews were conducted by JSS staff in a private or semi-private room. CTC staff consent forms were obtained for the interviews.

PDDT Test Results

Phase I of the PDDT evaluation project at WDOC was conducted during February 22-25, 2011 at CTC. Of the 60 clients who signed the consent forms, five were released from CTC and were not available. Thus, 55 clients were involved with the PDDT research and evaluation project during Phase I. Most of the clients were male (78%) and most were white (80%).

There were six positive PDDT results of the 55 tested (10.9%). Of those with positive results, five (5) tested positive for marijuana (83.3%) and one tested positive for cocaine (16.7%). Urine

analyses were conducted for all 55 subjects, of which 54 were negative including all those with positive PDDT results. One UA was positive with negative PDDT results.

Overall, all six with positive PDDT results were male; one was Hispanic Latino and the others were Caucasian. Compared to the rest of the subjects, those who had PDDT positive results were younger, had a higher percentage for criminal offenses in crimes involving property, were convicted of more serious criminal offenses based upon sentenced terms and had more time remaining on their terms. Most of those with PDDT positive results also expressed doubt that PDDT would be effective in changing behavior.

Actual Time vs. Perceived Time to Perform PDDT Paper Swipe

Of the 55 subjects tested, the PDDT collection paper swiping process was observed for 29. Of the 29 observed PDDT collection paper swipes, two tests did not involve swiping of the shoelaces because they were wet. The actual recorded time to swipe four locations with two separate test papers ranged from 37 to 121 seconds for 27 observed tests, excluding the two tests involving the shoelaces. The average total time to perform the two PDDT collection paper swipes for the 27 tests was about 69 seconds. JSS used stop watches to record this total lapse time from beginning of the first PDDT paper swipe to the end of the second PDDT paper swipe, including the intervening time.

We obtained staff perceptions of time involved by asking staff to fill out a JSS form for the PDDT collection paper swipes they performed. Forty-six (46) forms were completed by CTC staff. Total perceived time to conduct the PDDT swipes with two test papers in the designated four locations ranged from 20 to 120 seconds. The average total perceived time to use the two test papers was 39 seconds, a difference of about 30 seconds when compared to the actual time.

We attribute the difference to the intervening time between the #530 and #630 swiping activities. For the actual recorded time, the start time and end time from beginning of the first PDDT collection paper swiping to the end of the second PDDT collection swiping. Most of the CTC staff respondents indicated that it took approximately 20 seconds or less to conduct the first paper swipe and 20 seconds or less to conduct the second swipe for a total of 40 seconds or less. Time perceptions may have only included the CTC staff's physical actions of swiping the first and then the second paper, which may not have included any intervening time.

Overall, we found that it took a corrections officer about one minute to conduct two swipes per client.

Observations of Client Reactions – PDDT Testing Process

We asked CTC staff to provide their perceptions of client reactions. They reported that a over 95% of clients (40 of 42) had normal or routine reactions to the test; one person had questions about the process and another was more concerned about the length of time needed for the UA and whether the UA would be completed to avoid conflicting with another appointment.

JSS observed the paper swiping process and recorded client comments and interactions for 29 subjects. All 29 JSS observations reflected normal and cooperative responses to the PDDT process. There were no hostile or uncooperative client reactions to undergoing the PDDT collection paper swiping. During these JSS observations, client comments were recorded for 24 subjects. Ten (41.6%) had comments about PDDT being effective if the trace amounts of controlled dangerous substance (CDS) were passively or inadvertently transferred to clothing or hands.

In sum, the observations of client reactions by both corrections staff and JSS staff showed receptivity to the testing process.

Client Interviews

JSS interviewed 27 clients participating in the PDDT evaluation. This represented about half (49%) of the 55 participants.

Nearly all (94%) of the respondents said that they were comfortable with the process. All stated that the time involved was short and quick. Ninety-two percent felt it was not intrusive. No one objected to the four areas tested or the manner in which the PDDT swiping process was conducted.

Over half (55%) felt that PDDT could be effective in detecting illegal drugs, while 20% felt it would not be effective, and 25% responded they did not know.

Fifty-six percent felt that using PDDT in a community corrections setting would or potentially could change client behaviors to avoid using or handling illegal drugs. Thirty-seven percent expressed doubt or said that PDDT use in corrections program would not change behavior. Seven percent did not know or had no opinion.

During the interviews some of the clients gave explanations for finding trace amounts of illegal drugs on them – employment requires money handling; work involves contact with objects or material that may be used to carry drugs; casual or inadvertent physical contact with drug user or dealer; or borrowed or purchased clothes from someone else. There were also comments about avoiding positive PDDT results by washing hands or face and changing or washing clothes before testing.

Two-thirds of the respondents stated that their criminal charges also involved substance abuse. Fifty-four percent reported that they were participating in outpatient treatment, aftercare or both for substance abuse treatment.

Client interviews indicated that they were comfortable with the process, that the tests could lead to changes in client behaviors, and that they were concerned about the source of trace amounts of drugs.

CTC Staff Interviews – PDDT Process

Only four CTC staff interviews were conducted in Phase I. The sample size is too small to draw any recommendations or conclusions. The interview results in this report are provided only for information.

Most felt that there were potential operational efficiencies in using PDDT. They felt that there would be need to change policies and procedures regarding where the PDDT spray tests were conducted and how CTC staff would report and handle positive PDDT test results. There were suggestions for more frequent PDDT testing and having CTC staff determine locations for the PDDT test swipes.

Recommendations included redesign of the test paper dispenser. The current dispenser was difficult to use and stripped the protective sheet off the test paper when dispensed. Further, there was concern and skepticism about having two test papers and having the first test paper (#630) pick up and remove any trace elements of cocaine and not being identified in the first D4D test spray while the second #530 test paper does not pick up cocaine and shows no evidence of cocaine under the Coca aerosol.

The general consensus was the PDDT was easy to use and the process was quick and fast. All four felt that PDDT would be another "tool" to detecting illegal drugs in a corrections setting. Independent of the CTC staff interview, there were comments and questions about periodically and randomly using PDDT on facilities to assess if illegal drugs were being introduced into the facility.

Anecdotal Information – Facility Testing

During the WDOC and CTC staff training, interest was expressed in using PDDT on different areas within the facilities. For one WDOC facility, the pens used to sign in and sign out were swiped with PDDT papers. One test result was positive for cocaine. Within CTC, various locations were tested with negative results. However, one test result was positive for marijuana. There was also interest in the ability of PDDT to identify and confirm "spice" if a suspected substance was found. MSI demonstrated positive results for a marijuana derivative, using the PDDT ampoule, on a known spice substance.

Summary

Phase I in WDOC showed that the PDDT could be used in community corrections settings. Traces of illegal drugs were found on client hands, clothing and possessions. There were six that showed PDDT positive test results (about 11% of the test subjects), all of which had negative UAs. While 54 of the 55 UAs performed were negative, there was one positive UA, but with a negative PDDT test. Most of the PDDT positive test results were for marijuana, which may have been expected as marijuana's residual properties are more long term than other controlled substances. Anecdotally, PDDT was useful in assessing what drugs may be present in corrections facilities by conducting paper swipes in various facility locations.

The PDDT testing process was readily accepted by clients and CTC staff. Both felt that it was quick, simple to use, and non intrusive.

There appeared to be some very modest potential cost savings with using PDDT to substitute for UAs under certain circumstances and conditions based upon CTC's estimates for time, personnel costs and UA material unit costs. The cost savings seem to be based upon the time difference in performing the UAs which had a longer requirement than the time needed to conduct the PDDT. CTC's UA material unit costs were about the same or slightly lower than MSI's PDDT spray kit costs per unit.

Wyoming Department of Corrections: Phase II

Cheyenne Transitional Center August 22-23, 2011
Parole and Probation August 24-25, 2011

Cheyenne Transitional Center

WDOC Phase II involved a second round of PDDT evaluation at the CTC with the intent of including clients remaining from Phase I and new clients enrolled at CTC. At the time of the Phase II Site Visit, the facility housed 85 clients.

Parole & Probation Office

The WDOC Community Supervision office monitors and manages a wide variety of offenders in the community including probationers, parolees, and drug and DUI court participants. At the time of the site visit, based on data provided by WDOC there were 1,087 individuals on the Cheyenne District P&P caseload.

As before, Avalon Services met with clients, explained that participation in the PDDT project was voluntary and obtained signed consent forms. Of the 85 residential clients in CTC, 60 clients consented to participate in the PDDT evaluation project – 24 were previous participants in PDDT Phase I and 36 were new clients. While there were almost 60 new clients, JSS was only able to obtain consent forms for 36. To help facilitate implementation, JSS assisted in reviewing the case management files of all new clients, where consent forms had been filed by individual. Thirty-six signed consent forms were found via this file review.

JSS and CTC coordinated the PDDT test process to be integrated into the CTC intake/sign-in process to minimize disruption to existing procedures over the period of August 22-23. The PDDT paper swiping process was accomplished during the client intakes.

Of the PDDT evaluations in Phase II, JSS performed 33 PDDT test swipes, while CTC staff conducted 25 PDDT swipes. After the swiping process was completed, JSS asked clients if they would be willing to participate in an interview regarding the PDDT process they just experienced. During Phase II at the CTC, a total of 58 PDDT tests were performed and 14 clients consented to be interviewed.

Among the 58 CTC participants, there were 17 positive PDDT results (29.3%). Of those with positive results, eight were positive for marijuana (47.1%), five for heroin (29.4%); one for marijuana and heroin (5.9%) and three for cocaine (17.6%). Urine analyses were conducted for all 58 subjects, of which 57 were negative including all those with positive PDDT results. One UA was positive with negative PDDT results – this individual was taking cough syrup with codeine.

Looking at the 24 individuals who were in both phases of testing, five (20.8%) tested positive in Phase II. Of those, one person tested positive for marijuana, one for heroin, one for both marijuana and heroin, and two people tested positive for cocaine. Four of these five people had

negative PDDT results in Phase II. One person tested positive in Phase I and II, both times for marijuana.

Parole & Probation Office

Phase II included WDOC Probation and Parole (P&P) clients, including Drug Court assignees over the period of August 24-25. P&P Clients are required to conduct UA tests at WDOC within one hour of being called by their case manager during regular business hours and for mandatory UA testing for a group of clients from 7 to 10 PM, including Drug Court clients. When P&P clients reported to their WDOC case manager, clients were informed of the PDDT evaluation occurring simultaneously in the facility. If clients indicated they were interested in participating in the PDDT project, they were referred to JSS staff that informed them about the evaluation process and were asked if they would be willing to participate in the PDDT project by signing a consent form.

After the consent form was obtained, the client was given a card with the JSS control number. The card was taken to another office and given to JSS staff for the PDDT paper swipes. JSS staff noted that clients were more cooperative and receptive to the PDDT test process when the client was invited to sit down while the PDDT test swipes are conducted. It seemed to remove the "aura" of a stand up search. In addition, working with the clients and discussing the four items to be tested also reduced the tension involved.

A total of 56 individuals were approached to participate in PDDT testing. Twelve of the 56 (21.4%) refused. Among those who refused, WDOC agents advised that one was believed to be a gang member and one was a convicted drug dealer. In addition, most of the Drug Court clients also refused. Anecdotally, as these clients were in the waiting room for their UAs, word was spread about the PDDT research project. A leader emerged who demonstrably and outspokenly opposed participation in the PDDT project. This opposition resulted in very few drug court clients willing to sign consent forms for participation; several clients who had agreed subsequently withdrew their consent before testing.

Forty-four (44) clients participated in the PDDT project. Eighteen PDDT tests were positive, representing 41% of the 44 tested (15 for marijuana and three for heroin). All P&P and Drug Court clients participating in the PDDT project were reported as having negative UAs.

Upon completion of the PDDT paper swipe, clients were asked if they would be willing to participate in a JSS interview. Sixteen agreed to be interviewed.

Overall Test Results

Of the 102 PDDT tests, three were positive for cocaine (3%) and 32 (31%) were positive for PDDT 4D4. Specifically, 23 tests were positive for marijuana, eight were positive for heroin, and one was positive for both marijuana and heroin. WDOC staff indicated that the higher incidence of PDDT positives for heroin coincided with their view that heroin was making a comeback in the community.

Among all participants in Phase II, only one had a positive urinalysis – and this individual was taking cough syrup with Codeine, and his/her PDDT test was negative.

Comparison of Phase II to Phase I results. In Phase I there were six positive PDDT results out of 55 tests (10.9%). In Phase II we note an increase of positive PDDT tests overall to 35 out of 102 tests (34%). In Phase I, PDDT swipe locations were hands, interior of pockets, belt buckle or buttons, and shoelaces or tops of shoes. In Phase II, the number and types of items swiped varied and included cell phones, jewelry, eyewear, hats, purses, and the like. The higher incidence of PDDT positive results may be attributed to the variations in items tested. Perhaps drug residues remain longer on these items and/or are more susceptible to transfer of residue from other parties. Differences may also be attributable to the inclusion of offenders on probation and parole. We explore this notion in the next section.

Parole & Probation Office

The analysis of client demographic and criminal history data provided by WDOC IT department for the Cheyenne District Parole & Probation caseload is examined in Table __. There were 1,087 individuals on the P&P caseload as of the Phase II site visit; 44 participated in PDDT testing.

Those who participated in PDDT testing at the P&P setting are largely similar to the overall Cheyenne P&P caseload (Table 2). However, it is interesting to note that a higher proportion of women participated in PDDT testing than men. Specifically, women comprise 22% of the P&P caseload, yet make up of 35% of those P&P clients tested. In addition, there was more racial diversity among the PDDT test subjects with more African American, Hispanic or of another race, than represented in the P&P caseload (37% of those tested were non-white compared to 27% of the P&P caseload which is non-white). The PDDT test subjects were also more likely to be in the age range of 18 to 24 (30% compared to 21% of the P&P population overall) and less likely to range in age from 25 to 35 (21% compared to 37%).

Table 2. P&P Client Population

	P&P Cheyenne Caseload N=1,087			***P&P PDDT Participants N=44***		
	N	*Range*	*Average*	N	*Range*	*Average*
Age as of Phase II Site Visit	1083	19 to 78	35.8	43	19 to 66	36.1
Gender – Male	1086	0 to 1	.78	43	0 to 1	.65
Race – White	1082	0 to 1	.73	43	0 to 1	.63
Sentence – In Months	1085	4 to 945	61.7	42	10 to 768	76.0
Time Remaining In Months	926	0 to 765	31.1	42	3 to 765	55.9
Sex Offender	1086	0 to 1	.08	43	0 to 1	.09
	N	***Freq***	***%***	N	***Freq***	***%***
Age Distribution	1083			43		
18 to 24		225	21%		13	30%
25 to 35		405	37%		9	21%
36 to 45		224	21%		10	23%
46+		229	21%		11	26%

	P&P Cheyenne Caseload N=1,087			***P&P PDDT Participants N=44***		
Race and Ethnicity	1082			43		
White		786	73%		27	63%
African American		82	7%		7	16%
Hispanic		180	16%		8	19%
Other		34	4%		1	2%

In terms of differences in criminal history between P&P caseload and those in PDDT test sample, there are also several differences (Table 3). For example, there were somewhat more person offenders tested than in the P&P caseload (30% vs. 24%), more parolees (21% vs. 10%), fewer individuals on medium level supervision (14% vs. 29% of P&P caseload) and a greater percentage of Level 1 supervisees (23% vs. 5%), and fewer minimum supervision level clients (5% vs. 30%). There were also more individuals sentenced to 37 to 60 months in the PDDT pool (59% vs. 43% of the caseload), and a commensurate difference on sentence remaining (38% vs. 16%) with 37 to 60 months remaining on their sentence.

Table 3. P&P Criminal History Characteristics

	P&P Cheyenne Caseload N=1,087			***P&P PDDT Participants N=44***		
Primary Criminal Offenses	819			43		
Person		196	24%		13	30%
Property		279	34%		14	33%
CDS		247	30%		13	30%
Misc		97	12%		3	7%
Type of Offender	1086			43		
Parole		106	10%		9	21%
Probation		837	77%		31	72%
Interstate Compact		143	13%		3	7%
Supervision Level	956			43		
Maximum		259	27%		14	32%
Medium		278	29%		6	14%
Minimum		283	30%		2	5%
Sex Offender High		25	3%		0	0%
Sex Offender Low		13	1%		0	0%
Level I		47	5%		10	23%
Level II		26	3%		3	7%
Level III & Level IV		25	3%		8	19%
Months Sentenced	1085			42		
0 to 6 months		5	<1%		0	0%
7 to 12		19	2%		1	3%
13 to 24		166	15%		3	7%
25 to 36		187	17%		5	12%
37 to 48		241	22%		11	26%
49 to 60		226	21%		14	33%
60 to 120		184	17%		5	12%
121 +		57	5%		3	7%

	P&P Cheyenne Caseload N=1,087			***P&P PDDT Participants N=44***		
Sentence Remaining - Months	1085			42		
0 to 6 months		323	30%		3	7%
7 to 12		129	12%		3	7%
13 to 24		225	21%		11	26%
25 to 36		153	14%		5	12%
37 to 48		118	11%		9	21%
49 to 60		59	5%		7	17%
60 to 120		59	5%		1	3%
121 +		19	2%		3	7%

These differences are not necessarily surprising as this is a convenience sample among those who were randomly scheduled to come into the P&P for UA testing. Perhaps the differences among the P&P caseload population and PDDT testing observed here is a result of the timing of the PDDT testing (near the end of the month). This may have influenced the sample as according to WDOC staff, there is often more frequent calls for UA testing at the beginning of the month. Continued testing over a longer period of time may reduce these apparent demographic and criminal history differences.

Looking at the P&P population overall, the population was on average 36 years old (ranging in age from 19 to 78 years old), and 78% male. In terms of racial diversity, 73% were white, 7% were African American and 16% were Hispanic or Latino, and 4% were other (including Native American and Asian). The majority of the P&P population was on probation (77%), while 10% were on parole, and the remaining 13% were interstate compact clients. Looking at the types of primary offenses, 24% of P&P clients were convicted of a person crime, 34% for property crime, 30% for a controlled dangerous substance offense, and the remaining 12% were categorized as a miscellaneous offender. Less than 10% of the P&P caseload is a sex offender. In terms of levels of supervision, the P&P caseload is fairly evenly split between maximum (27%), medium (29%) and minimum (30%).

The data also reflect that a significant percent of clients had relatively long sentences for criminal offenses – on average, clients were sentenced to 61 months. The range of sentences imposed (from 4 to 945 months) reflects the variety of crimes and seriousness of the criminal offense for which clients were convicted. Observing the sentencing distribution, 43% had terms over 49 months, while 22% had terms from 37 to 48 months, 17% had terms from 25 to 36 months, and the 18% had sentence terms of 0 to 24 months.

Clients in P&P had an average of 31 months remaining to serve on their sentence. Specifically, 23% had terms remaining of 37 months or more and 14% had terms remaining from 25-36 months. Twenty one percent (21%) had terms remaining of 13-24 months. Many P&P clients (42%) had less than 12 months remaining on their terms.

Client Characteristics for Those with PDDT Positive Results

Of the 102 clients participating in the Phase II PDDT evaluation, 35 tested positive for either PDDT Coca or PDDT 4D4. Given the small number of positives PDDT tests, the comparison of client characteristics between those who were PDDT positive and those who were PDDT negative are combined from both settings in Table 4.

The combined data characteristics of those with PDDT positive results should only be viewed as anecdotal information, rather than conclusive evidence.

The 35 PDDT positive clients were significantly younger (at $p<.01$) than the individuals who tested PDDT negative. Positives had an average age of 32.1 years, compared to 38.7 years old. Those with positive PDDT results had a higher percentage of persons in the 18-24 age cohort (43%) than the PDDT negative group with 15% in the same age cohort. The PDDT positive

Table 4. Comparison of Client Characteristics and Criminal History by PDDT Results

	PDDT Positive Group N=35			***PDDT Negative Group N=67***		
	N	***Range***	***Average***	***N***	***Range***	***Average***
Age as of Phase II Site Visit	35	19 to 53	32.1**	65	21 to 67	38.7
Gender – Male	35	0 to 1	.80	66	0 to 1	.80
Race – White	35	0 to 1	.63	65	0 to 1	.77
Sentence – In Months	34	12 to 176	57.0	65	6 to 768	56.1
Time Remaining In Months	34	4 to 140	38.7	65	2 to 765	42.5
Sex Offender	35	0 to 1	.14	66	0 to 1	.20
	N	***Freq***	***%***		***Freq***	***%***
Age Distribution	35			65		
18 to 24		15	43%		10	15%
25 to 35		7	20%		22	34%
36 to 45		7	20%		15	23%
46+		6	17%		18	28%
Race and Ethnicity	35			65		
White		22	63%		50	77%
African American		7	20%		6	9%
Hispanic		5	14%		9	14%
Other		1	3%		0	0%
Primary Criminal Offenses	34			64		
Person		11	32%		22	34%
Property		13	38%		26	41%
CDS		6	18%		15	23%
Misc		4	12%		1	2%
Months Sentenced	34			65		
0 to 24 months		6	17%		14	22%
25 to 36		2	6%		14	22%

	PDDT Positive Group N=35			***PDDT Negative Group N=67***		
37+		26	76%		37	57%
Sentence Remaining - Months	34			65		
0 to 24 months		11	32%		29	45%
25 to 36		11	32%		13	20%
37+		12	35%		23	35%

**Difference is statistically significant at p<.01

group was also more racially diverse than the PDDT negative group – PDDT positive was 63% White, 20% African American, 14% Hispanic Latino and 3% other (including Native American and Asian), compared to 77% white, 9% African American, 14% Hispanic-Latino and 0% other.

Overall, there were more individuals in the PDDT positive group who had been sentenced to 37 or more months than the negative group (76% PDDT positive vs. 57% In the PDDT negative group). This greater clustering in the top end of the range perhaps indicates individuals who have a more serious criminal record overall.

Likewise, there were differences with respect to sentence remaining between these groups on the bottom end of the range. Those who tested positive had less time remaining on their sentence (an average of 38.7 months compared to 42.5 months among the PDDT negative group). Looking at the ranges, the PDDT positive group was evenly split between the 3 ranges – 32% for 0 to 24 months, 32% for 25 to 36 months, and 35% for 37+ months. However, the PDDT negative group indicated more individuals with less time remaining on their sentence tested negative (45%) than those with 25 to 36 months remaining (20%).

These differences in sentence length and time remaining may not be indicative of any pattern related to PDDT testing. However, if these sentences indicate a more serious criminal history, then it may be that these individuals have more difficulty adjusting to a pro-social lifestyle.

Interview Responses from PDDT Positive Group

Eleven of the 35 who tested positive were also included in interviews regarding the PDDT process. The interview results for those who tested positive indicated that all felt comfortable with the process and 100% responded that it was not intrusive. Two said that the process "*felt weird … but not uncomfortable*". Three PDDT positive subjects indicated that it was better and faster than the UA. Six of the 11 asked questions about the transfer of drug traces from handling money or other materials. One person noted, "*there are lots of fibers that float around*".

Among this group of 11 who tested positive for PDDT six stated they had a substance abuse issue, although one stated that drugs were not related to their conviction. Among those who did note an issue, their drug of choice ranged from marijuana, methamphetamine, cocaine, alcohol and marijuana, "everything" and no particular drug of choice. Three were currently in treatment.

In response to the question of whether the use of PDDT would deter people or change their behavior, eight of the 11 PDDT positives answered in the affirmative. One interviewee noted "*If nothing else – [you are] more likely to use if hanging out with addicts - it would keep you less likely to be around people using drugs"*. Another respondent stated "*Most definitely - you would see no more out; no way to; make it not worth drugs.*" In contrast, four of the respondents were less convinced of the use of PDDT changing someone's behavior. For example, one said, "*addicts are addicts"* and "p*eople will do what they want to do - regardless of whether get caught; it is a choice"*.

Anecdotal Information – Facility and Evidence Item Testing

During the Phase II PDDT testing at P&P, WDOC staff expressed interest in testing the various P&P officer's desk surfaces near where clients sit, to determine if PDDT would pick up drug residue. In addition, P&P staff also went to the evidence locker and tested several items (e.g., drug pipes and other paraphernalia.) A number of PDDT tests were positive for both office furniture and these evidence items. This also allowed staff to get hands-on experience using PDDT and generally received a positive response as to the ease of use and swiftness of the test.

P&P staff were also very interested in using the PDDT technology for testing when conducting home visits with P&P clients. The staff felt that a PDDT positive from an object or fixture within the home or vehicle would be useful to open a conversation with the client to explore their circumstances more closely. Understanding the presumptive positive nature of the PDDT technology, P&P staff stated they could talk with the client and find out how this residue was present. Had the client gone somewhere where they could have been exposed to trace elements? Were there people in the client's home who were using drugs, or associating with other parties who use drugs? Both situations could raise the risk for the client who continues to associate with peers and family members engaged in the drug lifestyle and consequently who may not be as supportive of the individual's recovery or desire to remain crime free. For the community supervision agent, engagement and communication with the client is an important facet to effective case management. This is reflected in that all WDOC P&P staff – from agents to managers – have been trained in Motivational Interviewing (MI), an evidence based best-practice in corrections. P&P Agents can utilize both their MI training and PDDT technology to open doors to a conversation, producing better outcomes overall.

Summary

Phase II in WDOC continued to show what Phase I revealed – the PDDT could be used in community corrections settings.

As in Phase I, traces of illegal drugs were found on client hands, clothing and possessions. There were 35 PDDT positive test results (about 34% of the test subjects), all of which had negative UAs. The higher incidence of PDDT positive results may be attributed to the variations in items tested.

In Phase II, there was also a greater variety of substances detected. While PDDT positives for marijuana remained a consistent finding, there were also positive results for heroin. WDOC staff

advised that heroin was emerging in the community; this appeared to be confirmed by the incidence of positives of such drugs through PDDT.

The PDDT testing process was readily accepted by clients and staff. Clients felt that it was quick, simple to use, and non intrusive.

It was discovered during Phase II testing that it was beneficial to divide the consent and testing process. Once a client consented to participate, the client was given a card with the JSS control number. The card was taken to another office and given to JSS staff for the PDDT paper swipes. JSS staff noted that clients were more cooperative and receptive to the PDDT test process when the client was invited to sit down while the PDDT test swipes are conducted.

Anecdotally, PDDT was useful in assessing what drugs may be present in P&P facilities. PDDT testing of items from the evidence locker also provided confirmation to the staff of the effectiveness of PDDT in picking up trace elements of drugs. P&P staff were also very interested in using the PDDT for testing when conducting home visits with P&P clients. P&P staff expressed that they hoped that positive PDDT results could open the door to a conversation with a client, resulting in better communication and more effective client case management overall.

Montgomery, Alabama

Montgomery County Community Corrections – September 2011

Alabama state law provides for the creation of county approved, community based corrections programs for eligible offenders.

The Montgomery County Community Corrections Center (MCCC) supervises offenders from state and county courts. Under the Corrections Center umbrella are programs such as Pretrial Services/ Intake Unit, Alternative Sentencing, Court Referral, Drug Court, Probation Office, and AOD Laboratory.

The MCCC is funded by the County Commission and contracts with the State of Alabama Department of Corrections and Administrative Office of Courts. Participants in all programs at the Corrections Center are required to pay monthly supervision, drug testing and court related fees.

Pretrial Services identifies and assists those defendants that are in jail and unable to post bond. Primarily, the program deals with nonviolent offenders whose cases are pending before the District Court, Grand Jury or Circuit Court. A pretrial investigation involves:

- Initial Screening
- Criminal History
- Interview
- Verification
- Recommendation
- Release
- Supervision

The Alternative Sentencing Program identifies certain felony offenders who can be punished safely within the community by utilizing sentencing options that range from deferred sentences to incarceration. There are different requirements that qualify an offender for the program:

- Felony Charge
- Youthful Offender Status
- Prison Bound
- Safely Punishable within the Community
- Nonviolent
- Facing Probation Revocation

The Drug Court is a comprehensive substance abuse intervention program. The program is designed to intervene once a person is charged with a substance abuse or related offense. Treatment is spread over a twelve-month period and aids in the reduction of future criminal activity. Involvement with 12 step programs, attending group therapy, regular drug testing, and payment of fees are required. Participants meet the following criteria:

- Charge with a Substance Abuse or Related Felony Offense
- Assessment Indicates Drug Dependency

- No violent Behavior Demonstrated
- Possible Repeat Offender without Intervention

Probation is a formal program that provides a high level of supervision including the monitoring of the offender, the enforcement of ordered probationary conditions, and the opportunity for self-improvement and rehabilitation. Referrals are received from District and Circuit Court as well as courtesy supervisions from other states.

- Report as Ordered by Probation Officer
- Random Drug Testing
- Payment of Supervision Fees, Restitution, Court Costs, and Fines
- No Violations of Law or Ordinances
- Comply with all Special Conditions

The AOD (Alcohol and other Drugs) Laboratory Unit is designed to do non-custody urinalysis drug testing. The Laboratory performs drug testing of those defendants appearing for monitoring appointments for the various Community Corrections Center Programs. These programs include Pretrial Services/ Intake Unit, Alternative Sentencing, Court Referral, Drug Court, and Probation Office.

Referrals from Probation, Drug Court, Pretrial Diversion, and Alternative Sentencing make up the clientele of the MCCC. MCCC Officers supervise the offenders and provide training, drug counseling, employment counseling, drug testing and other services.

PDDT Implementation

JSS staff worked with MCCC staff to integrate the PDDT swiping and testing process into existing procedures. JSS staff was present in the offices of the MCCC officers when offenders reported. Depending on the status of the offender (drug court, probation, etc.), offenders were selected for drug testing by a computerized random selection by color and number. Every day all MCCC clients call in and are told the color and numbers required to report that day for urine testing. If their color or number is selected they must report prior to closing of business and provide a urine sample.

During the weeks prior to the on-site research, MCCC officers informed the clients about the PDDT technology and the JSS evaluation and research project. Clients were advised that participation in the project was voluntary and any information collected during the research project, including PDDT test results, would be confidential and not disclosed to the MCCC. Clients were provided the 'Subject Informed Consent Forms' by their MCCC officers and asked if they would consent to participation in the PDDT research project. In addition, during the site visit, JSS staff met with clients reporting for their UA and explained the JSS research and evaluation project.

Clients who had previously agreed to participate in the project and had signed the consent form were processed using the PDDT collection papers. MCCC officers or JSS staff conducted the swipes. Additional clients were obtained by JSS staff when they explained the JSS research and evaluation project and the client spontaneously volunteered to participate. These clients

indicated that they had first learned of the PDDT research project from JSS staff when they reported for their scheduled UA.

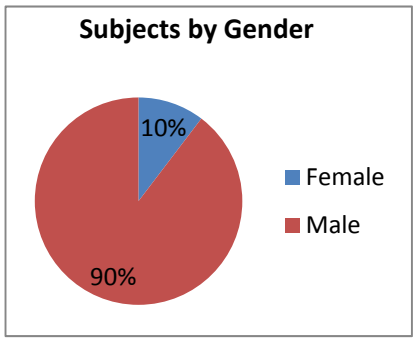
Overall, there existed a professional atmosphere in the MCCC office and JSS researchers were impressed with the MCCC Staff's interactions with their clients. The staff seemed genuinely concerned for their client's wellbeing and success. This provided a comfortable and safe environment for subject testing and interviews.

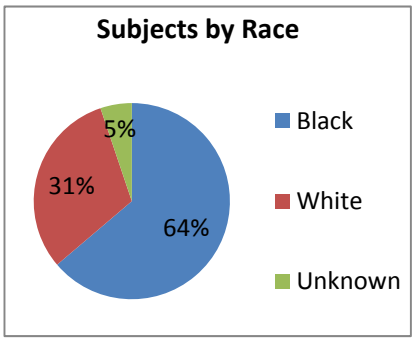
MCCC officers supervised and collected the urine samples and used the PDDT papers to swipe the participants. JSS staff observed the swiping process and recorded the total lapse time to perform the PDDT swiping process involving the #630 and #530 papers on 4 areas, including hands, clothes and possessions. PDDT collection papers where placed into separate protective plastic holders and both placed plastic holders were placed in a plastic bag which had the JSS client identification number written on to it.

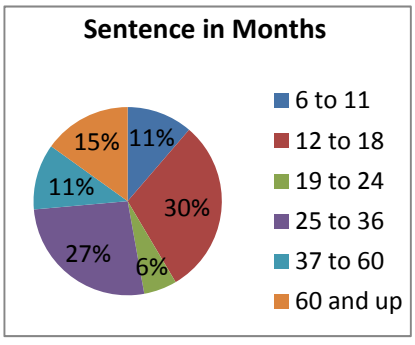
JSS researchers secured the accumulated collection papers until such time that a MCCC laboratory technician indicated available time to conduct the PDDT tests for the presence of drugs. MCCC has an onsite laboratory in which the laboratory technician conducts a multi-drug screening involving immunoassay of urine specimens collected during the day.

MCCC requested that the laboratory technician conduct the PDDT tests for the presence of drugs and the IRB approved the conditions under which the MCCC laboratory technician conducted the tests. JSS staff provided the laboratory technician the used PDDT papers, identified by only the JSS identification number. The laboratory technician used the PDDT aerosol sprays on the respective #630 and #530 papers to determine the positive or negative presence of drugs. JSS observed the PDDT testing process recording the total time lapse for using the PDDT aerosol sprays and detection tests for drugs. The PDDT test results were not reported to any other MCCC official. The laboratory technician provided the UA test results to JSS staff.

The 58 offenders who participated in the study were randomly selected from offenders reporting to the facility on the days of the study. Six subjects were female and 52 were male. Thirty-seven subjects were African-American and 18 Caucasian while three did not provide data. The mean sentence of the subjects was 42.8 months (excluding those with life sentences). Sentences ranged from a minimum of six months to a maximum 240 months. Eleven subjects had sentences of 7 to 11 months; 16 subjects had sentences from 12 to 18 months; 3 subjects had sentences from 19 to 24 months; 14 subjects had sentences from 26 to 36 months; 6 subjects had sentences from 37 to 60 months; and 8 subjects had sentences greater than 60 months.

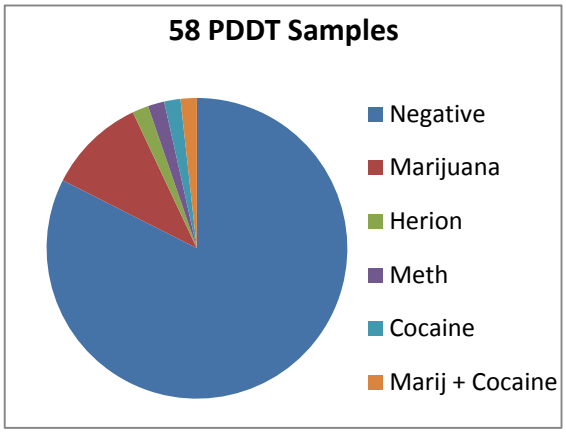


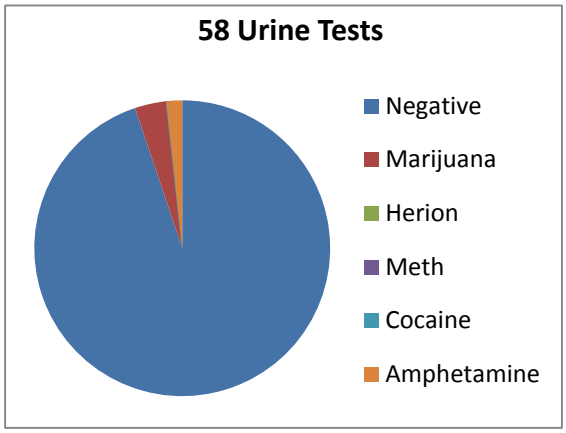




A total of 58 PDDT tests were conducted. The results were: 11 positive for PDDT or about 19% of the 58 tested. Six were positive for marijuana representing about 54.5% of the total PDDT positive tests. Two were positive for marijuana and cocaine representing 18.2% of the total. One was positive for cocaine; one was positive for heroin; and one was positive for methamphetamine.

Three UAs were reported as positive. There were two that were positive under both the UA and PDDT; both positive tests were for marijuana. The last test of the three was negative for PDDT and positive for UA.





Few client interviews were conducted. The facility did not have private or semi-private areas for interviews. The few that were conducted were done in a stairwell with some privacy or in a room where other clients could pass through or convene.

The three principal staff involved in the process were interviewed.

Toward the end of the second day of testing, a variation in the location and items tested was made. Four items were tested, but variations included items in the pockets or other possessions instead of the pocket linings or belts such as cell phones, wallets, keys, caps, and sunglasses.

Anecdotally, without being advised of the PDDT test results, MCCC officials mentioned that law enforcement and others were indicating the beginning resurgence of cocaine and heroin into the community, principally associated with gang activity.

Mobile, Alabama

Mobile County Community Corrections -- August 2011

Just as in Montgomery County, under the Corrections Center umbrella are programs such as Pretrial Services/ Intake Unit, Alternative Sentencing, Court Referral, Drug Court, Probation Office, and AOD Laboratory. In Mobile, the CCC officers provide a variety of counseling, training and supervision to their clientele. But unlike Montgomery County, in Mobile County offenders who make their daily call and learn that they are to provide a urine specimen report directly to the MCCC Laboratory where laboratory staff perform all collection and testing duties. Laboratory staff are responsible for the observation of the direct specimen collection, labeling the sample appropriately, ensuring that the specimen has not been adulterated, transporting the specimen to the Laboratory testing area, testing the sample and documenting the results.

The AOD Laboratory performs approximately 51,000 drug tests annually and statistics from the year 2000 showed a positive rate of less than 10%. In addition, the laboratory offers drug testing services to other outside agencies or programs such as the Drug Education Council.

Due to the local court's preference for ordering very frequent drug testing of offenders (from three to six times per week), the Mobile CCC Laboratory staff of four collect and test about 1,000 specimens on a weekly basis.

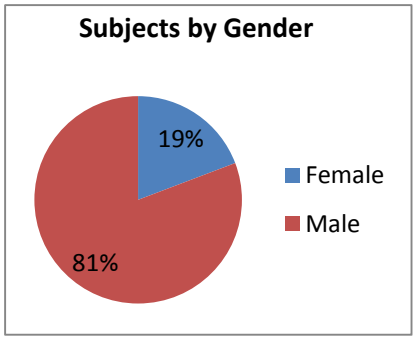
During the JSS site visit to Mobile, JSS staff was present in the laboratory facility. As clients reported for their scheduled UA testing, JSS staff explained PDDT and the evaluation. JSS staff solicited their voluntary participation in the project. Slightly less than half of the offenders with whom JSS had contact agreed to voluntarily participate in the PDDT research project. The majority of those who refused to participate in the PDDT research project cited time constraints as the reason for their declination. Although the heavy flow of offenders provided a large number of potential subjects for the PDDT evaluation and research project, the high volume of clients needing to be processed provided little time for laboratory staff to leave their collection and testing duties to engage in PDDT swiping. The extremely limited and congested laboratory space made the process of swiping somewhat problematic and also hindered JSS staff in privately interviewing subjects.

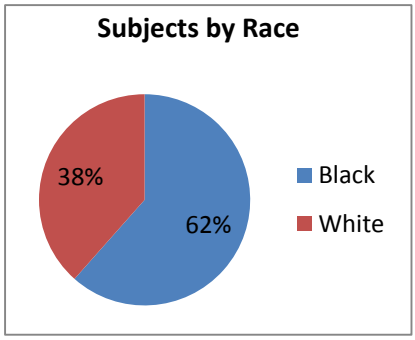
Participants were generally friendly in demeanor and commented on the ease of testing with the PDDT as opposed to providing urine specimens. Laboratory staff who conducted the PDDT swiping under the observation of JSS staff all indicated a preference for the procedure over observing urine collections. When asked if they believed that the use of this method of drug detection would change the behavior of offenders, several subjects responded that they believed it would have little or no effect because drug users would continue to use and non-users would not. They also responded that likely changes in offender's behavior would include carrying no personal objects with them when reporting for testing.

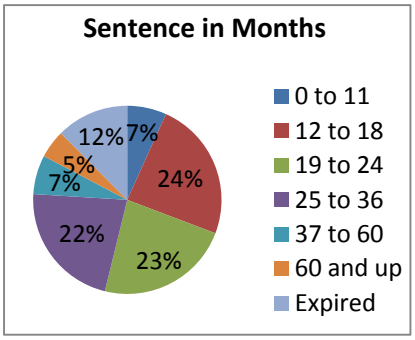
In order to get informed reactions from the MCCC Staff, at the end of our time in Mobile a random sample of twenty PDDT tests we had collected were tested by the MCCC Laboratory staff under JSS supervision. The staff seemed satisfied with their ability to accurately read the

results of the test and reported that the time involved in testing was short and would be a benefit in their operations. All MCC Staff thought that the testing of personal possessions would provide an opportunity to more effectively confront the non-using drug dealers who never return positive urine specimens.

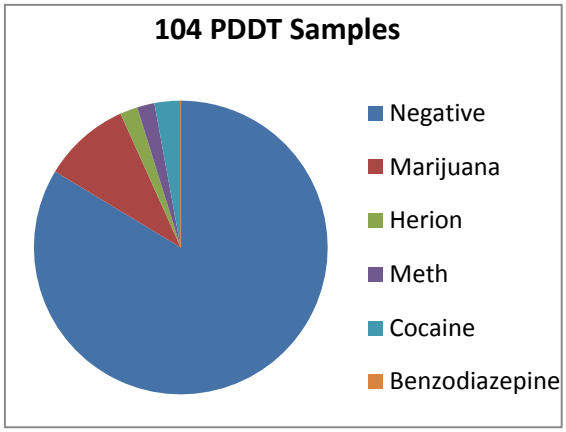
The 104 offenders who participated in the study were randomly selected from offenders reporting to the laboratory on the days of our study. Twenty subjects were female and 84 were male. Sixty-four subjects were African-American and 40 Caucasian. The mean sentence of the subjects was 27.7 months. Sentences ranged from a minimum of 6 months to a maximum 96 months, with an additional eight offenders serving unknown sentences. Seven subjects had sentences of Six to Eleven months; 25 subjects had sentences from 12 to 18 months; 24 subjects had sentences from 19 to 24 months; 22 subjects had sentences from 26 to 36 months; 7 subjects had sentences from 37 to 60 months; only 5 subjects had sentences greater than 60 months. Thirteen subjects had sentences which had expired but who were still required to report due to having positive urines in violation to jail diversion or drug court orders.

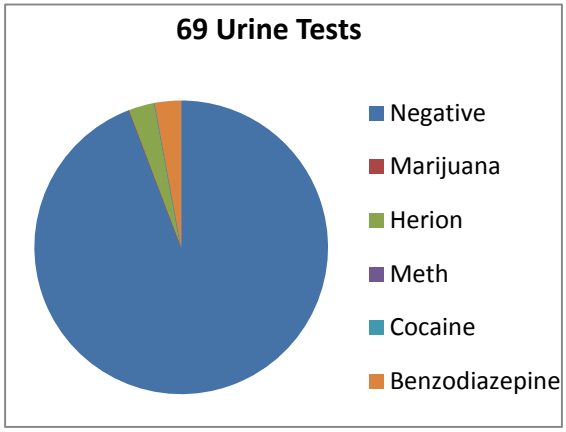






In MCCC, 104 PDDT tests were conducted. Seventeen PDDT tests came back as positive with three involving cocaine and 14 involving marijuana, heroin and amphetamines. Of the 104 tested under UAs, there were four that were reported positive.





Fort Lauderdale, Florida

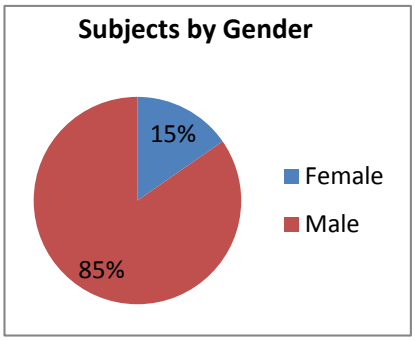
Plantation Probation Office, Florida – November 14, 2011

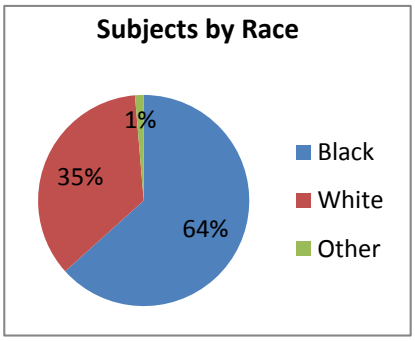
During the month of November JSS conducted a seven-day site visit for the PDDT Evaluation Project with the Florida Department of Corrections, Plantation Probation Office in Ft. Lauderdale (Broward County). This office serves a population including referrals from Probation, Parole, and Community Control. A total of 150 PDDT tests were conducted during this site visit.

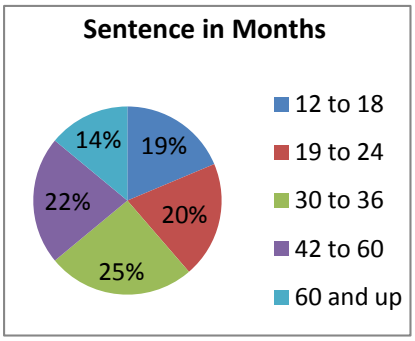
All PDDT testing was performed by DOC staff who are responsible for the supervision of clients and the collection of urine specimens for testing, and testing for clients of Probation and Parole and Community Control (Pre and post trial Diversion).

During the seven-day evaluation period JSS staff explained the voluntary research program to clients as they entered the laboratory for testing, resulting in 150 clients agreeing to voluntarily participate in the PDDT research and evaluation program. Of the 150 agreeing to participate, a total of 150 participated in the swiping process. Eighty-eight (88) of the 150 subjects provided urine specimens for testing.

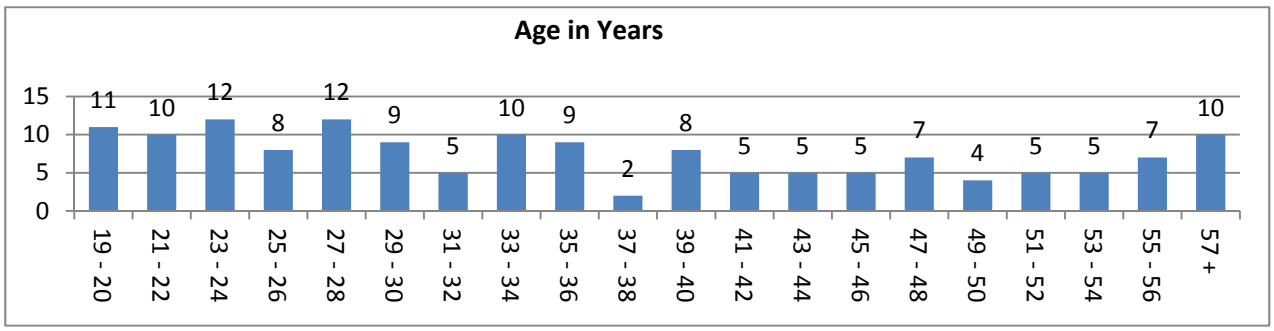
The 150 offenders who participated in the study were randomly selected from offenders reporting to the probation office on the days of our study. Twenty-three subjects were female and 127 were male. Ninety-five subjects were African-American, 53 Caucasian, and 2 reported as other. The mean sentence of the subjects was 42.7 months (excluding those with life sentences). Sentences ranged from a minimum of 12 months to a maximum 360 months, with an additional two offenders serving life sentences. Twenty-eight (28) subjects had sentences from 12 to 18 months; 30 subjects had sentences from 19 to 24 months; 38 subjects had sentences from 30 to 47 months; 33 subjects had sentences from 42 to 60 months; only 21 subjects had sentences greater than 60 months.



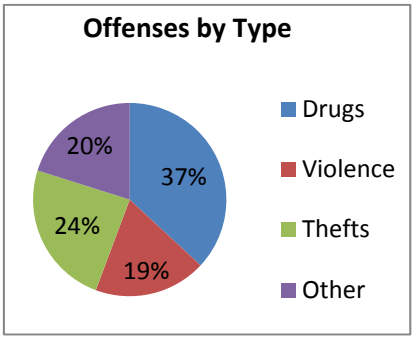




The mean age of the subjects was 36.5 years. The minimum age was 19 and the maximum age was 71 with a distribution fairly evenly spread from ages 19 through 50.



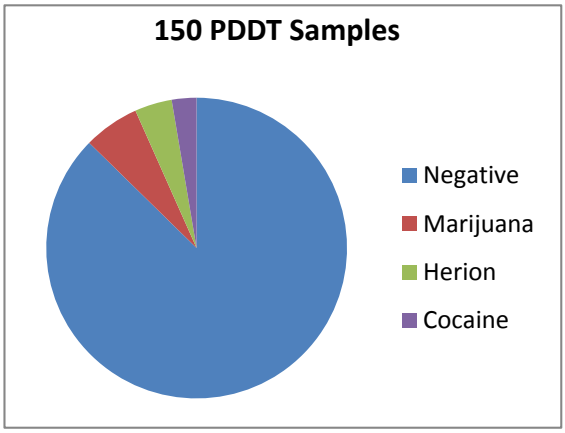
Criminal offenses of the subjects can be divided into four main types, drug offenses, acts of violence, thefts, and other non-violent offenses. The breakdown of offenses is: 37% drug offenses, 19% violent offenses, 24% thefts, and 20% other non-violent acts.



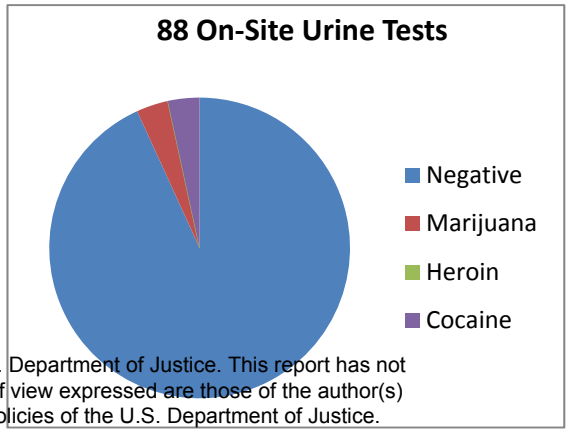
Each client had at least two locations or items tested, but the locations/items varied according to circumstances involving the client. Hands, clothing, keys, cell phones, pant buttons, inside of pants pockets, purses, glasses and hat brims were the most commonly swiped items.

The 150 subjects were swiped by DOC staff under the observation of JSS staff. Twenty-seven (27) were collected on November 2, 36 collected on November 3, 14 collected on November 4, 9 collected on November 7, 25 collected on November 8, 31 on November 9, and 8 on November 10.

In order to provide DOC staff with an understanding of the entire PDDT process, eight PDDT samples were tested by DOC personnel (without DOC personnel knowing the identity of the subjects). None of the eight samples resulted in a positive outcome. The remaining 142 samples were tested at a remote location by JSS staff with 19 of the 150 testing positive (12.6%). The 19 positive tests were: nine, or 6% of the 150 samples, positive for marijuana; six, or 4%, positive for opiates; and four, or 2.7%, positive for cocaine.



DOC staff conducted "On-Site" presumptive urinalysis utilizing test strips on samples received from 88 of the 150 PDDT subjects swiped on. Resulting positives were then mailed out to a laboratory for confirmation analysis. The 88 urine samples returned six positives, or 7% of the



samples tested. Of the six positives, three were positive for marijuana and three were positive for cocaine. No direct correlation between On-Site and PDDT testing was evidenced. None of the subjects' urines which resulted in positive On-Site tests had positive outcomes from the PDDT tests.

Females (15% of the subjects) accounted for 16% of the positives PDDT and 16% of the On-Site urine tests. Blacks (64% of subjects) had 79% of positive PDDT tests and 66% of On-Site tests. Correlating the offenses with the results of testing shows the 55 (36%) drug offenders had six (32%) PDDT positives and two (33%) On-Site positive tests; the 30 violent offenders had five (26%) PDDT positives and three (50%) On-Site positives; the 36 theft offenders had five (26%) PDDT positives and 1 (17%) On-Site positives; the remaining 28 non-violent offenders had three (16%) PDDT positives and zero (0%) On-Site positives.

Client Interviews:

Twenty client interviews were conducted during the evaluation period. Clients interviewed generally responded favorably as to the time the PDDT swiping took and the lack of intrusiveness of the swiping process. Interviewees were roughly split as to whether or not the use of the test would change client behavior. Some responded that drug users would use and non-users would not use regardless of the testing employed.

Staff Interviews:

Eight probation staff involved in the process were interviewed by researchers. To provide a context for the staff's evaluation of the PDDT tests, staff performed the PDDT spray tests on random client samples and interpreted the results, which were confirmed by JSS. Client samples tested were identified by JSS control numbers only.

In general, the staff trusted the efficacy of the product and felt that it would be an appropriate addition to the testing procedures currently employed by the Department. A desire to utilize the PDDT tests in "the field" during home visits was expressed by more than one staff person.

General Comments:

The Plantation office of the Florida Department of Corrections community supervision office conducts reporting and random urine testing of clients on both mandatory and random basis for all program clients. Frequency of testing is usually not less than an average of two weeks. It should be noted however, that clients report primarily during the first week of the month, thereby giving them a good idea of when the urine testing will occur. During our research many of the clients who participated in the project were subjected to urine testing whether or not they were to be randomly tested on that day. The DOC staff member conducting the On-Site presumptive urine testing commented to researchers on the surprisingly large percentage of positives, (compared to regular monthly reporting). Researchers concluded that the subjects were surprised by the urine testing and were not 'prepared' for it.

Miami-Dade County, Florida

Miami Gardens, Florida, December 2011

Setting

On November 29, 2011, JSS conducted a training session on the Mistral Study and Presumptive Drug Detection Technology with the Circuit 11 (Miami-Dade, Monroe County) Administrator, and two supervisors and 14 probation officers working in the Florida Department of Corrections Parole and Probation Office serving Miami North, Hialeah and Miami Lakes. The Probation Office is located 3601 at NW 167th Street, Miami Gardens, Florida.

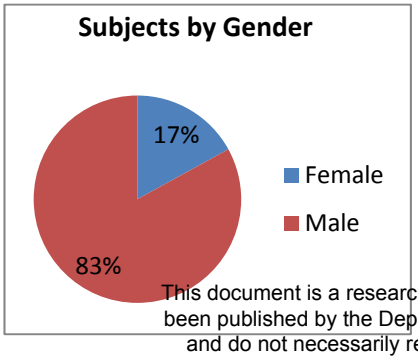
This Office serves a population including referrals from Probation, Parole and Community Control; for this effort, we focused only on Drug Offender Probationers, known as DOP participants. PDDT testing began on December 1. JSS staff conducted tests on December 1-2, 5-7, and 12-14. In total, 94 DOP participants were tested.

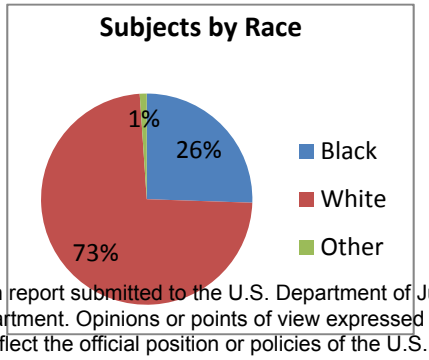
All PDDT testing was performed by DOC staff who are responsible for the supervision of clients and the collection of urines for testing, and testing for clients of Probation and Parole and Community Control (Pre and post trial Diversion). Identity of the clients involved with the PDDT research project and the PDDT test results were kept confidential and not revealed to DOC staff.

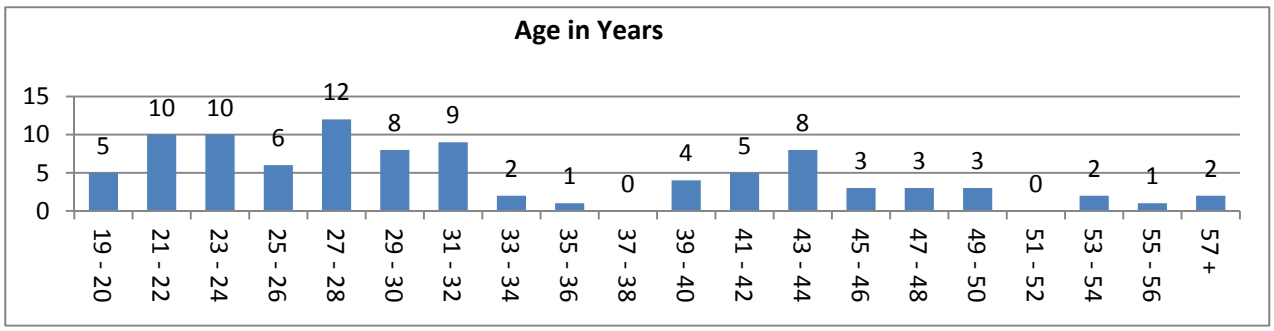
During the eight days of evaluation JSS staff explained the voluntary research program to clients as they entered the facility for testing, resulting in 94 clients agreeing to participate in the PDDT evaluation program. Of note, because of the large number of Hispanic, Spanish-speaking participants, the voluntary consent forms were translated into Spanish. A Spanish-speaking translator from JSS was present at all times during testing to answer questions of the Spanish-speaking participants. Of the 94 agreeing to participate, all 94 participated in the swiping process. All 94 provided urine specimens for testing, as a required part of their drug offender probation sentence.

The 94 offenders who participated in the study were randomly selected from offenders reporting to the probation office on the days of our study. Sixteen (16) subjects were female and 78 were male. Twenty-four (24) subjects were African-American, 69 Caucasian, and 1 reported as other. Of the group, 60 were of Hispanic decent.

The mean age of the subjects was 32.6 years. The minimum age was 19 and the maximum age was 64 with a distribution fairly evenly spread from ages 19 through 50.







Each client had at least two locations or items tested, but the locations/items varied according to circumstances involving the client. Hands, clothing, keys, cell phones, pant buttons, inside of pants pockets, purses, glasses and hat brims were the most commonly swiped items.

The 94 clients were swiped by DOC staff under the observation of JSS staff. Shortly thereafter, JSS staff tested the samples at a remote location with 17 of the 94 testing positive (18.1%). The 17 positive tests were: two, or 2.1%, positive for cocaine, one for heroin (1.1%), and 14 for marijuana (15%).

The 94 urine samples returned six, or 6.4% of the samples tested. Of the six positives, three were positive for marijuana and three were positive for cocaine. None of the subjects' urines had positive outcomes from the PDDT tests.

Females (17% of the subjects) accounted for two of the positive PDDTs, with males accounting for 15 of the positive PDDTs. Females did not test positive for the urinalysis. Hispanics (64% of subjects) had 71% of positive PDDT tests and 50% of the positive urinalyses.

Client Interviews:

Thirteen client interviews were conducted during the evaluation period. Clients interviewed generally responded with favor as to the time the PDDT swiping took and the lack of intrusiveness of the swiping process. Interviewees were roughly split as to whether or not the use of the test would change client behavior. Some responded that drug users would use and non-users would not use regardless of the testing employed.

Staff Interviews:

Three probation staff involved in the process were available and consented to be interviewed by researchers. To provide a context for the staff's evaluation of the PDDT tests, staff performed the PDDT spray tests on random client samples and interpreted the results, which were confirmed by JSS. Client samples tested were identified by JSS control numbers only.

Two staff trusted the efficacy of the product and felt that it would be an appropriate addition to the testing procedures currently employed by the Department. They expressed a desire to utilize the PDDT tests in "the field" during home visits and felt it would save time and resources. They

felt the PDDT would help them alleviate the wait period for conducting urine test due to the need for gender specific officer to witness the testing. (The Office has more female probation officers than male officers but has more male offenders reporting than females, resulting in a difficult process for witnessing urine test due.)

The third was skeptical of the reliability of the test and felt it would negatively impact her relationship with her assigned clients. (It should be noted that this probation officer was reluctant to allow her clients to learn about the project and determine if they wanted to volunteer or not.)

General Comments:

The Miami Gardens Office of the Florida Department of Corrections Probation and Parole Services conducts reporting and mandatory urine testing of DOP clients monthly. DOP clients are mandated to report to the FLDOC office during the first seven to ten reporting days of each month. In addition, probation officers randomly conduct field home and work visits throughout the month, conducting random urine test. As a result, frequency of testing is not less than an average of every two weeks.

Cost Comparisons of PDDT

A cost-comparison analysis was conducted based on the notion that the PDDT could be used as a first step in assessing whether the offender came into contact with drugs. If PDDT shows reliability and validity in the field, then it may be possible to supplant UAs for screening purposes only. It would not supplant UAs as the basis for determining ingestion of a drug.

From this perspective we ask, "how does the cost of PDDT compare to that which is currently in place?"

Cost Comparison

JSS's methodology for determining cost effectiveness involved determining if there is a potential costs savings from using traditional methods of drug testing. The approach is to compare the cost of time and materials in using PDDT to the cost of time and materials in using UAs.

The research methodology involved capturing the times involved in using PDDT. JSS staff observed and used stop watches to capture the time it took to conduct the swiping process for both the #630 and #530 papers. In addition, we captured the time it took to apply the PDDT aerosols to the specialized paper. The PDDT costs were estimated from MSI information to perform the Coca and D4D tests as a single unit cost. Labor costs were obtained from the community corrections department/agency that provided average hourly rates for corrections officers. Average hourly rates multiplied by the average time to use PDDT from collection to aerosol reaction results determined the time costs for PDDT use. PDDT time and materials costs were then calculated for the various sites providing information.

To determine the estimated costs of the UA use at the various sites, the same components of time and materials costs were obtained. Community corrections staff were asked to provide their unit cost for performing the urine analysis – either for the presumptive urine analysis kit or the multi-panel drug screen materials for the tests performed in on-site laboratories. The estimated average staff time to perform the UA at the site was obtained through discussions with corrections staff performing the UAs and confirmed through discussions with administrators. Average labor costs were obtained for site. The costs of time to perform the UA were based upon the average time to perform the UA at the site multiplied by the provided average labor costs for each site. Time and materials costs for the UA were then determined for each site providing this information.

It should be noted that some sites provided fully burdened labor costs while others provided just the hourly wage. The research methodology is focused upon the relative costs within a site. The cost comparisons between UA and PDDT were internally consistent within each site. The costs comparisons between UA and PDDT among the various sites are not relevant to this research. What is relevant is to determine if one drug testing protocol is consistently more cost effective than the other, but for the purposes of screening only.

The site location is not identified. Certain cost information was considered restricted information. Some information was shared with JSS for research purposes only as long as the source of information was not identified.

Table 5 displays the time and materials costs for MSI PDDT and UAs. For the sites providing information for this analysis, the costs for using PDDT is consistently lower than using UAs either involving the presumptive UA kit or the EMIT or immunoassay screens performed in on-site laboratories. Based upon the cost estimation methodology for both PDDT and UAs, PDDT appears to be more cost effective than UAs. The cost differences ranged from $ 0.25 to $5.14.

Table 5. Cost Comparisons of PDDT to UA

Site	Item	Projected Total Time	Estimated Costs for Time	Materials – Unit Costs	Total Projected Costs	Difference Over MSI PDDT
A	MSI PDDT	3.25 to 4.0 min	$0.60 to .73 (Avg. hr rate of $11.00)	$1.82 to $2.68	$2.42 to $3.41	
A	UA	5 to 12 min	$ 0.92 to $2.20 (Avg. hr rate of $11.00)	$1.75	$2.67 to $3.97	**$0.25 to 0.56**
B	MSI PDDT	2 to 3 min	$0.56 to .85 (Aver hr rate of $19.54)	$1.82 to $2.68	$2.38 to $3.53	
B	UA	3 to 5 min	$0.98 – 1.63 (Aver hr rate of $19.54)	$2.45	$3.43 to $4.08	**$.55 to 1.14**
C	MSI PDDT	2 to 3 minutes	$0.74 to $1.11 (Aver hr rate of $22.19)	$1.82 to $2.68	$2.56 to $3.79	
C	UA	2 to 4 minutes	$0.74 to $1.48 (Aver hr rate of $22.19)	$3.14	$4.08 to $4.82	**$0.29 - $2.26**
D	MSI PDDT	2 to 3 minutes	$ 0.87 to $1.30 (Aver hr rate of $25.98)	$1.82 to $2.68	$2.69 to $3.98	
D	UA	10 minutes	$4.33 (Aver hr rate of $25.98)	$3.50	$7.83	**$3.85 to $5.14**

Summary of Findings

Overall, this evaluation found that Presumptive Drug Detection Technology was successfully used in community corrections settings.

Table 6 shows the sites, type of facility, number of tests and the number of positive tests from PDDT and urinalysis. Across six sites (we combined Cheyenne CTC) 17 tests were positive for cocaine (3%) and 90 tested positive for marijuana, heroin, and methamphetamines (16%). Twenty clients tested positive in their urinalysis (3.6%). Out of the 562 clients, only two tested positive for both the PDDT and the UA.

Table 6 PDDT Test Sites

	Type of Facility	Date of Tests	# of Tests	# of Pos Coca	# of Pos D4D	UA positives
Cheyenne, WY	CTC-Work Release	Feb and Aug 2011	113	4	20	1
Cheyenne, WY	Probation and Parole	Aug-11	44	0	15	0
Montgomery, AL	Probation and Parole	Aug-11	57	4	12	3
Mobile, AL	Community Corrections	Oct-11	104	3	14	4
Plantation, FL	Probation	Nov-11	150	4	14	6
Miami, FL	Probation	Dec-11	94	2	15	6
	Total number of confirmed tests		562	17	90	20

Wyoming Phase I:

There were a total of 55 clients involved with the PDDT research and evaluation project during Phase I. There were six positive PDDT results of the 55 tested (10.9%). Of those with positive results, five (5) were positive for marijuana (83.3%) and 1 was positive for cocaine (16.7%). Urine analyses were conducted for all 55 subjects, of which 54 were negative including all those with positive PDDT results and one UA was positive with negative PDDT results.

The actual recorded time to swipe four locations with two separate test papers (#530 and #630) ranged from 37 to 121 seconds for 27 observed tests, excluding the two tests not involving the shoelaces. The average total time to perform the two PDDT collection paper swipes for the 27 tests was about 69 seconds.

Client interviews: Of 27 client interviews, nearly all (94%) of the respondents said that they were comfortable with PDDT test paper process. All stated that the time involved was short and quick. Ninety-two percent felt it was not intrusive. No one objected to the four areas tested or the manner in which the PDDT swiping process was conducted.

Over half (55%) felt that PDDT could be effective in detecting illegal drugs, while 20% felt it would not be effective, and 25% responded they did not know.

Client characteristics: A significant percent of CTC clients participating in the PDDT evaluation had relatively long sentences for criminal offenses – 49% had terms over 37 months and 22% had terms from 25-36 months.

Wyoming Phase II:

Among the 58 CTC participants, there were 17 positive PDDT results (29.3%). Of those with positive results, eight were positive for marijuana (47.1%), five for heroin (29.4%); one for marijuana and heroin (5.9%) and three for cocaine (17.6%). Urine analysis was conducted for all 58 subjects, of which 57 were negative including all those with positive PDDT results.

For the 44 probation and parole clients who participated in the PDDT project, 18 PDDT tests were positive, representing 41% of the group (15 for marijuana - 83% and three for heroin - 17%). All of the clients had negative UAs.

In Phase II, there was also a greater variety of substances detected. While PDDT positives for marijuana remained a consistent finding, there were also positive results for heroin.

The PDDT testing process was readily accepted by clients and staff. Clients felt that it was quick, simple to use, and non intrusive.

Montgomery County Community Corrections:

A total of 58 PDDT tests were conducted. The results were: 11 positive for PDDT – six for marijuana, two for marijuana and cocaine, one for cocaine, one for heroin or and one for methamphetamine.

Three UAs were reported as positive -- two that were positive under both the UA and PDDT, both positive tests were for marijuana.

Mobile County Community Corrections

In MCCC, 104 PDDT tests were conducted. Seventeen PDDT tests came back as positive with three involving cocaine and 14 involving marijuana, heroin and amphetamines. Of the 104 tested under UAs, there were four that were reported positive.

Plantation Probation Office in Ft. Lauderdale

In Ft. Lauderdale, 150 clients participated in the evaluation. Nineteen of the 150 tested positive (12.6%). The 19 positive tests were: nine, or 6% of the 150 samples, positive for marijuana; six, or 4%, positive for opiates; and four, or 2.7%, positive for cocaine.

Miami-Dade County

In Miami-Dade County, 94 clients were tested by DOC staff under the observation of JSS staff. Shortly thereafter, JSS staff tested the samples at a remote location with 17 of the 94 testing positive (18.1%). The 17 positive tests were: two, or 2.1%, positive for cocaine, one for heroin (1.1%), and 14 for marijuana (15%).

The 94 urine samples returned six positives, or 6.4% of the samples tested. Of the six positives, three were positive for marijuana and three were positive for cocaine. None of the subjects' urines had positive outcomes from the PDDT tests.

General Findings

1. The PDDT was useful in community corrections settings.

2. The PDDT testing process was readily accepted by clients and corrections staff. Both felt that it was quick, simple to use, and non intrusive. Training on the PDDT was straightforward and was accomplished within a short time period.

3. Most of the PDDT positive test results were for marijuana, which was expected, as marijuana was not only the prevalent drug of choice but also because its residual properties were more long term than other controlled substances.

4. There appeared to be some very modest potential cost savings with using PDDT as a screening tool over using UAs. This assumes that PDDT can substitute for UAs under certain circumstances and conditions. The cost savings were based upon the time differences in performing the UAs which had a longer time requirement than the time needed to conduct the PDDT.

There were certain circumstances under which community corrections officials felt that the use of PDDT would be cost beneficial and cost effective. Many community corrections settings use risk analysis methods in evaluating client behavior and progress towards achieving rehabilitation goals. There are some clients who have demonstrated through consistent behavior and monitoring that they are low risk. For these clients, using PDDT, if positive, as a precursor to using a UA test or using PDDT to periodically and randomly replace UAs, would be cost effective to monitor this low risk client group.

5. Anecdotally, PDDT was found to be useful in assessing what drugs may be present in corrections facilities by conducting PDDT test paper swipes in various facility locations as well as to routinely and randomly test surfaces, vehicles, equipment and possessions during field visits to homes and to employment locations. Field use of PDDT may be found to be cost effective when it is used to test and confirm the presumption of illegal drug detection of suspicious substances before submitting such substances to drug sniffing dogs or sending out the substances to laboratories for analysis. In one instance, an experiment was performed to determine if PDDT could be used to detect Spice. A known sample of Spice was presented in the

experiment. The PDDT ampoule was used and when applied to the sample substance it detected a derivative of marijuana.

6. Corrections officers, case managers, administrators expressed their belief that PDDT would be a useful tool in a community corrections setting. They did not indicate that PDDT could or should replace the use of other drug testing protocols, such as urine analysis. They found that PDDT would be useful in supplementing existing drug testing. In particular, they said that PDDT could help to enforce probation conditions where the client must avoid criminal activity or association with criminals.

7. Existing drug testing reflects recent use or ingestion. PDDT helps monitor whether the client is presumptively handling or in the presence of illegal drugs.

8. A majority of clients, corrections officers, and case managers believed that the use of PDDT in combination with urine analysis and other drug testing methods would be effective in deterring client drug involvement behavior. Using PDDT and urine analysis on a random basis, in combination or singly, adds the element of unpredictability of when the client will be tested and what will be tested. Knowing that they may be tested at any time for ingestion or that any possession, piece of clothing or body exposure could be swiped with PDDT collection papers introduces sufficient uncertainty to the client and may lead to deterrence from drug related behaviors.

9. During the project evaluation, there were technical problems encountered or concerns expressed with using PDDT, including:

a. Problems with #630 and #530 collection paper dispensers. A lip on the dispenser unit would strip off the protection sheet as the collection paper was pushed out for use. To obtain an intact collection paper often meant the loss of several collection sheets as they were dispensed unprotected or required several minutes to dispense. If PDDT use in a community corrections setting involves high volume testing in a short period of time, MSI must address the problems associated with the dispensing unit.

b. Many of the possible positive results rendered minute specks of color change that were difficult to assess. It was unclear whether the resulting color was from a detected drug or a small piece of lint, dirt or dust collected during the swiping process. There seemed to be subjectivity on test results depending on the experience or confidence of the person reading the PDDT color change. One batch of test papers was defective and presented such a discolored background when sprayed that reading the results was deemed positive only when there appeared to be a significant quantity of drugs present on the collection paper.

c. Corrections officers expressed concerns about using two separate PDDT collection papers. They asked, "If an object was swiped the first time, could the PDDT paper remove all traces of the drug residues so the second paper swipe does not pick up anything?" If there was one collection paper and a single spray, the issue using the right spray on the right paper in the right sequence to reveal cocaine residues is eliminated.

Recommendations

Recommendations for Administrators

1. Leadership. If PDDT is considered for implementation, leadership from the top is essential. Administrators will need to become familiar with PDDT – what it is, how it works, what it does, and what it does not do. Most importantly, the emphasis should be upon the usefulness of PDDT as one of many tools used by corrections staff to monitor and counsel appropriate client behavior. PDDT limitations are as its name implies – it is presumptive drug detection.

2. Policy changes are not necessary. Administrators believed that they had sufficient policy authority to utilize PDDT in community corrections settings. PDDT was viewed as one of many tactics employed to evaluate and monitor client behavior. Existing laws and conditions for probation were sufficiently broad in requiring drug testing without specifying a particularly type of testing. The administrators felt that PDDT use was tactical and could be done within existing policies.

Existing policies were sufficiently broad to authorize administrators to use available technologies for testing purposes. PDDT could be integrated into existing testing procedures.

However, administrators cautioned that a major obstacle to using any new technologies in community corrections settings was "change" itself. Community corrections were deemed to be slow and, at times, resistant to change primarily because community corrections are typically very resource-constrained with little or no discretionary funds to investigate, plan and implement change.

3. Engaging Stakeholders. Administrators should include stakeholders in discussions before implementing PDDTs. If PDDT is to be introduced to the community corrections setting, consideration should be given to engaging stakeholders early in the planning process to address concerns. With all the vested stakeholder interests in community corrections programs, including concerns about civil liberties, developing community understanding and acceptance is essential in PDDT implementation planning. A good strategy for community corrections is to be transparent to community stakeholders, who at times may be skeptical of motivations to institute changes in community corrections processes.

4. Due Diligence. Administrators should consider what scientific information they will need from MSI and/or other authorities to certify that PDDT is effective in detecting drug traces. While JSS explained MSI's certifications and representations regarding court acceptance of PDDT results, most administrators said that their organization would have to conduct the necessary due diligence regarding the efficacy of PDDT results before implementation.

5. The Role of Case Managers. The case manager is the key for risk-based client assessments. Case managers should be familiar with the client and the client's family history, criminal history, associates, acceptance of responsibility for conduct and behavior, indicators of behavioral

change, acceptance and responsiveness to counseling, current employment record, etc. Results from drug surveillance testing are considered in the context of case manager's risk assessment. Accordingly, PDDT as a presumptive test showing the presence of illegal drugs provides the basis for the case manager to discuss the circumstances of the PDDT positive test. The positive test starts the conversation between the case manager and the client.

6. Use of PDDT to Monitor Facilities. Administrators asked for PDDT demonstrations to test their facilities for the presence of illegal drugs. Using PDDT periodically within facilities could identify illegal drugs that were prevalent in the community and/or present within their corrections program populations. It could also be helpful in testing rooms, surfaces and lockers when there is suspicion of illegal drugs being introduced into facilities.

PDDT may be applicable to home visits for probation and parole programs. Case managers conduct home visits to assess the residence for habitability, the presence of weapons and evidence of criminal activity. During home visits, common surfaces such as counter tops, tables, bathroom counters, and vehicles could be routinely PDDT tested. Currently, field staff must call for drug sniffing dogs when suspicious materials are encountered. If samples are found they must be sent to laboratories for analysis. Both require time. PDDT provides immediate results when suspicious materials are encountered allowing the case manager in the field to take the appropriate actions for follow up and confirmatory analysis.

Should positive PDDT results occur, this opens the door for conversations between the case manager and client to discuss the potential circumstances or behavior that would produce positive PDDT results.

7. Revealing the PDDT Results. Administrators should determine how to handle PDDT results with clients and what outcome is to be achieved. Consideration needs to be given on whether or not to show the client the actual PDDT results and what recourse, if any, is to be offered to the client to challenge the results.

In some cases the PDDT results are not intuitively obvious, requiring careful scrutiny and interpretation of the color of very small dots and comparing the color of these dots to the PDDT color chart.

Some administrators who we interviewed were not comfortable with the need for interpretation and were reluctant to send out the PDDT test paper for further chemical analysis confirmation because of limited resources available.

Others accepted the need for interpretation of PDDT results from time to time. They acknowledged that judgment may be required. This group tended to emphasize that PDDT results were only showing a presumptive presence of illegal drugs not a definitive presence. They indicated that the primary purpose of using PDDT was to open the door for a conversation between the case manager and client to discuss what potential behavior or circumstances could lead to presumptive positive PDDT results.

This group felt there was need to only inform the client of the PDDT test results. They felt it was not necessary to show the client the PDDT sprayed paper results or to offer recourse to undertake additional confirmatory tests. Those that expressed discomfort with interpreting the PDDT results were more inclined to consider the test results as negative. These administrators were generally inclined to show the client the PDDT test result and allow recourse to challenging the PDDT results.

8. Who should use PDDT aerosol for determining results? PDDT testing should be limited to case managers or administrators particularly if the PDDT test papers are sprayed immediately after swiping.

9. Implementing PDDT. The material costs for PDDT appear to be comparable or lower than presumptive UAs currently in use. Purchasing PDDT would lessen the number of UAs or other tests that could be conducted during the budget year. Accordingly, any expenditure for PDDT would have to be justified as a risk-based strategy for clients with low risk.

Recommendations for Corrections Officers/Case Managers

1. Using PDDT. To be effective, PDDT should be used in combination with UAs on a frequent, random basis. The unpredictability of when and what is to be tested using either UA or PDDT or both may deter drug involvement behavior as well as improving monitoring of not only drug use but also handling or being in the presence of drugs (though deterrence was not measured in this study).

2. Monitoring conditions of probation. PDDT expands the "tools" available to monitor client behavior. Currently, drug-testing protocols are limited to testing for ingestion. Some clients have probationary conditions that prohibit association with known criminals, engaging in criminal activities, or being present when criminal behavior occurs. PDDT offers the opportunity to monitor the clients' behavior in handling or being in the presence of illegal drugs.

3. Case Managers to Handle PDDT Results - Opening Up the Conversation. Case managers acknowledged that a positive PDDT test could potentially result from transferring drug residues through casual handshakes, innocently touching someone who has been in contact with drugs, rubbing against something with illegal drug residues, being in the presence of someone using illegal drugs, or a result of illegal drug activities. They also acknowledged that a positive PDDT is presumptive only.

How should case managers manage the positive PDDT results with the client? Case managers have knowledge as well as documentation of the clients' behavior patterns. Any PDDT positive result opens the conversation with the client about behavior that may have caused a positive result. There may be discussions of people or places visited by the client where drugs may have been present and why the client was in such a place.

4. **Procedure Changes with PDDT.** Implementation of PDDT may require standard operating procedure changes as well as training in the procedure changes.

PDDT procedures may include who will be tested and when; who conducts the paper swiping; who is responsible for the PDDT aerosol use and determining the results; who should confirm PDDT test results, if anyone; who receives the test results and how the test result information is secured; and who discusses the test results with the client.

While the procedure changes may include progressive actions to be taken when successive PDDT positive results occur, the procedures should also include what to do with the client if there is an admittance to illegal drug involvement when informed of the positive PDDT result – are they subject to progressive disciplinary procedures; is the client returned to the general population with increased surveillance and supervision occurs; what is considered an egregious violation that returns the client immediately to incarceration?

5. Field Operations Use of PDDT. PDDT may be helpful in field operations when home and employment sites are visited. This could help case managers test suspicious substances if encountered in the field. In addition, if the client knows that their residence, vehicle and place of employment may be randomly or routinely tested with PDDT, illegal behavior may be deterred.

If PDDT is applied to field operations, procedures on PDDT use on suspicious substances found during field visits and random/routine testing of surfaces or possession in the home, vehicle and place of employment should also be included in new procedures required for PDDT.

For facility testing, changes in PDDT procedures should include allowance for regular facility testing on a random basis, as well as testing certain rooms or common areas if there is suspicion of client drug involvement while in community corrections facilities.

Recommendations for Researchers and NIJ

1. Pre-plan, expect delays, and be open-minded. Evaluations of technologies in real-world settings take time and require careful planning and collaboration among a number of entities including the funder, the technology manufacturer, the sites, the focus of the study (the clients), and the researchers.

Pre-planning is essential for the success of an evaluation of technology. The planning process includes a determination of the goals, objects, and outcomes of the evaluation with the funder and the manufacturer. These may change in the field, so researchers need to be flexible, open-minded and have a willingness to make adjustments during the course of the study, without compromising the integrity of the study.

2. Human subjects and confidentiality are extremely important considerations. The value of the Institutional Review Board and its focus on human subjects cannot be overstated. The IRB's initial review extended the time frame of the project, but its objectivity and concern for the offender/client strengthened the methodology of the evaluation. By conducting a 'double blind' test of the technology, we were able to protect the offender/client and obtain valid and reliable results.

3. Conduct more evaluations of technology. NIJ and other agencies that fund technology for criminal justice practitioners should simultaneously fund field evaluations of products such as PDDTs. Measuring the strengths, weaknesses, and challenges of technology through independent evaluations can assist both the manufacturer and the user.