Transdermal Alcohol Monitoring

CASE STUDIES

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Maureen Perkins was the Task Order Manager for this project.

16. Abstract

Judges, probation officers, and parole officers sometimes require impaired-driving offenders and other offenders to abstain from alcohol and other drugs. Consequently, they need a way to determine whether offenders are complying with that requirement. This report describes the experiences of six jurisdictions using continuous transdermal alcohol monitoring—a technology that can detect the use of alcohol by offenders and report it to authorities. There are three basic ways to prevent alcohol-impaired driving by known offenders: (a) prevent driving; (b) prevent driving after drinking; and (c) prevent drinking. Preventing offenders from drinking can potentially protect the public against alcohol-impaired-driving crashes and reduce other alcohol-related problems, such as domestic violence, nontraffic injury, and alcohol addiction. Judges frequently make abstinence a requirement of an offenders' sentence for a repeat driving-while-intoxicated (DWI) violation and sometimes make it a formal probation requirement. Unless enforced by a monitoring program, however, such a requirement may not have the desired effect. The Secure Continuous Remote Alcohol Monitoring (SCRAM) device produced by Alcohol Monitoring Systems (AMS) and the Transdermal Alcohol Detection (TAD) system developed by BI Incorporated (BI) are two transdermal alcohol-monitoring devices that are increasingly being used across the country on alcohol-related criminal offenders. Both devices use ankle bracelets that sample perspiration to detect ethanol vapor and can automatically transfer the information stored on the ankle bracelet via modem to a secure Web server. The data is used to generate daily reports of offenders' drinking events, tamper attempts, and other forms of noncompliance with program requirements. The system was designed for security and remote reporting to minimize circumvention and render the data usable by supervising agencies. In the United States, the SCRAM device has been in use longer and has achieved much greater market penetration than the TAD. SCRAM reportedly is being used in 46 States. AMS reports that it works with more than 200 service providers in more than 1,800 courts and agencies around the United States. From a group of 9,100 offenders who were monitored using the SCRAM device from 2004 to 2009, 75 percent were considered compliant (no alcohol use or tampering occurred). BI currently has more than 1,700 TAD units in use at nearly 200 sites.

The objectives of this project were to determine how extensively transdermal alcohol-monitoring devices are used and to document examples of strong and innovative programs through case studies that can be used by agencies at the State and local levels considering the use of these devices to monitor offenders.

Six programs were selected for case study. Information from these six case studies revealed the following: (a) use of transdermal alcohol monitoring of DWI offenders is increasing; (b) transdermal alcohol monitoring appears to reliably monitor alcohol use by offenders (prior methods had not been as reliable) and thus is beneficial to officials; (c) transdermal-monitoring devices appear not to have any insurmountable problems (cost is an issue, but costs are paid mostly by the offender). Research is needed to carefully study whether transdermal alcohol-monitoring devices reduce drinking and DWI recidivism by offenders.

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- *Colorado*—City and County of Denver Electronic Monitoring Program: Mary Beth Wise, Probation Officer Supervisor, City and County of Denver Electronic Monitoring Program
- *Missouri*—23rd Judicial Circuit of Jefferson County, Missouri: Judge Stephen D. Bouchard; Tammy Berg, Private Probation Services of Jefferson County
- *Nebraska*—Nebraska Supreme Court Office of Probation Administration: Deb Minardi, Deputy Probation Administrator; Sue Rutledge, Statewide Drug Testing Coordinator
- *New York*—New York 8th Judicial District Hybrid DWI Court: Jeff Smith, Principal Court Analyst; Sky Davis, Office of Court Administration
- *North Dakota*—North Dakota Attorney General 24/7 Sobriety Program: Liz Brocker, Executive Assistant Public Information Officer, North Dakota Attorney General's Office
- *Wisconsin*—Wisconsin Community Services: Sara Carpenter, WCS Multi-County Administrator, Division of Court Services & Community Alternatives

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Background

Laws adopted in the United States to control and reduce alcohol-impaired driving vary considerably among States (NHTSA, 2007). These laws form the legal structure that enables law enforcement to stop drivers on public roads (with reasonable suspicion), arrest them for driving while impaired (DWI) (with probable cause), and prosecute and adjudicate them in a court of law. In every State, it is illegal per se to drive with a blood alcohol concentration (BAC) of .08 grams per deciliter (g/dL) or greater, and it is illegal per se for drivers younger than 21 to drive with any detectable alcohol concentration (e.g., BAC >.02 g/dL). In most States, sanctions for a first-offense DWI conviction typically consist of at least a driver's license suspension or revocation for a specified period; a fine and other fees; and some time in jail, a period under house arrest, or some minimal hours of community service. Offenders may or may not be placed on probation for a specified period. Typical sanctions for repeat DWI offenders and offenders with high BACs upon arrest (e.g., $\geq$.15) include mandatory assessment and treatment for alcohol abuse, longer license revocations or suspensions, community service and/or incarceration, and recently, orders from the court to remain abstinent. Depending on the jurisdiction, alcohol ignition interlocks may be ordered for first, high BAC or repeat DWI offenders.

Arrest and conviction for an impaired-driving offense identifies a high-risk driver and results in the placement of the driver in a government supervised program. If the offender has an alcohol misuse problem, then the offender can be required to attend a treatment/educational program to promote recovery from the alcohol problem and have a sanction imposed that prevents him or her from driving impaired until the alcohol problem has been controlled. Logically, there are three ways to prevent alcohol-impaired driving by known offenders: (a) prevent all driving, (b) prevent all driving after drinking, or (c) prevent all drinking. The third approach, preventing drinking, has the potential to protect the public, against not only alcohol-impaired driving crashes, but also other alcohol-related problems, such as domestic violence, nontraffic injury, and alcohol addiction. Judges frequently sentence offenders to abstinence from alcohol for a DWI offense, and, often, make abstinence a condition of probation. In the past, some courts have attempted to control drinking of offenders by requiring the monitored administration of certain drugs that deter alcohol consumption, such as Antabuse (disulfiram) or by requiring intensive supervised probation programs involving random, surprise breath tests for alcohol use. Most of those efforts have not been evaluated. Monitoring of alcohol use is accomplished also through house arrest with electronically monitored and/or interlock programs. Typically, a house arrest BAC is measured with a breath-test unit that identifies the person providing the test via video images or voice recognition, and the data is transmitted over a telephone line. These units, however, cannot provide such information when the offenders are at work or away from home.

Recently, there has been increased interest in the use of continuous alcohol monitoring in criminal justice programs. DWI courts make the monitoring of drinking through frequent breath testing or electronic devices an important feature of their programs. The National Association of Drug Court Professionals (NADCP) has established the following "10 Guiding Principles" for DWI courts (National Center for DWI Courts, 2011):

1. Determine the population of offenders to be included in the program.
2. Perform clinical assessments in order to establish a clinically sound treatment plan for each offender.
3. Develop the treatment plan.
4. Supervise the offender to protect against future impaired driving.
5. Forge agency, organization, and community partnerships in support of the goals of the DWI court program.
6. Judges take a judicial leadership role to motivate team members and elicit buy-in from various stakeholders.
7. Develop case management strategies for a coordinated and seamless collaboration across the treatment and justice systems.
8. Address transportation issues so offenders can resolve transportation problems without driving while suspended.
9. Evaluate the program to document program effectiveness and identify elements in need of improvement.
10. Ensure a sustainable program, through careful and strategic planning, that will become an integral and proven approach to the DWI problem in the community.

Several DWI courts are currently using continuous alcohol monitoring to ensure abstinence requirements.

Another example of a program using alcohol monitoring is the 24/7 program for multiple DWI offenders, which was established in South Dakota and has since been implemented in other States. This program requires offenders to submit to a breath test twice a day (at 7 a.m. and 7 p.m. at the local police station or sheriff's office). For many rural offenders, however, this is a difficult requirement to comply with because of the great distances of travel to and from the testing site.

Transdermal alcohol monitoring is a technology that permits the detection of drinking by sensing alcohol that passes through the skin as it is eliminated from the body. As part of the overall monitoring system, alcohol measurements are sent from the transdermal monitoring device to officials who supervise the offender. An advantage of transdermal monitoring over systems involving periodic breath tests is that transdermal measurements are recorded twice each hour, thus it is more difficult to avoid detection. Currently, two transdermal devices are being used in the field to measure alcohol. One of these is the Secure Continuous Remote Alcohol Monitoring (SCRAM) device produced by Alcohol Monitoring Systems (AMS). A second device is the Transdermal Alcohol Detection device (TAD) from BI Incorporated (BI).[1] The SCRAM device has been in use longer and currently has much greater market penetration than the TAD.

Both devices are used as part of a larger monitoring system. Both systems consist of an ankle bracelet that measures transdermal alcohol concentration (TAC), stores data, and uploads data to a modem that transfers the data to computers maintained by the vendor. Data is used to create reports and alerts that are sent to monitoring agencies' designated case management staff. The bracelets are designed to prevent removal by offenders or tampering with sensor functions. Attempts to remove or tamper with the devices are detected and communicated to the vendor when TAC data is uploaded. If data is not uploaded on schedule, the vendor notifies the

[1] BI, Inc., is the official name of the company (i.e., BI is not being used as an abbreviation).

designated authorities. Both systems have Web sites that can be used by program staff to view the offender's data and keep track of equipment. The TAD and the SCRAM devices are available with radio frequency (RF) technology. Consequently, they can also be used as house arrest monitors by determining whether offenders are in their homes at designated times.

Objectives

The objectives of this project were to determine how extensively transdermal alcohol monitoring devices are used in the United States and to document examples of experienced and innovative programs through case studies. These case studies can then be used as a resource by States, local communities, courts, and other agencies interested in using this type of technology to monitor offenders. Each case study includes the following:

- The details of each program selected for case study, including the offenders using it; the geographic area of the community; the duration of the program; the number of devices in use (and past use); and the court or agency that administers the program.
- Other elements of the programs, including treatment and rehabilitation, other monitoring of the offender, other sanctions administered, program compliance, and how the transdermal-alcohol-monitoring data is used.
- The benefits, challenges, and lessons learned from users of transdermal alcohol monitoring.

We addressed each of the following key questions for each case study:

- How many DWI offenders are using (or have used) the alcohol-monitoring device? What other types of offenders are using transdermal alcohol monitoring?
- How long is the device usually worn by DWI offenders?
- What proportion of offenders initially in the program is noncompliant?
- What are the eligibility criteria for offenders being assigned to the device?
- How is the transdermal-alcohol-monitoring program working? Are there any problems or issues with it?
- What proportion of DWI offenders shows drinking events? Tampering with the device? What happens to offenders if they are not compliant?
- Is there evidence that offenders using the device are substituting other drugs for alcohol?
- What other programs are typically used in coordination with transdermal alcohol monitoring (e.g., treatment, interlocks, and intensive supervision)?
- Who pays for the device: the offender, the jurisdiction, or some combination?

Methods

Site Selection Rationale

Our criteria for selection of programs for a case study were:

- Experience of the program with transdermal alcohol-monitoring devices based on longevity and/or volume;
- Geographic diversity;
- Diversity of the program structure;
- Inclusion of DWI offenders and other offenders;
- Innovative use of transdermal alcohol-monitoring devices; and
- Program has not been the subject of other recent studies.

Sites Selected

After a thorough review of numerous potential program sites, NHTSA and PIRE selected the following programs for case studies:

- *Colorado*—City and County of Denver Electronic Monitoring Program (hereafter referred to as "Denver EMP");
- *Missouri*—23rd Judicial Circuit of Jefferson County, Missouri (hereafter referred to as "Jefferson County, Missouri");
- *Nebraska*—Nebraska Supreme Court Office of Probation Administration (hereafter referred to as ("Nebraska Supreme Court");
- *New York*—New York 8th Judicial District Hybrid DWI Court (hereafter referred to as "New York 8th District");
- *North Dakota*—North Dakota Attorney General 24/7 Sobriety Program[2] (hereafter referred to as ("North Dakota 24/7"); and
- *Wisconsin*—Wisconsin Community Services (hereafter referred to as "WCS").

Data Collection and Analysis

To create case study reports, we combined information from telephone discussions, e-mail exchanges, and site visits using a protocol that helped to prompt discussion of important issues.

[2] The program in North Dakota is based largely on an earlier program in South Dakota. A longer history and larger number of transdermally-monitored offenders would have made South Dakota a more likely candidate for inclusion in this study; however, the South Dakota program had already been included in a NHTSA case study Report No. DOT HS 811 446, *An Evaluation of Intensive Supervision Programs for Serious DWI Offenders*, and has been the subject of other, more in-depth evaluations and studies.

Case Study Preparation

We prepared the first draft case-study reports from preliminary and follow-up information obtained from the selected sites. These case study reports were sent to the representatives with requests for additional information and clarification. Representatives reviewed the draft, made corrections as necessary, and provided additional information and clarification. We then revised the report and sent it to the program representatives for a second review before submission to NHTSA.

Study of Legal Issues

To better understand legal issues surrounding the use of transdermal monitoring, we conducted a search for legal decisions or challenges regarding transdermal-alcohol-monitoring devices using the Westlaw database. A series of independent searches were run in the case law database for each State of the jurisdictions selected for case study. The search strings used sought to identify cases that included terms relating to alcohol-monitoring devices; and transdermal alcohol detection. All relevant cases were collected (see Appendix A).

Results

Program Histories

Most of the agencies we studied were in operation before they began to use transdermal monitoring. Generally, transdermal monitoring was added to their programs when they became aware of the technology. An exception is the North Dakota 24/7 program, which was modeled after a similar South Dakota program that was using transdermal monitoring. Transdermal monitoring therefore was part of the North Dakota 24/7 program from its inception.

The Denver EMP program incorporated transdermal monitoring in 2003. The New York 8th District program incorporated transdermal monitoring in 2005. Jefferson County, Missouri, and the Nebraska Supreme Court introduced it in 2007. The North Dakota 24/7 program began in 2008. WCS began using transdermal monitoring in 2010.

Offenders

The types of offenders typically assigned to transdermal alcohol monitoring are similar across the various programs. They include:

- Impaired-driving offenders with prior impaired-driving offenses (i.e., repeat offenders);
- Serious or felony impaired-driving offenders, where an offense involved a high BAC, or a crash resulting in death or injury;
- Assault, domestic violence, or other types of offenders where alcohol was a factor in the offense;
- Any offender for whom there is reason to believe the offender has a history of problems related to alcohol;

- Youthful offenders with a history of alcohol problems or where alcohol is a factor in their offenses; and
- Other types of offenders for whom judges, probation officers, or other officials have determined that abstinence from alcohol is needed and monitoring is warranted.

Data breaking down the types of offenders on transdermal-monitoring generally was unavailable, as monitoring service providers tend not to keep easily queried records about which agencies referred individual clients, and referring agencies tend to not keep easily queried records about which offenders are assigned to transdermal-monitoring.

Consequences for noncompliance vary from case to case. Generally, across all sites, consequences include:

- An extension of time on the overall program and/or duration of transdermal monitoring;
- A short period of incarceration before being returned to the program ; and
- Removal from the program and subsequent incarceration.

In programs that require offenders to pass through various stages to complete the program successfully, noncompliant offenders may be returned to earlier stages.

Sometimes, there is uncertainty about whether a violation occurred. For example, data may suggest a tamper attempt occurred, but the offender has a reasonable explanation and/or the equipment showed no evidence of damage (e.g., the ankle bracelet came loose). Data suggesting that drinking occurred may be blamed on exposure to alcohol vapor for a lengthy time span, such as a bartender might experience. In these cases, offenders are given information on how to avoid such circumstances in the future and warned to comply. Some offenders may be forbidden to engage in activities such as bartending, which result in suspicious alcohol-monitoring data.

Some programs use transdermal alcohol monitoring as a sanction for other types of noncompliance. For example, an offender who must report for breath twice-daily or random breath tests and who provides a positive test, or misses a testing appointment, may be sanctioned with transdermal monitoring as an alternative to incarceration.

In rare cases, offenders may abscond while on the program with or without the transdermal equipment. Consequences for absconding are usually more severe. Commonly, they would involve incarceration. Offenders who lose or damage transdermal-monitoring equipment are responsible for the costs of replacing or repairing it.

None of the sites we studied plan to discontinue the use of transdermal monitoring.

Table 1 shows statistics on compliance and noncompliance of offenders who have completed SCRAM transdermal monitoring in each case-study site. Case study program officials compile limited statistics on transdermal-monitoring offenders. These statistics (supplied by AMS on January 6, 2011) are based on the entire history of each program. Percentages for the compliant and noncompliant rows are for all offenders, and percentages for drinking and tampering violations covers all violations.

Table 1. Compliance and Noncompliance with Transdermal Alcohol Monitoring

	Denver EMP SCRAM	Jefferson Co., MO	Nebraska Supreme Court	New York 8th District	North Dakota 24/7	WCS
Total Completed	4,080	410	2,876	371	119	4,083
Compliant	3,253 (80%)	328 (80%)	2,356 (82%)	252 (68%)	96 (81%)	3,583 (88%)
Noncompliant*	827 (20%)	82 (20%)	520 (18%)	119 (32%)	23 (19%)	500 (12%)
Drinking Violations**	66 (8%)	5 (6%)	31 (6%)	39 (33%)	1 (4%)	25 (5%)
Tampering Violations	761 (92%)	77 (94%)	489 (94%)	80 (67%)	22 (96%)	475 (95%)

*Noncompliance is defined as either a confirmed drinking event or a confirmed tamper attempt.
**Counts of drinking violations may include participants who have also incurred tampering violations.

Strengths

The main strengths of transdermal monitoring systems as reported by officials from case-study sites included the following:

- ***Improved Public Safety***

  The transdermal monitoring systems used by case-study officials effectively improved public safety because:

  - Transdermal monitoring is generally effective in deterring offenders from drinking alcohol;
  - Information collected through transdermal technology is generally accurate;
  - Offenders who drink or are otherwise noncompliant are likely to be identified;
  - Information regarding noncompliance flows quickly to the appropriate officials;
  - Transdermal monitoring helps enforce abstinence, which in turn helps offenders quit drinking and go into a recovery stage, potentially creating long-term safety benefits for the community; and
  - Continuous transdermal monitoring is a more effective means of monitoring drinking than other techniques and technologies (e.g., periodic or random breath tests, patches, or urinalysis).

- ***User Friendliness***

  Officials find the equipment, daily reports, and Web interface easy to use. The user-friendly interface for these tasks simplifies the installation of equipment, education of offenders, and the tracking of inventory and offender data.

- ***Cost-Effectiveness***

  Although none of the sites has completed studies of the cost-effectiveness of transdermal monitoring, all thought there had been cost savings over alternatives to transdermal monitoring. These savings resulted from:

  - Reduced jail costs for offenders being monitored as an alternative to incarceration;
  - Reduced labor per offender for case workers because of the automated monitoring and reporting and because of the reduction in the number of office visits with offenders; and
  - Offenders paying much of the costs of transdermal alcohol monitoring.

- ***Provides Alternatives for Offenders***

  Positive aspects of transdermal monitoring for offenders include the avoidance of incarceration and the reduction in the number of visits to case managers and/or breath- and drug-testing centers.

- ***Service***

  Officials believe that the service from vendors has been good. Positive aspects of service include good communication; willingness to address specific needs of individual programs; access to consulting services; and continual work to address problems, upgrade products, and add new features.

Problems and Barriers

Barriers to the adoption and effective implementation of transdermal monitoring as reported by program officials include:

- Paying for the costs of the service;
- Needing to educate stakeholders; and
- Depending on landline telephones for uploading data.[3]

Another problem encountered by one of the programs was the inability of vendors to confirm low levels of drinking (e.g., BAC $\leq$.02 g/dL).

Conclusions

Based upon information we gathered from several jurisdictions using transdermal alcohol monitoring, from AMS, and from the six case studies, we concluded that:

1. There is increasing use of transdermal alcohol monitoring, specifically of the SCRAM bracelet. According to the AMS Web site, SCRAM is currently being used in 1,764 courts around the country in 46 States. A total of 162,778 offenders have been monitored by a total of 620,943,819 transdermal alcohol-monitoring tests. BI currently has more than 1,700 TAD units in use at nearly 200 sites[4].

[3] On October 3, 2011, AMS announced the release of SCRAMx Wireless, allowing downloads of data without landline, cellular line, or Internet access.

[4] Jurisdiction-specific BI data that is comparable to the AMS data is currently unavailable.

2. Transdermal alcohol monitoring appears to be beneficial in monitoring alcohol use of offenders who are required to be abstinent. Prior monitoring techniques were reported by officials as inadequate.
3. AMS data show that 1.4 percent of the offenders who had finished SCRAM from the six case study sites had a confirmed drinking event. AMS data also show that 16.9 percent had tamper violations. None of the case-study sites had completed studies of the effects of transdermal monitoring on recidivism rates, nor had they conducted any cost-benefit studies on the use of transdermal monitoring.
4. There are no insurmountable problems with using SCRAM or TAD systems to monitor offenders. At $5 to $12 a day, compared to significantly lower costs for other technologies (e.g., $2.25 to $2.75 per day for ignition interlocks), the cost of transdermal monitoring is a barrier to its use. In most programs, however, the costs are largely paid by offenders. There is some concern over low-level drinking events that may be occurring but cannot be confirmed by vendors, which may warrant further investigation.

Recommendations

For the most part, officials from the six case-study agencies are satisfied with their transdermal alcohol-monitoring program and would recommend it to similar agencies. Because the technology and programs are relatively new, case-study officials learned some lessons that are described in this report. In summary, the key recommendations to officials considering transdermal alcohol monitoring follow:

1. Officials interested in the use of transdermal monitoring should first educate themselves. Obtain first-hand experience with equipment if possible. Then educate all potential stakeholders, again, providing first-hand experience when possible to counter misinformation about transdermal monitoring.
2. Establish a funding mechanism for those offenders who cannot afford transdermal-monitoring services. Ideally, monitoring should be offender paid; however, referring agencies will likely want to assign offenders to alcohol monitoring even if they cannot pay for it.
3. Work closely with vendors to obtain information, voice concerns, and take advantage of the vendors' resources (e.g., reports, training and consulting for stakeholders).
4. Establish firm guidelines for offenders and enforce them consistently.
5. For noncompliant offenders, assign immediate and appropriate consequences and keep them on transdermal alcohol monitoring for a longer period, until they can sustain abstinence for several months.

Background

Laws adopted in the United States to control and reduce alcohol-impaired driving vary considerably among States (NHTSA, 2007). These laws form the legal structure that enables law enforcement to stop drivers on public roads (with reasonable suspicion), arrest them for DWI (with probable cause), and prosecute and adjudicate them in a court of law. In every State, it is illegal per se to drive with a BAC of .08 g/dL or greater, and it is illegal per se for drivers younger than 21 to drive with any detectable alcohol concentration (e.g., BAC >.02 g/dL). In most States, sanctions for a first-offense DWI conviction typically consist of at least a driver's license suspension or revocation; a fine and some fees; and either some time in jail, some period under house arrest, or some minimal hours of community service. Typical sanctions for repeat DWI offenders and offenders with high BACs upon arrest (e.g., ≥.15) include mandatory assessment and treatment for alcohol abuse, longer license suspensions or revocations, community service and/or incarceration, and recently, orders from the court to remain abstinent. Depending on the jurisdiction, alcohol ignition interlocks may be ordered for first high-BAC or repeat DWI offenders. Sanctions imposed on DWI offenders have several objectives: retribution, incapacitation, rehabilitation, and restitution.

Retribution punishes the offender for the crime, primarily by confinement and fines. Court-mandated alcoholism treatment aimed primarily at rehabilitation may be perceived by many offenders as punishment.

Incapacitation denies the offender the chance to repeat the offense. Impaired drivers may be sentenced as follows: confinement in a jail or a dedicated detention facility, home detention and electronic monitoring, a license action, immobilization or confiscation of their vehicle, installation of an alcohol ignition interlock device on the their vehicle, or remaining abstinent.

Rehabilitation seeks to reform the offender through sentences that include DWI education and/or alcoholism treatment. The DWI offender's rate of compliance with mandated treatment may depend on the offenders' perception of the courts' willingness to impose sanctions for failure to comply (Wells-Parker, 1994). The offenders are often ordered to remain abstinent and their alcohol consumption is monitored by the court.

Restitution means paying for the damage caused by the DWI act, including property damage and injury costs to victims associated with crashes.

According to NHTSA's *Impaired-Driving Technical Assessment Program* (NHTSA, 2004), a comprehensive impaired-driving program in a State or local community should include the following components:

- Strategic Planning and Program Management—DWI task forces, data, records, evaluation, and resources.
- Prevention—communication strategies, responsible beverage service, alternative transportation, and community-based education programs.
- Criminal Justice System—general and specific deterrence; local ordinances, enforcement, and publicity; and prosecution, adjudication, and administrative sanctions.

- Alcohol and Other Drug Misuse—screening, assessment, treatment, rehabilitation, and monitoring.

This project on continuous alcohol monitoring falls into the latter two categories of the model system: criminal justice and alcohol misuse. Its role in strengthening general deterrence, if any, is unknown, but it could already be playing some role in reducing DWI recidivism.

Controlling Convicted DWI Drivers

Arrest and conviction for an impaired-driving offense identifies a high-risk driver and, to a limited extent, brings that person under the control of the government. This provides an opportunity to require the offender to attend a treatment/educational program to promote recovery from the alcohol problem associated with the DWI offense and to impose a sanction that prevents the individual from driving impaired until they have controlled or recovered from the alcohol problem. Logically, there are three approaches to prevent impaired driving by known offenders: (a) prevent all driving, (b) prevent all driving after drinking, or (c) prevent all drinking.

Preventing All Driving

The most widely used approach has been an attempt to prevent driving by DWI offenders by suspending or revoking their driver's licenses. Many studies have demonstrated that this approach reduces DWI recidivism, serves as a general deterrent to drinking and driving, and reduces impaired-driving crashes and fatalities, especially when it is conducted administratively in a State (Zador, Lund, Field, & Weinberg, 1988; Klein, 1989; Wagenaar, Zobeck, Hingson, & Williams, 1995; Voas, Tippetts, & Fell, 2000; Shults et al., 2001; Wagenaar et al., 2007). Enforcement of the laws against driving while suspended (DWS) is difficult, which decreases the probability that DWS drivers will be apprehended. The decreased likelihood of apprehension reduces compliance with DWS laws and may limit the effectiveness of license suspension. A study sponsored by NHTSA indicates that anywhere from 36 to 88 percent of suspended DWI offenders continue to drive (McCartt, Geary, & Nissen, 2002). One response to this problem has been vehicle or license plate impoundment sanctions that deprive offenders' use of their vehicles. These laws have also been effective but are limited because the vehicles that many offenders drive are low-cost and easily replaced or registered to others.

Preventing Impaired Driving

Alcohol ignition interlocks installed on vehicles protect the public by preventing offenders from driving while impaired by alcohol. More than a dozen studies of interlock effectiveness have been conducted, including a meta-analysis of those studies (Willis, Lybrand, & Bellamy, 2005). Most studies show that interlocks reduce DWI recidivism from 40 to 90 percent. Interlocks allow offenders to drive while sober. Despite this advantage to the offender, they are not motivated to install interlocks, and many continue to drive. This use of vehicles without interlocks limits the effectiveness of interlock programs (Marques et al., 2001; Roth, Voas, & Marques, 2007a; Roth, Voas, & Marques, 2007b).

Preventing Drinking

The third approach, preventing drinking, can potentially protect the public, not only against alcohol-impaired driving crashes, but also against other alcohol-related problems (such as domestic violence, nontraffic injury, and alcohol addiction). Judges frequently require abstinence as part of the sentence for a DWI offense and sometimes require abstinence during formal probation. In the past, some courts have attempted to control drinking by requiring the monitored administration of certain drugs that deter alcohol consumption, such as Antabuse (disulfiram) or by intensively supervised probation programs involving random, surprise breath tests for alcohol use. Most of those efforts have not been evaluated adequately. Monitoring of alcohol use is also provided by house arrest with electronic monitoring. Typically, house arrest BAC is measured with breath-test units that identify the person providing the test via video images or voice recognition while data is transmitted over a telephone line. These units, however, cannot provide such information when the offender is at work or away from home.

Recently, there has been increased interest in the use of alcohol monitoring in criminal justice programs. For example, DWI courts, based on the drug court model, have been growing in number. Typically, these courts make the monitoring of drinking through frequent breath testing or electronic devices an important feature of their programs. The NADCP has established the following "10 Guiding Principles" for DWI courts (National Center for DWI Courts, 2011):

1. Determine the population of offenders to be included in the program.
2. Perform clinical assessments to establish a clinically sound treatment plan for each offender.
3. Develop the treatment plan.
4. Supervise the offender to protect against future impaired driving.
5. Forge agency, organization, and community partnerships in support of the goals of the DWI court program.
6. Judges take a judicial leadership role to motivate team members and elicit buy-in from various stakeholders.
7. Develop case management strategies for a coordinated and seamless collaboration across the treatment and justice systems.
8. Address transportation issues so offenders can resolve transportation problems without driving while suspended.
9. Evaluate the program to document program effectiveness and identify elements in need of improvement.
10. Ensure a sustainable program through careful and strategic planning to become an integral and proven approach to the DWI problem in the community.

Another example of a program using alcohol monitoring is the 24/7 program for multiple DWI offenders that was established in South Dakota and has since been implemented in other States. This program requires offenders to submit to a breath test twice a day (at 7 a.m. and 7 p.m. at the local police station or sheriff's office). For many rural offenders, however, this is a difficult requirement to comply with because of the great distances of travel to and from the testing site.

Aside from extended use of existing breath-testing devices, new technologies are being explored. In Sweden, blood markers associated with alcohol metabolism are being used to detect drinking. Indirect alcohol markers—such as the aminotransferases (AST or ALT), carbohydrate-deficient transferrin (CDT), or gamma glutamyltransferase (GGT)—reflect metabolic or adaptational changes resulting from frequent alcohol exposure. In addition, recent consumption of alcohol can be detected with direct ethanol markers—ethyl glucuronide (EtG), ethyl sulfate (EtS), or fatty acid ethyl esters (FAEE). All these alcohol markers persist for many days or weeks (if measured in hair) after the ethanol has been metabolized from the blood (Marques, 2009).

Other technologies for alcohol monitoring include the Sobrietor (BI, Inc.) and the IN HOM (SmartStart, Inc.), both of which allow offenders to take breath tests remotely at home or at work. Tests are taken at specified times during the day. The IN HOM device takes a photograph to verify the identity of the user. The Sobrietor transfers data over a telephone line, and the IN HOM data is transferred from the device to official computers in a central office, the same as the ignition interlock. Thus, the recognized need for BAC monitoring is growing and stimulating technological developments to meet the need.

Transdermal Monitoring of Alcohol Consumption

One percent of alcohol is lost through the skin as a gas (Swift, 2003). Transdermal alcohol-sensing methods detect the gas phase of alcohol in the air just above the skin. The alcohol detected is measured as TAC that parallels the more familiar BAC curves, but its curve is shifted later in time by 2-plus hours. Several methods have been used to estimate alcohol consumption by measurement of TAC (reviewed in Marques & McKnight, 2007).

Currently, two transdermal devices are being used in the field to measure alcohol. One of these is the SCRAM device produced by AMS. A second device is TAD from BI. The SCRAM device has been in use longer and has a much greater market penetration than the TAD.

Both devices are used as parts of larger systems. Both systems consist of an ankle bracelet that measures TAC and stores and uploads data to a modem that transfers the data to computers maintained by the vendor. The data is used to create reports and alerts that are sent to the designated case management staff in the monitoring agency. The bracelets are designed to prevent removal by offenders or tampering with sensor functions. Attempts to remove or tamper with the devices are detected and communicated to the vendor when TAC data is uploaded. If data is not uploaded on schedule, the vendor notifies the designated authorities. Both systems have Web sites that can be used by program staff to view the offender's data and keep track of equipment. The TAD and the SCRAM devices have RF-monitoring technology. Consequently, they can be used as house arrest monitors to determine whether offenders are in their homes at designated times.

The SCRAM System

SCRAM is manufactured by AMS. The device is about 20 years old with the first patent for SCRAM filed in 1991. In 1993, the first operational prototype was produced, and a patent was granted. In 2002, the first 100 preproduction SCRAM devices were introduced and beta testing was initiated. In 2003, the first commercially available SCRAM devices were introduced.

In the United States, AMS reports that the SCRAM device (see Figure 1) is reportedly being used in 46 States. AMS works with more than 200 service providers in more than 1,800 courts and agencies around the United States. Of 9,100 offenders who were monitored using the SCRAM device from 2004 to 2009, 75 percent were considered compliant (no alcohol use or tampering occurred). How noncompliance was treated by the various courts and probation and parole agencies has not been thoroughly documented.

Figure 1. SCRAMx Bracelet

The SCRAM device has changed over time. The original SCRAM device contained alcohol sensing, data storage, communication, and battery power in two cup-like modules, one on each side of the ankle. The second-generation SCRAM2 device preserves the functionality of the original in a smaller, lighter bracelet with a single module. Since its development, the SCRAM2 device was further updated to include RF technology that allows it to function as a house arrest monitor capable of tracking times when the offender is within a given distance of the home. The RF feature can be turned off for offenders not under house arrest. It can be turned on and off remotely as an offender's house arrest status changes.

SCRAM devices use a fuel cell to measure alcohol in insensible perspiration and determine a TAC. The TAC data is stored on the device. The original SCRAM device took TAC samples once every 60 minutes unless TAC was detected, in which case samples were taken every 30 minutes until the TAC readings dropped under .02. They also record temperature and skin reflectance using infrared (IR) light to provide data that detects attempts at tampering. Attempts to remove the bracelet by unlocking it or cutting it are also recorded. When the security features detect removal or tampering, an alert is sent to the monitoring provider.

The AMS device automatically transfers the information stored on the ankle bracelet via modem to a secure Web server. The modem also serves as the base station for RF monitoring. The modem and bracelet are normally programmed to transfer data once a day at a time when the offender is likely to be home and near the modem (e.g., in the middle of the night). The modem requires a landline telephone line, so offenders may be required to have daily access to a landline telephone. There is currently no system to upload data via a cellular telephone; however, such a system is in development.[5] Offenders without access to landline telephones may upload data by

[5] On October 3, 2011, AMS announced SCRAMx Wireless, a wireless option that allows data downloads without the need for a telephone line, cellular phone, or internet capability.

visiting a monitoring agency office. In this case, data is transferred by a direct-connect device that attaches to the ankle bracelet and connects to a computer via universal serial bus (USB) cable. The computer transfers data from the bracelet and uploads it to AMS data servers.

This data is used by AMS staff to prepare reports listing actionable events, such as drinking, tampering, and failing to upload data. These reports are sent to monitoring agencies each morning. Authorized monitoring agency staff may also be provided access to SCRAMNET—a secure Web site that can show offenders' data and the agencies' inventory of SCRAM equipment.

The TAD System

The TAD transdermal alcohol-monitoring system (see Figure 2) was developed by BI. BI has been in the business of providing electronic offender monitoring for several years and was providing equipment for house arrest, global positioning system (GPS) tracking, and in-home breath testing before it began offering transdermal-monitoring equipment. The TAD system is similar to the SCRAM system. The main difference between SCRAM and TAD is the method used for measuring TAC. The SCRAM device uses fuel cell technology, similar to that used in most breath-testing devices. The TAD uses a hydrated proton exchange membrane with a hydrated platinum electrode maintained at a controlled potential and bathed in aqueous electrolyte held in a reservoir. An electrode oxidizes ethanol to which it is exposed. This results in an electrical current that can be measured and related to TAC. The sampling process is constant, and samples are averaged and stored every 5 minutes. Unlike the SCRAM device, the TAD device has a water vessel inside the unit that must be replaced periodically. BI notifies the electronic-monitoring program staff when the vessel is low; then offenders must visit the program offices for bracelet maintenance. Whereas the SCRAM system is designed to upload data at specific times, the TAD system uploads data whenever the bracelet and modem are close enough to detect each other and communicate. Because of the high temporal resolution of TAC data (i.e., one TAC measurement every 5 minutes) and the ability to upload data at any time, it is theoretically possible for the TAD system to identify drinking-related TAC curves and send alerts regarding them relatively quickly.[6]

Figure 2. The TAD ankle bracelet

[6] As of May, 2011, BI offers a base station that uses cellular telephone technology to upload data.

Previous Studies of Transdermal Alcohol-Monitoring Technology

Over the years, various technologies have been developed to detect and measure alcohol in the human body by measuring alcohol leaving the body through the skin. These technologies have been evaluated for their accuracy. Swift and colleagues as early as 1992 (Swift, Martin, Swette, LaConti, & Kackley, 1992) conducted a study of a wearable alcohol sensor. Recently, Swift evaluated a transdermal alcohol sensor made by Giner, Inc., that is essentially the same sensor used in the BI TAD (Swift, 2000; Swift, 2003). Swift found the sensor to be accurate, but experienced problems with missing and inaccurate data due to problems with the device in which the sensor was installed.

Sakai, Mikulich-Gilbertson, Long, and Crowley (2006), in a brief study of the SCRAM device at the University of Colorado, found that the device emitted no detectable false-positives and that the device did discriminate between social drinkers and alcohol-dependent drinkers. Sakai et al. regarded the SCRAM as not quantitatively, but qualitatively, related to the subject's BAC level.

In 2007, Marques and McKnight evaluated two transdermal-monitoring devices. The first of these was the Wrist Transdermal Alcohol Sensor (WrisTAS) from Giner, Inc. This device was a research prototype that incorporated the same Giner sensor studied previously by Swift. Like Swift, they determined that the sensor, in a properly functioning WrisTAS device, worked well to detect and measure TAC; however, the prototype WrisTAS device often experienced malfunctions that led to missing, inaccurate, and uninterpretable data. Consequently, results for the WrisTAS were largely inconclusive.

The second transdermal device studied by Marques and McKnight (2007) was the original SCRAM1 device from AMS. The SCRAM system's sensitivity and accuracy declined over the duration of wear. The most likely cause of this problem was water accumulation inside the sensor housing. The original device that was tested (SCRAM1) has now been replaced by a second-generation device (SCRAM2) The SCRAM2 has reportedly solved the problem of water accumulation. Results showed that laboratory studies in which the calculated dose of alcohol was consumed in 30 minutes yielded lower transdermal responses than when subjects dosed themselves (in normal self-initiated drinking). In normal self-dosed drinking, subjects' consumption ordinarily lasted for several hours. This manner of intake provided for a more sustained BAC signal detectable by SCRAM than was possible with a brief spike following rapid dosing. There are subject factors that affect TAC readings, such as hydration state and proportional body water (Anderson and Hlastala, 2006).The transdermal concept was found valid as long as any expectation of quantitative parity with BAC is moderated.

There have been no comparable evaluations of the SCRAM2 or SCRAMx devices. No prior research on the effectiveness of the BI TAD, as currently configured, was identified based upon a limited review of the literature for this report.

Issues Related to Transdermal Monitoring

Clearly, the transdermal monitoring devices have considerable promise as a method for controlling impaired driving by DWI offenders by monitoring alcohol consumption. Despite the large number of agencies using transdermal monitoring and the approximately 15,000 units currently in use, the information on its application to the impaired-driving problem is limited.

Although it has undergone independent laboratory testing, no adequate test has been conducted of its effect on reducing recidivism within the criminal justice system. Even so, the use of transdermal monitoring has spread in advance of evidence for its effectiveness. The availability of a second transdermal alcohol monitoring system—the TAD—suggests that the use of transdermal alcohol monitoring will only increase in the future. Little has been reported in the literature, however, about the effectiveness of transdermal alcohol monitoring. Consequently, many questions remain unanswered.

Because this project is concerned with transdermal alcohol monitoring in general, both the SCRAM and TAD systems are discussed. However, because the use of SCRAM is far more prevalent and used to a greater extent by the agencies selected for case studies, the majority of the discussion will concern the SCRAM device. Only one of the six case-study agencies used the TAD system.

It is useful to first consider the fundamental features of the environment in which transdermal alcohol monitoring is being used and the issues that need attention:

- ***Incapacitation.*** The nature of incapacitation systems—jail, house arrest, vehicle impoundment, interlocks, and transdermal alcohol monitoring—is their effectiveness while in place. Research has demonstrated, however, that offenders after being released tend to return to their previous level of impaired driving. Because recovery from a drinking problem can take some time, a monitoring system should be in place as long as possible.

- ***Cost.*** Because of the need to maintain control for a substantial period (a year or more depending on the level of the DWI offense), cost is a major factor in an incapacitation program. One reason for the popularity of license suspension is the minimal bookkeeping cost to the motor vehicle department and no direct cost to the offender. As a result, multiple DWI offenders may be suspended for 5 to 10 years or more. In contrast, jail may be a less attractive method for controlling the impaired driving of DWI offenders because it is expensive ($30 to $60 a day or more) for the government. The cost of transdermal monitoring (typically $12 a day) may limit the time it can be imposed compared to the lower cost of the ignition interlock for example (about $2.50 a day charged to the offender). To date, the application of transdermal monitoring has generally been limited to a few months, whereas interlocks for multiple offenders have been mandated for as long as 2 years or more.

- ***Constitutionality.*** The legality of requiring offenders to abstain from alcohol use was raised in New Mexico during debates over pending legislation that would require BAC monitoring as an alternative to interlock devices. Until this issue is resolved, systems based on monitoring the BAC may be threatened.

- ***Alcohol Dependence.*** Many offenders assigned to transdermal monitoring will be chemically dependent on alcohol. If the program is effective at enforcing abstinence while using transdermal monitoring, there may be a need to address consequences related to offenders' withdrawal from alcohol. This may require assignment to treatment and other additional resources.

- ***Use of BAC monitoring data.*** There is considerable evidence that the BAC test data accumulated in the vehicle interlock systems is useful for predicting future recidivism (Marques, et al., 2001). Consequently, this data can be used as an objective measure or a performance-based method for determining the appropriate length of time an offender should be required to have an interlock on his or her vehicle. Not clear is whether transdermal alcohol-monitoring systems will provide the same means of determining the length of the sentence. Transdermal monitoring systems may be useful in evaluating the patient's progress in therapy and detecting relapse and may be a factor in their utility for the criminal justice system.
- ***Other drug use.*** A program that is effective in preventing alcohol use may result in offenders substituting the use of other psychoactive drugs. For that reason, agencies considering the use of transdermal monitoring should consider implementing drug testing for monitored offenders, as did all six case-study agencies.

While these issues are not unique to transdermal alcohol monitoring, they should be considered by a jurisdiction before adopting transdermal.

Objectives

The objectives of this project were to determine how extensively transdermal alcohol monitoring devices[7] are used in the United States and to document examples of experienced and innovative programs through case studies. These case studies can then be used as a resource by States and local communities, courts, and probation and parole departments that are considering the use of this technology to monitor offenders. A brief description of the approach to the case studies follows:

- The details of each program selected for case study, including the offenders using it, the geographic area of the community, the duration of the program, the number of devices in use (and past use), and the court or agency that administers the program.
- Other elements of the programs, including treatment and rehabilitation, other monitoring of the offender, other sanctions administered, program compliance and how the transdermal-alcohol-monitoring data is used.
- The results, benefits, challenges, and lessons learned from users of transdermal alcohol monitoring.

We addressed the following key questions for each case study:

- How many DWI offenders are using (or have used) the monitoring device? What types of other offenders are using the transdermal alcohol monitoring?
- How long is the device usually worn by DWI offenders?
- What proportion of offenders initially in the program is noncompliant?
- What are the eligibility criteria for offenders being assigned to the device?
- How is the transdermal alcohol monitoring program working? Are there any problems or issues with it?
- What proportion of DWI offenders show drinking events? Tampering with the device? What happens to offenders if they are not compliant?
- Is there evidence that offenders using the device are substituting other drugs for alcohol?
- What other programs are typically used in coordination with transdermal alcohol monitoring (e.g., treatment, interlocks, and intensive supervision)?
- Who pays for the device, the offender, the jurisdiction, or some combination?

[7] The subject of this report is the use of devices and systems that continuously monitor alcohol vapor that leaves the human body by passing through the skin (i.e., transdermally). There are other, nontransdermal means of monitoring alcohol (e.g., breath tests) and other ways of monitoring alcohol transdermally that do not provide continuous measures (e.g., skin patches). To discuss specifically the devices that are the subject of this report, it should be necessary to refer to the devices technically as "continuous transdermal alcohol monitors." However, that would become extremely unwieldy. We are unaware of any generally accepted, non-product-specific abbreviations for these devices. For these reasons, we have referred to them alternatively as "transdermal alcohol monitors," transdermal monitors," or simply "monitors." We have referred to their use as "transdermal alcohol monitoring," "transdermal monitoring," or "monitoring." We believe it will be apparent from the context that we are describing continuous transdermal alcohol-monitoring devices.

Methods

Identification of Transdermal-Monitoring Programs

As the primary focus of the project was to document the use of transdermal alcohol-monitoring devices, we contacted the following officials and organizations to determine which agencies, jurisdictions, or communities are currently using or have used transdermal monitoring devices but have discontinued their use:

Alcohol Monitoring Systems, Inc.—First, AMS was contacted to obtain its list of agencies using the SCRAM. AMS also provided information as to which programs might be considered exemplary or innovative. At the time, the BI device (TAD) was not known to be in use.

Governor's Highway Safety Association (GHSA) —GHSA representatives sent an e-mail to the governor's representatives or coordinators for highway safety describing this project and requesting information on the existence of local SCRAM programs in their States.

Other Sources—NHTSA provided names of other organizations that may have information on the use of transdermal alcohol monitoring. These included traffic safety resource prosecutors, National Organization of State Courts, National Association of Drug Court Professionals, State Departments of Motor Vehicles, and other national organizations involving probation officers.

Using these sources and methods, we contacted every program identified in an attempt to obtain basic information about the programs (size, types of offenders being monitored, period that the program has been in place, etc.). Most agencies contacted provided information regarding their use of transdermal alcohol monitoring. We used this information to determine which programs might be candidates for case studies.

We compiled the information obtained from potential programs and submitted it to NHTSA in a letter report. The letter report contained a brief summary of the information on the existence and status of 11 specific programs from 46 States and the District of Columbia where transdermal monitoring is used.

Though the initial focus of the study was on programs using SCRAM, one of the sites selected for a case study (the Denver EMP) reported using the TAD. This was the first indication of another transdermal alcohol-monitoring device being used other than the AMS SCRAM device. It was the only site of the six selected case studies that used the TAD.

Case Study Site Selection

Site Selection Rationale

Criteria for selection of programs for a case study included the following:

- Experience of the program with transdermal alcohol-monitoring devices based on longevity and/or volume.
- Geographic diversity.

- Diversity of the program structure.
- Inclusion of DWI and other offenders.
- Innovative use of transdermal alcohol-monitoring devices.
- Program has not been the subject of other recent studies.

Sites Selected

After a thorough review of numerous potential program sites, we identified 11 potential program sites from which NHTSA and PIRE selected the following 6 programs for case studies:

- *Colorado*—City and County of Denver Electronic Monitoring Program (hereafter referred to as "Denver EMP");
- *Missouri*—23rd Judicial Circuit of Jefferson County, Missouri (hereafter referred to as "Jefferson County");
- *Nebraska*—Nebraska Supreme Court Office of Probation Administration (hereafter referred to as "Nebraska Supreme Court");
- *New York*—New York 8th Judicial District Hybrid DWI Court (hereafter referred to as "New York 8th District");
- *North Dakota*—North Dakota Attorney General 24/7 Sobriety Program[8] (hereafter referred to as "North Dakota 24/7"); and
- *Wisconsin*—Wisconsin Community Services (hereafter referred to as "WCS").

Data Collection and Analysis

Preliminary Information

We obtained some information while selecting case-study sites that could be used for the case-study reports. We collected additional information through telephone discussions and e-mail exchanges.

Follow-up Information

Sites selected for case studies provided additional information through additional telephone discussions and e-mail exchanges, as well as visits to two study sites (Denver, Colorado, and Buffalo, New York). The majority of data collected was qualitative. Statistics such as numbers of different types of offenders being monitored or numbers of offenders referred by various local agencies were not generally available. Vendors were often the best source of statistics regarding transdermal monitoring in a given jurisdiction. None of the case study sites provided statistics

[8] The program in North Dakota is based largely on an earlier program in South Dakota. A longer history and larger number of transdermally monitored offenders would have made South Dakota a more likely candidate for inclusion in this study; however, the South Dakota program has already been included in a NHTSA case study effort and has been the subject of other, more in-depth evalutions and studies.

regarding recidivism of transdermally monitored clients or cost-benefit analyses of transdermal monitoring.

Case-Study Preparation

We prepared the first draft case-study reports from preliminary and follow-up information collected from selected sites. We sent the report to the representatives with requests for additional information and clarification. Representatives reviewed the draft, made corrections as necessary, and provided additional information and clarification. We then revised the report and sent it to the program representatives for a second review before submitting it to NHTSA.

Study of Legal Issues

To better understand legal issues surrounding the use of transdermal monitoring, we conducted a search for legal decisions or challenges regarding transdermal monitoring devices using the Westlaw database. A series of independent searches were run in the case law database for each State. The search strings used sought to identify cases that included terms relating to alcohol-monitoring devices and transdermal alcohol detection. All relevant cases were collected (see Appendix A).

Results

This section contains case studies of the six transdermal monitoring programs listed below, followed by a summary the six case studies.

Colorado: The City and County of Denver Electronic Monitoring Program—EMP is a governmental agency responsible for providing electronic monitoring services (including transdermal monitoring, RF house arrest monitoring, and GPS tracking) for courts, probation departments and sheriffs' departments in Denver.

Missouri: The 23rd Judicial Circuit of Jefferson County—Jefferson County includes the Saint Louis metropolitan area. The court assigns impaired driving and other types of offenders to transdermal monitoring. Transdermal monitoring services are provided by Private Probation Services of Jefferson County (PPSJC).

Nebraska: The Nebraska Supreme Court Office of Probation Administration—this office is a State-level agency that oversees probation services across the State. Its staff is familiar with the use of transdermal monitoring by courts and probation officers. Transdermal-monitoring services are provided by various private, local companies across the State.

New York: the New York 8th Judicial District Hybrid DWI Court—the 8th Judicial District is comprised of four DWI courts in Amherst, Buffalo, Jamestown, and Niagara Falls, New York. The District Court staff provides the transdermal-monitoring services. A private company, Recovery Services, receives money from offenders and distributes it to AMS to pay for services.

North Dakota: The North Dakota Attorney General 24/7 Sobriety Program—the statewide 24/7 program requires twice-daily breath testing for offenders ordered to abstain from alcohol. Some offenders may use transdermal monitoring as an alternative to traveling to breath-testing offices. Law enforcement officers at testing sites provide transdermal-monitoring services for the program.

Wisconsin: Wisconsin Community Services (WCS)—Wisconsin has a State-supervised program of intensive supervision programs (ISP) for impaired-driving offenders in a number of counties (Waukesha, Kenosha, Sheboygan, Milwaukee, Jefferson, and Ozaukee). WCS is a private agency that administers the program in four Wisconsin counties. As part of program participation, offenders may be assigned to transdermal monitoring. WCS provides transdermal-monitoring service for the counties in which they administer the ISP.

The individual case studies and summary contain the following sections:

Introduction

This section contains a brief description of the program and information on the area (e.g., major cities, population, and demographics).

History of Program

This section includes a discussion of how long the overall program has been in place, the agencies responsible for starting and operating it, when transdermal alcohol monitoring was added, and rationale for using the technology.

Program Information

This section describes the program in detail, with sections on offenders participating in the program, the type of transdermal equipment used, and how it is used.

Offenders

This subsection describes the types of offenders assigned to the program, sentencing periods and rational for assigning offenders to transdermal alcohol monitoring.

Equipment

This subsection describes the transdermal alcohol-monitoring equipment used.

Nature of Transdermal Monitoring Implementation

This subsection includes information on the organization primarily responsible for managing the program, other State and local agencies and offices involved, agencies responsible for installation, maintenance and report monitoring, types of reports used, and consequences for noncompliance. It includes information on which agencies have the authority to discontinue the use of transdermal monitoring and whether there are any plans to do so.

Additional Elements of Program

This section describes the extent and nature of the use of other common elements of DWI offender programs, such as ignition interlocks, electronic house arrest monitoring, drug and/or alcohol treatment, and drug testing.

Funding

This section discusses issues associated with the funding of transdermal monitoring, including costs of monitoring services, the extent to which offenders pay for transdermal monitoring services, what funds are available from the program to pay for services, where those funds come from, and rationale for assisting offenders with payment for services.

Support for Transdermal Monitoring

This section discusses the nature of support (or the lack thereof) for the use of transdermal monitoring from local political leaders, courts, prosecutors, media and citizens.

Information on Program Benefits

This section contains information related to the effectiveness of the program. Depending on the data available from case-study sites and vendors, this could include numbers of

offenders participating in the program; the number of compliant participants versus the numbers of participants with program violations due to drinking events; and tamper attempts, absconding, or inability to pay. It presents any evidence that suggests participants may be drinking without being detected or that participants' drug use may increase in response to abstaining from alcohol. It contains any results available from measurement of political and community support for the program and feedback on the program from the offenders. None of the case-study sites had information available on recidivism or cost-benefit analyses.

Strengths/Barriers

This section contains information obtained from program representatives on what they believe to be the strengths of the program, the nature of barriers or obstacles they have encountered (including legal challenges) and what, if anything, they have done to overcome those obstacles.

Lessons Learned

This section contains program representatives' thoughts and recommendations regarding important information to know and steps to take by agencies considering the use of transdermal alcohol monitoring for DWI and other offenders.

The following contain the six case studies. Following these case studies there is a Summary section, a Conclusions Section, and a Recommendations section, which are based upon the information contained in the case studies.

Denver Electronic Monitoring Program

Introduction

The EMP staff is responsible for installation and maintenance of electronic-monitoring equipment for multiple area agencies. This includes continuous alcohol monitoring equipment (i.e., the AMS SCRAM and the BI TAD). They are also responsible for RF monitoring equipment for offenders assigned to house arrest and GPS for offenders whose location must be tracked continually. The nature of the monitoring used varies as a function of the agency that assigns it, the offender, and the offense.

The City and County of Denver is a consolidated city-county. It is the capital and the most populous city in Colorado. The U. S. Census Bureau estimated that the population of Denver was 610,345 in 2009 (Hubbard, 2010), making it the 24th most populous city in the United States (U. S. Census Bureau, 2009). The 10-county Denver-Aurora-Broomfield, metropolitan statistical area had an estimated 2009 population of 2,552,195 and ranked as the 21st most populous U.S. metropolitan statistical area (U.S. Census Bureau, 2009) and the 12-county Denver-Aurora-Boulder combined statistical area had an estimated 2009 population of 3,110,436 and was ranked as the 16th most populous U.S. metropolitan area (U.S. Census Bureau, 2009), based on US Census data for 2000 (U.S. Census Bureau, 2000). The median age is 33.1 years. The population of the county is 50.5 percent male. The racial make-up of the county is 68.3 percent of the population is White, 12.1 percent Black, 2.2 percent American Indian or Alaska Native, 3.4

percent is Asian, and 17.7 is other. Approximately 32 percent of the population consider themselves Hispanic.

Denver has the greatest percentage of high school and college graduates of any major metropolitan area in the United States: 92.1 percent of the population in the metropolitan area has high school diplomas and 35 percent has at least a bachelor's degree, compared to national averages of 81.7 percent for high school diplomas and 23 percent with a college degree (HometoDenver, 2011).

History of Program

The EMP is a city-run agency developed in 1994 to provide electronic-monitoring services for offenders of the Denver city and county court and jail systems (but not the Colorado State Department of Correction offenders sentenced in Denver). It is the organization primarily responsible for managing the use of transdermal monitoring for Denver offenders. The Denver City Council and the manager of safety have primary authority for the EMP, including the authority to continue or discontinue the overall program. However, they are not involved in decisions regarding the types of technology used by the EMP. The EMP staff decided to incorporate transdermal monitoring into the program and has no plans to discontinue using it.

Program staff learned about the SCRAM device in 2003. They believed continuous alcohol monitoring would be an important tool for monitoring offenders in the community. After testing the unit and deciding that it was an acceptable tool for monitoring, it was introduced to the local court system and referring agencies. They have been using the SCRAM bracelet since September 2003. They had been using other types of electronic-monitoring equipment from BI and had a close relationship with AMS and BI, both of which are located in the Denver area. They were aware of the BI TAD before it became publicly available and participated in beta testing of the device. They began using the BI TAD bracelet with offenders when it became available in October 2009. They are currently using both types of transdermal-monitoring bracelets for offenders. As of January 2011, there were 184 offenders assigned to SCRAM and 47 assigned to TAD. The program owns 237 SCRAM bracelets, and leases TAD bracelets from BI.

Program Information

Offenders

The program provides alcohol monitoring for numerous types of juvenile and adult offenders. Some of these types of offenders are:

- Traffic offenders, including driving under the influence offenders and habitual traffic offenders (HTO);
- Violent offenders (including domestic violence offenders); and
- Other types of nonviolent offenders, where the offenders have an extensive alcohol history, where the current offense may be alcohol related or where alcohol was a contributing factor in the offense

Offenders are referred from various agencies and are at various stages in the legal process. These include the following:

- Defendants referred by local courts before trial and/or sentencing as a condition of bond.
- Offenders referred by local courts as a condition of sentencing and as an alternative to incarceration.
- Offenders on daily work release from jail or inmates serving home detention.
- Offenders on probation, referred by the county Court's probation office; the majority are DUI offenders.
- Offenders on probation, referred by the District Court's probation office. A relatively small portion of these offenders are on transdermal monitoring. Most are *not* DUI offenders.
- Juvenile offenders referred by the Municipal Court. There are relatively few of these.

Duration of Transdermal Monitoring

Offenders assigned to transdermal monitoring as a condition of release on bond are on the monitoring program until further order of the court (this could last for days, weeks, or years). For court-referred offenders convicted of DUI; underage drinking; and driving under revocation with a history of DUI, HTO, or domestic violence assault, the duration of monitoring is at the discretion of the court and can be ordered for as little as 5 days to as much as 365 days or more.

Reasons for Transdermal Monitoring

For court referrals, the judge decides whether to use transdermal monitoring, the judge may use information from a presentence investigation report or recommendations of the district attorney to make a decision. For referrals from the Sheriffs' office, Work Release office, or the Probation Department, the decision will be based primarily on the details of the current offense along with the prior conviction history. Inmates on work releases who return to the jail with a positive breath alcohol can be placed on transdermal monitoring as a condition of continued work release. Probation Departments will refer offenders to transdermal monitoring if alcohol played a role in the offense or if there is evidence that alcohol use is a problem for an offender. Offenders with prior DUI offenses or first offenders with BACs higher than .20 g/dL are generally assigned to transdermal monitoring. Transdermal monitoring is sometimes assigned by Probation Departments as a sanction for offenders who are not compliant with conditions of probation; that is, noncompliant offenders who are not assigned to transdermal monitoring may be assigned as an alternative to revocation of probation and may later be removed from transdermal monitoring if they remain compliant. Probation Departments sometimes refer offenders to transdermal monitoring when those offenders find it more convenient to wear the bracelet than to report to a treatment agency every day to perform a breath test.

Equipment

Initially, the EMP used the original AMS SCRAM1 devices. Over time the original devices were replaced by newer SCRAM2 equipment. When the BI TAD became available, the EMP assigned it to most offenders who were using RF monitoring for house arrest because this provided transdermal alcohol and RF monitoring in one device. When SCRAM with RF monitoring became available, EMP used it under the same circumstances and for the same reasons as TAD. The EMP is currently using the SCRAM2 with and without the RF feature and the BI TAD.

As of January 2011, approximately 4,242 offenders have used SCRAM devices since the program began. At that time, 184 SCRAM devices and 47 TAD devices were in use.

Nature of Transdermal-Monitoring Implementation

The agency oversees electronic-monitoring cases for the Denver District, County, and Municipal Courts, County Court Probation Offices, and the Denver Sheriff's Work Release Department. The District Court Probation Office uses other agencies for most electronic monitoring; however, it works primarily with the EMP for transdermal monitoring. The EMP generally does not become involved in cases from the District Court except when an offender is referred as a condition of bond or probation.

The agency sometimes works with courts outside the Denver area, as follows:

- The offender commits a crime in another jurisdiction and lives in the Denver metropolitan area and the outside court prefers that the offender be supervised by a monitoring department closer to the offender's home.
- An offender commits a crime in Denver and lives outside the metropolitan area (including other States), in which case the EMP oversees the case for the court while another agency actually monitors the offender.
- There is no agency near the offender's home capable of fulfilling either case management or monitoring function, in which case the EMP both oversees the case for the outside court *and* monitors the offender. This happens infrequently.

The manner in which offenders are referred and have transdermal equipment installed varies depending on the agency making the referral:

- *Court offenders*—For Court offenders, there are two types of referrals: (1) as a condition of bond, courts order monitoring at the time bond is set. Once the bond is posted, the Denver jail releases the defendant directly to the monitoring program staff for installation of transdermal-monitoring equipment; (2) as a condition of a sentence and as an alternative to jail, offenders report directly to the program once the court orders monitoring. An intake is conducted and an installation date is set, which is within 5 working days unless a stay of execution is ordered by the court.
- *Probation offenders*—When offenders are referred by probation officers as a condition of probation, the officers can make arrangements via an online referral form. The probation officer can request monitoring immediately or at a future date.
- *Sheriff's work release and house arrest offenders*—The Sheriff's Work Release Department staff contacts the EMP daily with inmate hookups and escorts the inmates to the EMP office for installation.

Data Uploading

An offender using SCRAM is required to upload the bracelet's data once per day if the offender has a landline telephone or once per week in the EMP office if the offender does not have a landline telephone. Uploads at the EMP office are done using a direct-connect device, which attaches to the SCRAM and plugs into a computer via a USB cable. That computer then uploads

the data to AMS servers via the Internet. Offenders on the sheriff's work release program have their data uploaded weekly at the jail using the direct-connect system.

Participants with no telephone may be required to report to the office more frequently if compliance issues (e.g., failing to report for upload, positive readings, or apparent tamper attempts) arise. Currently, offenders using TAD are required to have a landline phone and cannot upload data at EMP offices. Both companies are working on cellular telephone technology systems that would allow home data uploads for offenders without landline telephones. Offenders may be called into the EMP offices for maintenance or equipment replacement if there is evidence that the equipment is malfunctioning[9].

Reports

AMS performs the primary monitoring of reports generated by the SCRAM system. They review information received and generate alerts that are sent to the EMP in the form of a daily action plan (DAP). The DAP reports instances of confirmed drinking events, tamper attempts, and failure to upload data. EMP has requested that AMS also include instances of low TAC readings, which AMS does not confirm as drinking events. If an offender does not show up on the DAP, the EMP staff assume there was no alcohol/equipment issue for that offender. AMS will generate Court Reports that officials can use in court hearings involving noncompliance with SCRAM. AMS also provides an Active Client/Not Assigned Equipment report to aid in the understanding of EMP's equipment inventory. For offenders using the SCRAM device with RF monitoring, daily summary reports on RF data is provided. AMS also provides information to authorized agency representatives via SCRAMNET, a secure Web site that displays more detailed reports from offenders' SCRAM data. The EMP staff sometimes refer to SCRAMNET to better understand the information on the DAP, particularly the instances of low TAC readings.

BI provides daily summaries for each offender. These include instances in which TACs higher than .020 are detected and all RF information generated by the system. BI also provides a system for looking at offenders' data online, though the EMP had not been using it when information was collected for this report.

The EMP generally does not provide outside agencies with copies of transdermal-monitoring reports or access to data on vendors' Web sites because of concern that they may be misunderstood by agency staff not trained in the interpretation of these reports. An exception is a staff person at the jail who must log into SCRAMNET to upload data for work-release offenders.

Both AMS and BI provide reports that explain their systems for the referring agents.

If a violation occurs, the EMP immediately notifies the referring agent. For offenders referred as a condition of bond, the EMP notifies the district attorney for possible filing of bond revocation. For offenders referred to transdermal monitoring by courts as an alternative to jail sentences, the EMP files a petition directly with the courtroom. For offenders referred as a condition of probation, the EMP notifies the probation officer. For offenders on work release, the EMP notifies the Sheriff's representative. The vendors' representatives have no contact with referring agents unless facilitated by the EMP (i.e., in a meeting with a vendor representative) or if a vendor representative receives a subpoena to appear in court to testify.

[9] As of May 2011, BI offers a base station that uses cellular telephone technology to upload data

An offender violates the terms of the transdermal-monitoring program by having a confirmed drinking event, tampering with transdermal equipment, failing to upload data, failure to follow all fee agreements, or failure to report to EMP offices as required. Consequences for violations include revocation of probation, extension of the monitoring period, imposition of the originally applicable jail sentence, or issuance of an arrest warrant. The decision as to which sanction is used is made by the referring agent. Sanctions for offenders who abscond from the program are also set by the referring agent. For offenders referred by the court (i.e., as a condition of bond or alternative to jail), the EMP staff will request a warrant from the referring court. Offenders are also removed for subsequent violations and probation violations. EMP has no data on the caseloads of referring agents.

Additional Elements of Program

Ignition Interlock

The Denver program is not involved in the use of interlocks with its offenders. The extent of interlock use by offenders is unknown to Denver program staff. Referring agencies report that interlocks are sometimes assigned to offenders by the Colorado Department of Revenue, Division of Motor Vehicles; however, they cannot access information about which offenders may be using an interlock.

Electronic House Arrest/Monitoring

Offenders assigned to transdermal monitoring are sometimes also assigned to electronic house arrest using RF or GPS technology. This usually happens because the court has assigned the offender to house arrest as an alternative to jail and then added alcohol monitoring as a condition of the sentence. Cases in which both transdermal monitoring and house arrest are assigned as a condition of bond or work release are generally those in which the offense involved alcohol use and resulted in a victim-related crime. In these cases, the offender's drinking is monitored transdermally and offender's proximity to forbidden geographic areas is monitored with house arrest technology.

Both TAD and the current generation SCRAM devices can perform RF monitoring, which is built into the transdermal monitoring system. The RF feature can be used as desired. Offenders without a landline telephone may be required to use a separate RF bracelet that can transfer RF monitoring data via cellular phone signal. All GPS monitoring requires a second bracelet.

As of December 2010, 40 offenders were using SCRAM with the RF monitoring feature and 24 offenders were using TAD with RF monitoring. Nine offenders were using SCRAM along with a separate cellular RF monitoring device. Seven offenders were using SCRAM along with GPS monitoring.

Other than transdermal monitoring, RF, and GPS, no other type of electronic monitoring is used with EMP offenders.

Treatment

Many of the offenders monitored by EMP's are in treatment programs, however the monitoring program is not directly involved in the treatment and have no access to information on which

clients are in treatment, the nature of treatment or the offender's progress in treatment. An exception is when the offenders are referred for RF monitoring, in which case, the monitoring program is charged with providing treatment class schedules to clients who have been referred for treatment. Treatment is assigned by the referring agency (court, probation office or sheriff's office). Treatment may be for drugs or alcohol or other issues related to the offense (e.g., domestic violence). Treatment is generally provided by private companies chosen by the clients. Exceptions are work release program clients who receive treatment in jail.

The EMP does not normally provide transdermal monitoring information to treatment programs, as they do not work directly with the treatment program. Probation officers who are aware of drinking events identified by transdermal monitoring may communicate that information informally to treatment providers, though there are limits to the types of personal client information that can be shared between agencies. The fact that treatment providers often conduct their own urinalysis to monitor alcohol and drug use would limit the usefulness of the transdermal monitoring information for treatment providers.

Drug Testing

Many of the offenders are subject to drug testing by court order. The monitoring program plays no role in the drug testing of clients. Results of drug testing are usually monitored by the supervising agent (e.g., probation officer). A condition of any alternative-to-jail sentence involving the EMP is that the offenders engage in no drug or alcohol use. If EMP staff believes that a client may be using drugs, they will refer the client for drug testing. Additionally, some EMP clients on the Pretrial supervision program have drug testing as a condition of that program. Some of those offenders are subject to both transdermal monitoring and random urinalysis.

Funding

For the most part, the EMP is self-sustaining, under a special revenue fund within the city, generating their own revenues from the collection of fees from clients. Most offenders pay for the costs of the installation of transdermal equipment and monitoring. In some cases program funding is used for offenders who cannot afford costs and meet criteria for financial assistance. Clients assigned to transdermal monitoring as an alternative to jail can apply for a reduction in fees. The program uses a financial scale to determine daily rates for those who cannot afford the full rates. Probation Offices have some funding available for probationers who cannot afford monitoring. District Court probation officers report that the majority of clients they supervise are not able to afford transdermal monitoring, so that the service must be paid for out of the offices funds. This limits the number of people to whom they can assign transdermal monitoring to somewhere between 10 and 20 at a time. These probationers' offenses are normally not related to impaired driving.

Support for Transdermal Alcohol Monitoring

The criminal justice community, State and local political leaders, and citizens have been in favor of electronic monitoring as an added condition of community supervision because it not only assists in community safety, but also involves little or no cost to the taxpayer. The fact that leaders continue to approve expenditures for transdermal monitoring equipment can also be viewed as political support. The local courts, sheriffs' department and probation agencies can be

said to support the program in that those are the agencies that refer clients to the program for transdermal monitoring clients. Since the use of transdermal technology began, local media has shown support for it by producing several favorable newspaper articles and television stories about it. There has been no controversy surrounding the use of transdermal alcohol monitoring.

Information on Program Benefits

Referring agencies generally do not keep their own statistics on transdermal monitoring violations. This data is kept by the EMP, which generally receives and records statistics on transdermal monitoring violations only. More detailed information (e.g., TACs not resulting in violations), can be obtained from vendors.

At this time there have not been any attempts to evaluate the effectiveness of the use of transdermal technology in terms of determining subsequent legal records of those offenders (e.g., recidivism). The lack of a centralized system to maintain data related to transdermal offenders would make an evaluation difficult. No attempts have been made to determine the cost benefits, if any, of using transdermal monitoring. While it would be possible to calculate the cost savings of programs that provide an alternative to incarceration, transdermal monitoring is only one part of those programs and program officials state that, were transdermal monitoring not available, other methods would be used to attempt to determine whether offenders are complying with abstinence requirements. Therefore officials view the value of transdermal monitoring not in terms of cost savings, but as increased confidence in the system being used to monitor abstinence.

The EMP has kept records of numbers of SCRAM clients removed from the program. As of May 5, 2010, 240 clients have been removed from the program due to non-compliance. Of these, 108 were placed in custody on rule violations, 53 were pretrial defendants removed from the program for some sort of violation (not necessarily transdermal monitoring program violations), 23 were issued a bench warrant for rule violations, 12 were placed in custody due to a probation violation (not necessarily transdermal monitoring violations), 79 were clients who had absconded, and 5 were placed in custody on new criminal charges. Effective June 21, 2010, EMP has also maintained statistics on more specific types of transdermal monitoring violations, i.e., by confirmed drinking events, equipment tampering/obstruction, unauthorized leave, absconding and new arrests.

There has been evidence that offenders are drinking without being detected by SCRAM. These appear to be primarily low-level drinking events, under .02 TAC, which AMS does not confirm as verifiable drinking events. The EMP would like to be able to verify all drinking events, not just those that exceed .02 TAC. One reason for this is that they would like to identify, at the outset, clients who are experimenting with skirting the rules, before it becomes a bigger problem. Further, offenders who have been ordered to remain abstinent and who are drinking even small amounts of alcohol are in violation of the program and the EMP would like to be able to act upon that.

At present, the EMP has seen no evidence to suggest that mandated abstinence from alcohol in the transdermal monitoring program clients is leading to an increase in drug use. Probation officers reported that they were aware that the drug use of some clients may increase while they are abstaining from alcohol, but there is no way to determine the extent of this, as there are no drug test results from prior to the abstinence order. Probation officers believed that clients are not

beginning to use drugs with which they are unfamiliar, simply increasing the use of one drug of choice (e.g., crystal meth) as a result of a decrease in another (alcohol).

There have been no studies to measure the extent of political or community support for the use of transdermal monitoring.

Clients have had both positive and negative reactions to their experiences with transdermal monitoring. Many have reported that monitoring has prevented them from risking consumption. Some have reported that staying sober has allowed them to "actively and positively" participate in treatment programs. On the other hand, clients have complained about the cost of transdermal monitoring and discomfort caused by wearing the bracelets.

Strengths/Problems/Barriers

Strengths

The monitoring program considers the support for the use of transdermal monitoring by referring agencies to be a strength. Another strength is that the transdermal technology and related systems can provide the 24 hour monitoring desired by referring agencies.

The program believes its use of transdermal monitoring with a large scope of offenders, and the use of transdermal data to assist probation officers in determining drinking patterns, to be an innovative approach to the use of transdermal monitoring.

Problems and Barriers

The program has struggled with what they believe to be alcohol use going undetected. In most cases these are low-level drinking events that do not meet the vendors' criteria as confirmable drinking events. There are two reasons this is considered a problem. Firstly, many referring agents have a zero tolerance requirement for drinking; offenders have been ordered to abstain completely from alcohol but the transdermal technologies cannot guarantee confirmation of any and all alcohol consumption. Second, unconfirmed low-level drinking events often escalate into higher-level drinking events. From a treatment standpoint, it would be better to identify low-level drinking early so that it can be addressed before it becomes more serious. Referring agents have expressed frustration over the fact that low-alcohol events are not reported to them, and have expressed an interest in a system that would provide them with this information. There is concern by EMP, however, that providing referring agents with information about low alcohol readings might lead to inappropriate responses, such as incarcerating clients in response to non-confirmable drinking events. Where EMP staff is aware of low-level alcohol readings, they will sometimes notify clients that alcohol was detected and that the clients are being observed closely. The hope is that this will cause clients to modify their behavior.

In some cases there has been concern that clients are masking low-level drinking by attributing alcohol readings to long periods of exposure to environmental alcohol, e.g., while working as a bartender. The solution to this problem has been to disallow offenders from working around alcohol while assigned to transdermal monitoring.

There have been rare cases of apparent high-level drinking events in which the rate of increase of TAC at the beginning of the event was sufficiently steep that the system identified it as exposure

to alcohol in the environment. EMP officials believe the algorithm for identifying drinking events has been modified since this occurred.

The EMP tested the SCRAM system's ability to detect instances of removing the bracelets and determined that they were able to remove the bracelet without detection. This was early in their use of transdermal monitoring, however, and this problem appears to have been fixed.

They report having experienced false tamper alerts with both transdermal monitoring bracelets. These have resulted in clients called in to the office unnecessarily to have the bracelet inspected. EMP reports that AMS has revised the strap design, which has helped but has not completely resolved the problem, and that BI is in the process of developing a new strap to address the issue.

Another problem the EMP has experienced concerns communication of inaccurate information about transdermal monitoring technology. Transdermal monitoring clients may attempt to circumvent the system based on erroneous information about how the device works with the result that clients who might otherwise have been compliant are in violation of the program. For example, clients may attempt to place an object between the sensor and the skin, believing that it will prevent the device from detecting alcohol released through the skin. But, the devices are equipped with infrared sensor that will send a tamper alert if they detect an obstruction. If a client has been drinking they may use household products that contain alcohol around the bracelet in an attempt to claim that the positive alcohol reading was due to environmental exposure rather than drinking alcohol. The TAC readings from the device will increase rapidly due to an environmental exposure, and will not resemble the TAC readings that one would get from consuming alcohol. An example of inaccurate information resulting in problems for the EMP is challenges brought by defense attorneys who do not understand that a negative breath test does not disprove positive transdermal alcohol readings for the same time period. Transdermal alcohol concentrations reflect BAC, but with a delay of 30 minutes to 2 hours after consumption of alcohol.

There have been instances in which the accuracy of the technology has been challenged on a case-by-case basis by defense attorneys. There has not been any larger-scale legal challenge to the accuracy of transdermal monitoring, as implemented by either vendor, in Denver.

The requirement that offenders have access to landline telephones (as opposed to cellular phones) for uploading data has been a challenge for some transdermal monitoring programs in the past.[10] Even when clients have a landline telephone, problems uploading data can occur due to bad telephone wiring in the house, the telephone being disconnected (e.g., for failure to pay the bill), or the phone cord becoming unplugged (accidentally or intentionally) by clients. The landline telephone issue has been a problem for the EMP also. They have mitigated the problem somewhat by having clients come to EMP offices to upload data. This is possible for clients using SCRAM. BI does not currently have a system that allows users to upload from EMP offices but they are working on a solution.

[10] As of October 4, 2011, AMS announced SCRAMx Wireless that does not require landline, cellular phone or internet access to download data.

Lessons Learned

EMP representatives stress that the transdermal monitoring systems they use work very well in general, and do a "great job at detecting alcohol." They report that both vendors are working diligently to provide users with more information, better reports and updated technology. There are aspects of the technology and reporting system they would like to see changed, but they have found that the vendors are open to feedback and make attempts to accommodate EMP's requests.

Program staff believe it is beneficial to work continuously to educate the officials in the courts, sheriffs' office and probation officers regarding the capabilities of the equipment; and to communicate regularly with transdermal monitoring system vendors to obtain information and to voice any concerns regarding the functioning of the equipment and system.

Program staff would recommend that agencies interested in using transdermal alcohol monitoring for DWI offenders endeavor to understand the needs and expectations of the referring agencies. It is important to completely understand the capabilities of the equipment to make certain that the equipment can accommodate agencies' needs. Agencies should conduct extensive testing on the equipment before using on clients. As with any type of monitoring equipment, officials should be careful not to believe everything that sales people say. It is important to "do your homework."

Jefferson County, Missouri

Introduction

All judges in the 23rd Judicial Circuit Court in Jefferson County have been using continuous transdermal alcohol monitoring on certain offenders for more than 4 years. The AMS SCRAM device is used almost exclusively. The BI TAD has seen occasional use recently. The majority of information in this case study report is based on experience with SCRAM. Private Probation Services of Jefferson County (PPSJC) is the local provider of SCRAM services to the county. The Eastern Missouri Alternative Sentencing (EMASS) is the court's SCRAM service partner.

Jefferson County is located in east central Missouri and is the sixth most populous county in the State. According to the Census, Jefferson County had a population of 217,679 in 2008. The county is part of the St. Louis metropolitan area and consists of many of the southern suburbs of St. Louis. In 2000, the population consisted of 28 percent 17 and younger, 8.5 percent were 18 to 24 years old, 32 percent were 25 to 44, 22.5 percent were 45 to 64, and 9 percent were 65 or older. The racial makeup was 97.48 percent White, 0.08 percent Black, 0.29 percent Native American, 0.36 percent Asian, 0.01 percent Pacific Islander, 0.24 percent from other races and 0.93 percent from two or more races. Approximately 1.01 percent was Hispanic. The median income for a family in 2000 was $66,697. The county is divided into seven legislative districts in the Missouri House of Representatives.

History of Program

The alcohol monitoring program has been operational in Jefferson County since 2006. One of the judges had some experience with transdermal monitoring when he was in private law practice. He encouraged offenders who were charged with serious alcohol-related criminal offenses to

voluntarily submit to transdermal monitoring. His purpose was to establish at sentencing that his client had, in fact, ceased consuming alcohol.

Before the use of transdermal monitoring, there was some random testing for alcohol and drugs and some usage of alcohol ignition interlocks for offenders. However, detection of drinking was difficult and spotty. It was reported that offenders considered the risk of discovery to be low, so there was little to deter a defendant who wished to continue to consume alcohol. Through the use of transdermal monitoring, circuit court officials hoped to make it much more difficult for offenders to consume alcohol without detection. The deterrent effect of transdermal monitoring was considered by court officials to be very high. Offenders are aware of such and as a result they appear to be largely compliant with their "no consumption/ possession" orders. Program representatives believe that verifiable abstinence of repeat alcohol offenders who are in the community, either on bond or probation is an important issue on monitoring. The assignment of offenders to transdermal monitoring is considered by judges in the 23rd Judicial Circuit courts as a matter of public safety.

Program Information

Offenders

The following types of offenders are assigned to the transdermal monitoring program:

- Repeat alcohol offenders who are either on bond awaiting trial or who have been sentenced to a term of probation.
- Offenders in felony cases involving serious physical injury or death as the result of an automobile collision that was allegedly caused by an intoxicated defendant.
- Offenders in serious assault cases where alcohol has been identified as a significant contributing factor.
- Offenders in domestic violence cases where alcohol has been identified as a significant contributing factor.
- Youthful offenders (younger than 21) charged with repeated alcohol related offenses.
- Offenders on probation with a special condition of "no consumption of alcohol" who violate the condition.

The period of transdermal monitoring is specific to the individual defendant and offense. The period of transdermal monitoring often varies among defendants even though each is charged with the same offense. Individuals awaiting trial frequently remain on transdermal monitoring until sentencing. AMS notifies the PPSJC office of any drinking or tampering events within 24-48 hours. The PPSJC office immediately e-mails the judge. Depending upon the type of offender and circumstances, offenders may be warned about tampering violations, have the transdermal monitoring period extended, or sent to jail for 5 days. For any confirmed drinking events, warrants are issued and the offender is sent to jail for 5 days. Five days in jail is usually the minimum time for a first drinking or tampering event. If an offender is considered high risk, he/she could be incarcerated for a significant period of time. If offenders are on probation, they may face probation revocation and jail or prison time even on a first confirmed drinking event. Repeat drinking events result in significant jail time. When offenders leave jail they are typically

returned to transdermal monitoring. Offenders are monitored for 90 to 180 days with the average at 137 days.

Equipment

SCRAM2 and SCRAMx are used almost exclusively. The TAD has recently become available and is used on occasion. The Missouri Department of Probation and Parole is beginning to use TAD almost exclusively for offenders on felony probation.

In January 2007, there were 12 defendants on transdermal monitoring in the 23rd Judicial Circuit. The number of defendants on transdermal monitoring has steadily increased, particularly defendants on bond and awaiting trial. Over time, transdermal monitoring has been expanded to a larger variety of defendants, domestic violence offenders being one example. As of January 2011, there were100 offenders being monitored.

All SCRAM equipment was purchased from AMS and is owned by PPSJC.

Nature of Transdermal Monitoring Implementation

In addition to the 23rd Judicial Circuit Court, Jefferson County also has the following four small-docket specialty courts: (1) drug court; (2) DWI court; (3) adolescent drug court; and (4) family drug court. On average, each of these programs has a total of five participants on transdermal monitoring at any one time. There are presently two family drug court and two drug court participants under transdermal monitoring. The vast majority of defendants on transdermal monitoring in the 23rd Judicial Circuit have their cases pending on regular criminal dockets.

When criminal charges are first filed against a defendant who is to be placed on transdermal monitoring, a “no bond” arrest warrant is issued. The issuance of a “no bond” warrant insures both that the defendant, upon arrest, is delivered to the Jefferson County Jail and that all preconditions necessary to defendant’s transdermal monitoring release are satisfied before the defendant is released from custody. Before bond is set, the defendant is required to pay a $500 retainer to PPSJC to cover the initial costs of installation ($75) and monitoring ($12/day). When the court receives notice of payment, a “surety only/secured” bond amount is set. The bond amount is usually in the range of $2,000 to $10,000, but is always dependent on the offense circumstances and the defendant’s background. Once the bondsman posts the defendant’s bond, the defendant is released and then immediately escorted to PPSJC. Upon arrival, the specific conditions of the defendant’s release are explained and the monitoring bracelet is installed. In the event of a later confirmed tamper or consumption event, a “no bond” warrant is customarily issued for the defendant’s arrest. The bondsman is notified; the bondsman then locates and takes the defendant back into custody. The reason for a defendant’s release under surety bond is to insure the existence of a qualified individual who will assume the responsibility to promptly seek out and return the defendant to custody in the event of a violation. If an offender uses a cash bond, 10 percent cash bond, or personal recognizance bond, given the reluctance of many defendants to voluntarily surrender themselves on warrant issued after a violation, the court may have to wait a considerable period of time, perhaps even until the defendant’s arrest on a new offense, before the defendant is apprehended and returned to custody. A defendant released on transdermal monitoring who thereafter tampers with the unit or consumes alcohol is considered a threat to community safety, dictating the defendant’s prompt return to custody. Email communication between the court, prosecution, defense, and PPSJC is used to expedite this

process. The procedures outlined herein differ somewhat between the various courts that comprise the 23rd Judicial Circuit, but they are the procedures followed by Associate Division XII. Appendix B.1 of this case study report shows copies of the court order forms setting conditions of supervised release for newly filed offenses and for probation violations.

Individuals on probation frequently remain on transdermal monitoring until a drug and alcohol evaluation is conducted; they have begun treatment in accordance with evaluation recommendations; and the treatment provider, probation officer, prosecutor, and judge all agree that the defendant may be removed from monitoring. Domestic violence probationers are treated likewise, although they may be additionally required to participate in a batterer's intervention program. Youthful offenders may be assigned to transdermal monitoring for the shortest period. Jefferson County officials report that the intention of transdermal monitoring of youthful offenders is to break the pattern of alcohol consumption, and get the offender into treatment. Transdermal monitoring is not used for all alcohol offenders and is rarely used with first-time DWI cases unless there are aggravating factors. Judges sometimes order "no consumption of alcohol" as a condition of probation without transdermal monitoring. However, in such event, judges frequently include, as a further condition of probation, that PPSJC direct the offender to submit to transdermal monitoring if it is believed that it has become necessary to insure compliance with the "no consumption" condition of probation. The bond amount for offender's released on transdermal monitoring usually averages between $2,000 and $5,000.

The PPSJC has one supervisor and five assistants. There is a ratio of about 30 offenders monitored to each case manager. AMS notifies PPSJC of any confirmed drinking events or tampering evidence.

Tampering

Consequences for tampering with transdermal monitoring equipment are case-specific. First, PPSJC ensures that an intentional tamper event has occurred. A PPSJC probation officer will meet with the defendant to rule out any unintentional tamper. If the probation officer believes that an unintentional tamper event may have occurred, the defendant is instructed on how to avoid future incidents. If the tamper event appears to be intentional, in some cases, the probation officer may confront the offender and advise him/her that the defendant's bond will be revoked if it happens again. In the event of a second tamper event, a warrant is usually issued for the offender's arrest. In the event of a first tamper event with alcohol detected but not confirmed, a warrant is also usually issued.

Alcohol Detection

In the event of a confirmed alcohol consumption event, a warrant is usually issued. If a warrant is issued under these circumstances, and if the TAC level is relatively low, the defendant, as a consequence, may be incarcerated for 5 to 10 days, put back on transdermal monitoring, and released. In the event of a consumption event with high TAC levels, or multiple mixed tamper and consumption events, the defendant may be incarcerated until conclusion of the case. The Court's response is frequently dependent upon the nature of the underlying charge. A defendant facing a vehicular manslaughter charge or a felony DWI with a history of recent DWI convictions/suspensions will be subject to more severe sanctions than a youthful offender with a single alcohol offense.

Statistics provided by AMS report that of the 410 offenders who have completed transdermal monitoring to-date, 82 (20%) have been noncompliant. Of the 82 noncompliant offenders, 57 had one or two confirmed violations, 21 had three to five confirmed violations and 4 offenders had six or more confirmed violations.

A defendant's individual court file would include information regarding that defendant's transdermal monitoring history. AMS, EMASS, and PPSJC have more extensive records/reports/statistical information concerning the use of transdermal monitoring in the 23rd Judicial Circuit.

Defendants "removed for non-compliance" are almost always incarcerated.

Absconding

Some offenders have fled the Jefferson County area, but they usually cut off the transdermal monitoring bracelet and a family member brings the monitor and modem back to Private Probation Services of Jefferson County (PPSJC). This is another reason that bondsmen are used when offenders are released and put on transdermal monitoring. Bondsmen will place these offenders at the top of their "pick up" list and they are usually promptly returned to jail. If the monitor and modem are not returned, PPSJC will fill out a complaint for stealing/failure to return rental property with law enforcement and a warrant will be issued.

Additional Elements

Interlock

Only a few offenders assigned to transdermal monitoring are also on alcohol ignition interlocks due to the belief by court officials that assigning an interlock would be redundant.

Electronic House Arrest/Monitoring

PPSJC reports that no offenders on transdermal monitoring are currently on electronic house arrest or GPS tracking. There have been a few instances where judges have used transdermal and GPS monitoring in serious cases of domestic violence when alcohol was a precipitating factor. This was done to insure that the offender would have no contact with the complaining witness. If contact was attempted, PPSJC would be notified by the offender's entry into an exclusionary zone. This would give PPSJC the opportunity to notify law enforcement and the complaining witness.

Treatment

As a general rule, defendants awaiting trial while assigned to transdermal monitoring are not required by the courts to undergo treatment. The primary purpose of transdermal monitoring is to avoid new alcohol-related offenses pending case disposition. However, it appears as though a number of offenders awaiting trial – either at the urging of their attorney, PPSJC, or on their own initiative – elect to participate in treatment. Almost all defendants on probation under transdermal monitoring are required to participate in a treatment or other rehabilitative program while being monitored. PPSJC reports that 65 percent of defendants assigned to transdermal monitoring in the 23rd Judicial Circuit are involved in some type of treatment, Alcoholics

Anonymous/Narcotics Anonymous, outpatient, aftercare, counseling, or SATOP (Substance Abuse Traffic Offender Program).

In the associate circuit courts of Jefferson County, almost all defendants on probation for a misdemeanor offense (any offense that carries one year or less in the Jefferson County Jail) who are ordered to wear a transdermal monitoring device are required to undergo a treatment program. However, there is no treatment program specifically targeting defendants assigned to transdermal monitoring. Reports from healthcare professionals concerning the transdermal monitoring of defendants who are under their treatment are usually positive. The professionals seem to believe treatment is more likely to succeed with an individual who, without question, is maintaining his/her sobriety. Defendants in the circuit courts of Jefferson County, who are charged with a felony offense (any offense that carries prison time in the Missouri Department of Corrections) and are not sentenced to a term of incarceration in the Department of Corrections, are supervised by the Missouri Department of Probation and Parole. PPSJC reports that approximately 70 percent of the defendants who plead to felony offenses are removed from transdermal monitoring at or before their sentencing date because of pre-sentence treatment participation; approximately 30 percent remain on monitoring after sentencing until their State probation officers authorize removal.

Drug Testing

When there is some behavioral indication that drug use may be taking place, urine and hair are tested for drug use.

Funding

One hundred percent of the costs of the transdermal monitoring program are paid for by the offenders. There is no other funding. Indigent offenders do pose a problem. The 23rd Circuit Court is considering applying for a grant to start an "indigent fund." Currently, the government pays the costs of transdermal monitoring for true indigents.

Offenders are usually held in custody until they pay a $500 retainer fee that generally covers installation costs of $75 and monitoring costs ($12 a day) for about 30 days. Offenders are released from custody under the condition that they participate in monitoring. After 30 days, the offender is responsible to pay a fee of $12/day payments until released from monitoring. Transdermal monitoring averages 137 days on offenders.

Support for Transdermal Alcohol Monitoring

Political support for the transdermal monitoring program has not been pursued. It is not considered necessary. There have been a few positive news stories about the transdermal monitoring program. The program has had no negative publicity or political opposition thus far. There have been no legal challenges to using transdermal alcohol monitoring in the 23rd Judicial Circuit Courts.

Information on Program Benefits

No scientific studies of the effectiveness of the transdermal monitoring program have been conducted thus far, but judges consider transdermal monitoring to be cost-beneficial because jail

costs the county $44/day, as opposed to a transdermal monitoring cost of $12/day that is paid by the offender.

There is evidence of marijuana use by some offenders on transdermal monitoring. Lacking drug test results for those offenders prior to entering the program, it is not possible to say whether marijuana use by offenders assigned to transdermal monitoring has increased as a result of abstaining from alcohol.

An official from PPSJC reported that offenders are required to answer a survey upon removal of the transdermal monitoring bracelet. Offenders are asked to be honest and they are advised that the survey will not affect their case nor will the survey be voluntarily provided to the court. The majority of the offenders state that transdermal monitoring bracelet has changed their life and bonded their family ties. Many offenders say that they did not realize how bad their alcohol addiction was until the transdermal monitoring aided them to stop drinking alcohol. Some offenders complain about the fee; however, many then state it was well worth the financial burden. Offenders reveal that they spent almost as much on alcohol a day as the daily cost of the monitoring. Offenders who tend to follow the program exactly as instructed will usually complete the program successfully and return a positive survey report.

Strengths/Problems/Barriers

Strengths

Program representatives consider the following to be strengths of the transdermal monitoring program as implemented in Jefferson County:

- The program enhances public safety by preventing impaired driving.
- Transdermal monitoring is believed to prevent future alcohol-related offenses from offenders in the program by helping them to quit drinking.
- Transdermal monitoring is an excellent tool to monitor alcohol use.
- Transdermal monitoring is a proactive strategy.
- Offenders in need of treatment are quickly identified.
- Many offenders go into treatment right after the transdermal monitoring program.
- Drinking events are detected immediately and reported to the probation officer and the judge.
- Community and media response to the program has been positive.

Problems and Barriers

Program representatives consider the following to be barriers that prevent the transdermal monitoring program from working as effectively as possible in Jefferson County:

- Some offenders find the costs of using transdermal monitoring ($75 for installation and $12/day for monitoring) to be prohibitive. Some offenders claim they cannot pay attorney's fees because of transdermal monitoring expenses.

- Costs for the SATOP are increasing. This will make it more difficult for offenders to pay for the transdermal monitoring program and the SATOP.
- There has been a cut-back in the State on funding for public defenders. This may mean more expenses for many offenders.

Lessons Learned

Jefferson County official representatives offered the following lessons they have learned through the course of using transdermal monitoring:

- All tampers and obstructions should be reported to the court. However, the AMS or BI monitor should prepare a recommendation; provide information about the tamper, and whether they believe it was intentional or unintentional. Tamper events should be carefully reviewed. Some in the past were inadvertent and not intentional.
- There should be a rapid response to any transdermal monitoring event. Consequences for tampering or a drinking event must be appropriate and swift.
- There should be follow-up monitoring when the monitoring equipment is removed---random biomarker ethyl glucuronide urine testing at least once/a month for 6 months. There should be prompt screening, evaluation and treatment for all offenders.
- Compliance should be monitored and detected. Assignment to the program should be extended if drinking events keep occurring.
- Jefferson County representatives recommend using transdermal monitoring on offenders longer than the typical 90 days.
- The guidelines set by the vendor should be followed and the probation staff should be tested on the installation and use of equipment and the interpretation of transdermal monitoring data before installations are allowed. AMS provides on-line and DVD training tools. The on-line training program takes 8 to 10 hours to complete.
- Transdermal monitoring should be one of the conditions for probation for all alcohol-related offenses.
- Transdermal monitoring violations should be reported directly to the probation officer. The probation officer should then contact the offender for an interview and report the information to the court within 24 hours of the occurrence.
- Offenders need to be educated about transdermal monitoring and informed that any consumption, tamper, and obstruction event are violations and will be reported as such. The offender should leave the agency without any questions about the program. "I didn't know" is not an excuse.
- Jefferson County representatives recommend deferring removal from the program until the offender is screened and treated.
- Jefferson County representatives recommend using a sound methodology for identifying offenders in need of transdermal monitoring.

- It is highly recommended to direct the offender to submit to an EtG test when the offender, within 24 hours, claims the "bracelet fell off." When this event occurs, the bracelet is sent to AMS for inspection to determine the cause of falling off. It could have been ripped off or cut. Reports are submitted after confirmation.
- It is highly recommended that probation officers inspect each offender's bracelet on the scheduled appointment dates.
- It is highly recommended that probation officers remind the offender that the removal of the device is not a green light to consume alcohol if the probation conditions still state "no consumption of alcohol."
- Notify the courts, attorneys, and prosecuting attorney when the offender's payment is 20 days in arrears to determine the right course of action.
- Keep in mind, offenders are usually defiant and defensive at the time of installation, but then transform when they are sober and complying with the transdermal alcohol monitoring.

Nebraska Supreme Court

Introduction

The Nebraska Supreme Court Office of Probation Administration started using continuous transdermal alcohol monitoring on approximately 500 offenders in 2007 as a pilot program. In 2008 and 2009, another 500 offenders were assigned to the transdermal alcohol monitoring program. The program continued into 2009 and 2010 (~900 offenders) and currently (February 2011), over 700 offenders are active in the program. The SCRAM device is used exclusively. The Nebraska Supreme Court Office of Probation Administration is located in Lincoln. It is responsible for over 17,000 adult offenders on probation in the State at any given point in time.

Nebraska had a population of 1,826,341 in 2010. The median income is $44,623 annually. The population is mostly White (93%) with close to 5 percent Black, almost 2 percent Asian and 1 percent American Indian or Alaskan Native. Almost 7 percent are of Hispanic ethnicity. The largest cities are Omaha (454,731) and Lincoln (254,001). The judicial system in Nebraska is unified, with the Nebraska Supreme Court having administrative authority over all Nebraska courts. The lowest courts in Nebraska are county courts and above that are 12 district courts containing one or more of the 93 counties in the State. The Court of Appeals hears appeals from the district courts, juvenile courts and the workers' compensation courts. The Nebraska Supreme Court is the final court of appeal.

History of Program

The transdermal alcohol monitoring program started as a pilot study in February 2007 as a way of introducing the technology and its utilization in connection with substance abuse treatment. Some 500 offenders were put on the device and the pilot test was considered to be successful. Alcohol is viewed by Nebraska officials as one of the most prevalent drugs used by offenders while on probation. There was also concern by officials over the relapse of many methamphetamine addicts that typically starts with an alcohol relapse. While 53 percent of

offenders on probation for DWI, many other crimes involve alcohol as a factor. Given that alcohol was such a difficult drug to test for under traditional testing methods (e.g., surprise breath tests), transdermal monitoring was a welcomed technology in the Nebraska probation programs to reduce substance abuse. The monitoring program has continued and grown ever since.

Program Information

Offenders

The following types of offenders are assigned to the transdermal monitoring program:

- Any adult offender as determined by the courts, parole board, or problem-solving court that requires abstinence from alcohol as a condition.
- Offenders engaged in chemical-dependency treatment programs that have demonstrated an inability to refrain from the use of alcohol and as part of a sanction.

The period of transdermal monitoring is specific to the individual defendant and offense. The average period of transdermal monitoring is about 85 days according to AMS statistics. Financial assistance is available to offenders to pay the monitoring costs up to 120 days of monitoring. Any monitoring period beyond 120 days must be paid for by the offender. Any verified drinking events and tampering events are considered as non-compliance with probation. Offenders may serve additional sanctions, but are kept on transdermal monitoring for a longer period of time. Offenders are typically engaged in chemical dependency treatment programs in conjunction with the monitoring.

Equipment

The SCRAM2 device is used exclusively. The TAD is not currently used. Approximately 250 SCRAM2 units are currently in use.

As part of the pilot project in Nebraska, the Office of Probation Administration worked in collaboration with AMS to ensure that the availability of the transdermal monitoring devices would be provided statewide. This scenario remains to date. AMS, in turn, contracts with three local providers to offer the continuous transdermal alcohol monitoring services. Local providers obtain their equipment from AMS. When continuous alcohol monitoring is ordered by the court, a referral is made to the provider. The provider makes arrangements with the offender for installation of the equipment. Local providers monitor the tests and notify the officer in the event of a drinking episode. Officers can also go on-line at any time and examine the status of an offender's compliance.

Nature of Transdermal Monitoring Implementation

Transdermal monitoring was introduced into Nebraska by the Office of Probation Administration to the Community Corrections Council who works in collaboration with the Probation Administration concerning sentencing alternatives. The objective is to provide a meaningful period of abstinence through the use of technology ordered in conjunction with a substance abuse evaluation and treatment that would promote behavioral change. Another goal is to provide

financial assistance toward the use of the transdermal monitoring technology for those offenders who are unable to pay. Offenders in pre-trial status are not eligible for financial assistance.

The judge or parole board determines the offender's need for abstinence and/or monitoring and enter an order for transdermal alcohol monitoring for a specific period of time. In addition, a supervising officer may use transdermal alcohol monitoring as part of a sanction. A referral is made through the supervising officer to the registered transdermal monitoring provider via a referral form. The individual to be placed on transdermal monitoring will contact the local registered transdermal monitoring provider to schedule installation.

The Nebraska agencies work with three providers of transdermal monitoring services: The Counseling Center, Addiction Counseling & Consultation Services and Vigilnet. These providers are under a contractual arrangement with AMS and provide statewide availability for transdermal monitoring using SCRAM. The coverage area is by judicial/probation district and arranged through the parent company, AMS. Vendors have established a working relationship within the probation district to meet the individualized needs and processes of that area and court.

While Probation Administration has oversight of the financial assistance program, transdermal monitoring is also available to Nebraska's Parole Administration and problem-solving courts. Offenders are ordered to cover the initial costs of installation, monitoring and removal. Abstinence from alcohol through the duration of the monitoring period results in successful program completion. Officials realize that not all offenders remain alcohol-free for the entire period of monitoring. Offenders who experience some adjustment issues usually become and remain alcohol free within the first few weeks of the program. Registered transdermal monitoring providers report any non-compliance (including the detection of alcohol and equipment tampering) to the supervising officer within one business day. The registered providers also submit monthly progress reports to the supervising officer. The Office of Probation Administration provides payments for offenders qualifying for financial assistance and conduct audits to ensure adherence to the SCRAM Provider Agreement. Reports provided may be used by an officer as evidence for a violation of probation or in the case of compliance, early release from the transdermal monitoring.

See Appendix B.2 for the various agreements and forms used.

Tampering

Consequences for tampering with monitoring equipment are case specific. Tampering is considered a violation of probation and is treated differently than a confirmed drinking event.

Officers, by statute, have the authority to impose a wide array of sanctions for tampering, ranging from verbal reprimand, elevated supervision, up to a notice to the county Attorney concerning a violation of probation and request for revocation of probation.

Alcohol Detection

In the event of a confirmed alcohol consumption event, the probation officer warns the offender of the noncompliance. Some offenders with drinking events are required to stay longer on the monitoring program. In some instances, other sanctions are administered.

Statistics provided by AMS report that of the 3,081 offenders in Nebraska who have completed transdermal monitoring to date, 520 (17%) have been noncompliant. Of the 520 noncompliant offenders, 31 had confirmed drinking violations (1%) while 489 (16%) had confirmed tampering violations.

Should an offender test positive for a drinking event, officers by statute have the authority to impose a wide array of sanctions—again ranging from verbal reprimand, elevated supervision, up to a notice to the county attorney concerning a violation of probation and request for revocation of probation.

Absconding

Absconding would be cause for a notice to the county attorney concerning a violation of probation and request for revocation. A small number of offenders have absconded while participating in transdermal monitoring.

Additional Elements

Interlock

The Nebraska Supreme Court estimates that approximately 1,800 DWI offenders are on alcohol ignition interlocks. These offenders are monitored by the Nebraska Department of Motor Vehicles. It is unknown how many offenders are on both transdermal monitoring and interlocks.

Electronic House Arrest/Monitoring

- Electronic house arrest monitoring: On rare occasions an offender may be on electronic monitoring and transdermal alcohol monitoring at the same time. Electronic monitoring is used as a monitoring tool and not a house arrest program.
- GPS tracking/monitoring is not currently used by the Nebraska Probation Administration.
- Electronic home breath testing (e.g., Sobrietor) has been used on rare occasions in limited jurisdictions in Nebraska.

Treatment

The Nebraska Probation Administration believes that treatment is a means of crime control and central element of case management and offender risk reduction. The transdermal monitoring program is specifically used in conjunction with substance abuse treatment in Nebraska. Officials believe treatment will be more effective if the offenders are sober. According to officials, this vantage point allows for an optimum environment for behavior change to occur.

Drug Testing

The Nebraska Probation Administration also has a testing program for drugs other than alcohol. Offenders are subject to random urine testing. The frequency of testing is determined by the risk of the offender and the seriousness of the substance use. Officers can choose between 1-, 2-, 3-, 4-, 5-, and 8-panel drug testing, depending upon the circumstances. Drug testing results are analyzed internally with confirmations conducted by Redwood Labs or Nebraska State Patrol lab as needed and based on the circumstances. In cases where transdermal alcohol monitoring is not

ordered, ethyl glucuronide testing technology is available to officers in the event that alcohol use is suspected. Some problem solving courts currently have grant dollars that may offer additional testing options.

Funding

Payment by offenders for the transdermal alcohol monitoring program is determined on a sliding scale. Offenders who pay the full price are charged $25 for installation, $25 for removal and $12 per day for monitoring. If offenders are unable to pay, there is a financial assistance program administered by the Office of Probation Administration. The funds used for the financial assistance program are a result of offender supervision fees collected from offenders under supervision. A portion of these funds have been designated for the use of transdermal monitoring and reviewed on a yearly basis. Local transdermal monitoring providers, along with AMS, agree to adhere to the sliding fee scale and rules established associated with the SCRAM Financial Assistance Program. The financial aid has been institutionalized in the sense that it has been in effect for 4 years and users are aware of the protocol for financial assistance. However, it has not been institutionalized in that allocation of funding for transdermal monitoring is reviewable yearly and subject to discontinuation at any time.

Support for Transdermal Alcohol Monitoring

There is strong judicial support for the transdermal monitoring program statewide. The program has had no negative publicity or political opposition thus far. However, officials believe that the overall cost benefit of the program is in need of evaluation.

Information on Program Benefits

No scientific studies of the effectiveness of the transdermal monitoring program have been conducted thus far, but the University of Nebraska (Omaha) is currently conducting such an evaluation and a cost-benefit analysis.

A judicial survey was conducted at the end of the pilot project that resulted in overwhelming support for the technology. Anecdotally, offenders report transdermal monitoring reduces the peer pressure associated with drinking (offenders can blame the decision not to drink on the bracelet) that helps them to get their lives back on track.

Strengths/Problems/Barriers

Strengths

Program representatives consider the following to be strengths of the transdermal monitoring program as implemented in Nebraska:

- The transdermal monitoring device and reporting system is “probation officer friendly,” i.e., it is easy to use.
- The transdermal monitoring program results in lower staff time and resources for monitoring.
- There is continuous feedback on offender performance (compliance with abstinence).

- The transdermal monitoring program fills a drug testing gap. In the past, it was difficult to detect if offenders were drinking alcohol or not.
- The transdermal monitoring program serves as a strong deterrent to the offender while engaging in treatment.

To date, the transdermal monitoring program has not faced any legal challenges in Nebraska.

Problems and Barriers

Program representatives consider the following to be barriers that the transdermal alcohol monitoring program had to overcome to work as effectively as possible in Nebraska:

- In the beginning, there was skepticism over the new technology and the associated cost. Officials needed to be educated and convinced.
- The stability of the funding in the future is always a concern.
- There is a limited population of offenders who are targeted for the alcohol monitoring program. Some officials want that to be expanded.
- The financial assistance does not cover juveniles, so this technology is not being used by juvenile offenders in this arena. However, there is a demand for expansion to juvenile offenders.

At the direction of the court, the Office of Probations Administration has recently used transdermal alcohol monitoring on juveniles in limited circumstances. However, no funding is available for this application; therefore, the cost for the transdermal monitoring program is the responsibility of the juvenile and/or family.

Lessons Learned

Nebraska officials offered the following lessons they have learned through the course of using transdermal monitoring:

- The program is often successful with drug offenders who often relapse first with alcohol.
- The period of sobriety provided by the program enhances treatment outcomes.
- While the DUI offender is the most prominent offender using transdermal alcohol monitoring, there are a wide variety of offenses (both felony and misdemeanor) where alcohol is a contributor to the offense. Transdermal alcohol monitoring should also be used on these offenders.
- Any entity considering the use of transdermal alcohol monitoring is encouraged to remember that, like any other tool, transdermal alcohol monitoring is just a tool. True behavior changes and risk reduction occurs when precipitating behaviors are addressed through targeted treatment. Transdermal alcohol monitoring is an excellent tool to assist in the facilitation of that process.

New York 8th District

Introduction

The Office of Court Administration (OCA) manages four DWI courts in western New York. These DWI courts are located in:

- Buffalo (population: 293,648);
- Niagara Falls (population: 55,593);
- Amherst (population: 116,510); and
- Jamestown (population: 31,730).

The SCRAM device has been used to monitor DWI court offenders' alcohol consumption since 2006. The courts target nonviolent felony DWI offenders who have at least one prior DWI conviction (misdemeanor or felony) and who are identified as having an alcohol abuse problem. Upon a conviction or guilty plea to an eligible DWI offense, the sentencing judge has the option of ordering the offender to undergo an alcohol abuse assessment at the specialized DWI court. If it is determined the offender is alcohol dependent or has an alcohol abuse disorder, the offender may be ordered to participate and complete the DWI court. Offenders who refuse participation in the DWI court are usually sentenced to state prison time. Offenders who agree to enter the program are sentenced to five years of probation, with an additional condition requiring participation in the DWI hybrid drug court for at least one year. Program length is determined by the offender's compliance with the DWI court requirements, but is no less than one year and no more than two years.

Buffalo is the largest city in western New York, but the area includes Niagara Falls, Rochester, and many surrounding suburbs. The population of western New York is about 2.5 million---about the same as the Pittsburgh metropolitan area. Winters in western New York are long and cold---in many years lasting from mid-November to mid-April. The area is culturally a mix of Midwest and Northeast with much in common with Chicago and Cleveland as opposed to New York City. According to the 2005-2007 American Community Survey Estimates, Buffalo's population was 53.8 percent White (48.7% non-Hispanic White), 41.1 percent African American, 1.2 percent Native American or Native Alaskan, 2.0 percent Asian, 4.5 percent of some other race, and 2.5 percent from two or more races. A total of 8.3 percent were Hispanic or Latino of any race. Over a quarter (26.3%) was 17 or younger; 11.3 percent from 18 to 24 years old; 29.3 percent from 25 to 44; 19.6 percent from 45 to 64; and 13.4 percent at 65 or older. The median age is 34 and for every 100 females there are 88.6 males. The median household income is $24,536.

History of Program

In the early 2000s, 8th Judicial District Court officials received training in DWI offender monitoring. They visited DWI courts in Athens, GA, Lansing, MI and Phoenix, AZ. Consequently, officials applied for funding assistance through the New York State Highway Safety Office and received initial funding to start a DWI court in 2005. The DWI court pilot project received $200,000 in the first year, $150,000 in the second year, and $150,000 in the third year to fund case managers and purchase equipment. Judge Judy Harris Kluger, chief of

policy and planning for New York State courts, was instrumental in the grant application. A total of 150 SCRAM devices were purchased from AMS for $1,400 each under the grant to monitor offender's drinking on a continuous basis. No installation fees were charged. Transdermal monitoring was charged to the offender at $7/day. Recovery Solutions was employed to collect the monitoring fees. Transdermal monitoring was conducted by AMS and relayed to the DWI court case managers.

All offenders assigned to the DWI court are under community supervision by the probation department and case management by the court based DWI team. Offenders are subject to transdermal monitoring for at least six months and longer in the event of noncompliance or as a condition set by the sentencing judge. In addition, the offenders must attend an alcohol treatment program. Most defendants start out in outpatient treatment, but inpatient treatment may be necessary in some cases. Offenders must return to court regularly for judicial status hearings. In the first three months of the DWI court program, offenders appear once a week before the judge. If the offenders are in compliance with their requirements, the meetings with the judge change to once every two weeks for three months and then once a month for the remaining probation period. Offenders are required to submit to random alcohol and drug screens on the days they appear for their status hearings and random days between court appearances and unannounced home visits by the probation department. The DWI court judge can apply intermediate sanctions to respond to compliance with court orders. Sanctions can include admonishment from the judge, increased frequency of court appearances and testing, increased participation in treatment, community service, demotion to an earlier phase of treatment, brief periods of incarceration, and formal probation violation with program termination and re-sentencing to jail.

Program Information

Offenders

Transdermal monitoring is assigned to all DWI court offenders. These include:

- Repeat DWI non-violent offenders convicted and condition of sentencing is to attend DWI court.
- Offenders on 5 years of probation: conditional if they complete all requirements of DWI court.

Offenders sign a contract on the use of transdermal monitoring for a minimum of 6 months. If any drinking is detected, the offender must continue transdermal monitoring for another 6 months. Offenders receive appropriate treatment while in the program. Offenders initially appear before the DWI court judge once per week and must satisfy the judge that they are complying with requirements. Typical requirements include no transdermal monitoring violations, a clean toxicology report from the random drug testing program, and proof of at least 2 confirmed visits to a self-help meeting (Alcoholics Anonymous, Narcotics Anonymous, or Secular Organizations for Sobriety).

There are approximately 65 DWI offenders for every case manager. The ceiling is 90 offenders for every case manager.

Equipment

A progression of SCRAM devices have been used with the SCRAMx anklet currently in use. Since 2006, a total of 500 DWI court offenders have been monitored on the SCRAM for an average of 198 days, which is longer than most programs (over 6 months). Of the 371 offenders who have completed the SCRAM monitoring, 252 (68%) have been compliant. A total of 95 offenders (26%) had 1-2 confirmed violations; 20 (5%) had 3-5 confirmed violations; and 4 (1%) had 6 or more violations, according to AMS officials. The BI TAD is not used.

Nature of Transdermal Monitoring Implementation

The Office of Courts Administration works with the probation department on the management of the transdermal monitoring program. AMS confirms any drinking or tampering episodes and notifies the DWI case managers. The case managers notify the DWI court judge. The transdermal monitoring devices were originally purchased under the DWI court grant, but are currently maintained by the State. Case managers were originally paid out of the grant, but New York State has assumed responsibility for their salaries since the grant expired. Recovery Solutions, Inc., collects the transdermal monitoring fees from offenders. The use of transdermal monitoring has been expanded to at least 5 other counties in western New York and is considered as an asset to the courts.

AMS analyzes all the transdermal monitoring data and confirms drinking violations or tampering events. Recovery Solutions sends the transdermal monitoring records to the DWI court officials on a daily basis. Any non-compliance can result in one week in jail for the offender or termination from the DWI court. Drugs other than alcohol are tested for from urine samples on a random basis. Other methods of detecting alcohol consumption of offenders are periodically used. These methods include examination of biomarkers and random breath testing.

AMS provides technical assistance, data analysis, and support for the program. They interpret all events and notify probation officials of any confirmed events. Typical sanctions for a confirmed drinking event are as follows:

- For a first drinking event, the offender is given another diagnostic assessment and may be sent for detoxification, inpatient rehabilitation, or residential treatment. Offenders have a list of at least 23 treatment centers to choose from.
- For a second drinking event, they spend three to five days in jail and are then assigned additional treatment. Tampering events result in at least five days in jail. While no offender has absconded with the device, the sanction would be several days in jail.

All DWI court offenders receive some form of treatment and rehabilitation. Any confirmed drinking or tampering events are sent to the treatment provider. Offenders pay $7 per day for the monitoring. Offenders are expected to find a way to pay for the monitoring.

Additional Elements of Program

Interlock

No ignition interlocks are used for these DWI court offenders, however, about 5 percent of the offenders are on interlocks as a result of other court mandates.

Electronic House Arrest/Monitoring

Some offenders may be on house arrest or electronic monitoring with a GPS if they are a flight risk.

Treatment

DWI court requirements include treatment (outpatient mostly; some inpatient initially), random drug testing, surprise home visits, weekly appearances before the judge, offender peer review, empowering sessions for success, AA meetings, and other offender-specific actions.

Drug Testing

The random drug testing uses urine and tests for the Substance Abuse and Mental Health Services Administration (SAMHSA)-5 test panel which includes: marijuana (THC), cocaine, opiates, amphetamines, and phencyclidine(PCP) . Marijuana is the most frequently detected drug, but alcohol is the drug of choice for these offenders (86%). The frequency of the random testing is once per week for a few months and then once a month if the offender stays clean. If there is a positive result, they are given three to five days in jail.

Funding

As was mentioned, offenders pay $7 per day for the transdermal monitoring program. The initial 150 SCRAM units were purchased under the grant (150 X $1,400 each=$210,000), but any new devices are now paid for by the State. Case managers' salaries are now covered by the State. Funding has become somewhat institutionalized because of the success of DWI courts in reducing offender recidivism and saving jail costs.

Support for Transdermal Alcohol Monitoring

There have been positive stories in the media about the DWI courts and the transdermal monitoring program. The *Buffalo Evening News* published a story on the transdermal monitoring program, highly supporting it. Multiple stakeholders and other organizations have supported the use of transdermal monitoring. There are no plans to discontinue its use.

Information on Program Benefits

Early DWI court graduates assigned to transdermal monitoring have reportedly had very low recidivism rates and officials credit the transdermal monitoring program for part of that success.

Strengths/Problems/Barriers

Strengths

- In the past, random testing for alcohol consumption on the offenders was found not to be sufficient. Offenders were still drinking at other times. DWI offenders were not allowed in Drug courts in the past because alcohol could not be adequately or efficiently monitored. Transdermal monitoring helped to overcome these obstacles AMS donates

their monitoring fees to the program for DUI court veterans and addicted veterans assigned to transdermal monitoring.

- Erie County, NY, also has a Mental Health Treatment Court and a Veterans Treatment Court.

Problems and Barriers

- In the beginning of the monitoring program, probation officers were resistant due to a lack of understanding of how transdermal monitoring worked. Via a series of meetings with AMS, the stakeholders, and court officials, probation officers became educated. Many wore the bracelet home to test it for themselves. They eventually became advocates for its use.
- In the past, some of the offenders did not have jobs and could not pay some of the costs of the monitoring. Currently, Greater Buffalo Works, a nonprofit organization, helps many DUI court offenders find employment.

Lessons Learned

The 8th Judicial court officials recommend training and education for all stakeholders early on in any program that uses transdermal monitoring. Advantages and limitations need discussion. Probation officers who are skeptical should be persuaded to wear the equipment and test it out themselves.

While no cost-benefit study has been conducted, officials believe the transdermal monitoring program is highly cost-effective, especially since it is offender-paid and is less expensive than jail.

According to DWI court officials, it helps to have a company (Recovery Solutions) provide the monitoring and collect the fees and another (AMS) to provide technical support. This makes the job for the case manager much less complicated.

North Dakota 24/7 Program

Introduction

The North Dakota 24/7 Sobriety Program is a statewide program. It provides an alternative to incarceration for offenders charged with, or convicted of, driving under the influence of alcohol or controlled substances, domestic violence, abuse or neglect of a child, or other offenses in which alcohol or controlled substances are involved. Offenders may be referred by courts as a condition of bond or pre-trial release and/or as a condition of sentence or probation. Some offenders are parolees referred by the North Dakota Parole Board. Under the program, second or subsequent DUI offenders are ordered to abstain from alcohol and to report to twice-daily alcohol testing. Offenders who test positive for breath alcohol are taken into custody and brought back before the referring court. Offenders who fail to report for a test may be rearrested and/or incarcerated. The North Dakota 24/7 Sobriety Program is pertinent to a study of transdermal alcohol monitoring because some offenders may be ordered to participate in remote electronic alcohol testing using transdermal monitoring as an alternative to reporting in person to the testing site.

North Dakota is the 19th largest state by area in the U.S. (Infoplease, 2007). It is the third least populous State, with about 646,850 residents as of 2009 (U.S. Census Bureau, 2011). Much of North Dakota is rural, and agriculture is the largest industry, although petroleum and food processing are also major industries (NETSTATE.COM, 2011). The per capita personal income in 2009 was $40,727, ranked 24th in the Nation (Bureau of Economic Analysis, 2010b). Age and gender distributions in North Dakota approximate the national average. According to the 2006-2008 American Community Survey, the racial and ethnic composition of the State was as follows: White: 90.7 percent (Non-Hispanic Whites: 89.8%), Black or African American: 0.9 percent, Native American: 5.3 percent, Asian: 0.8 percent, Pacific Islander: 0.1 percent, some other race: 0.6 percent, Two or more races: 1.5 percent, Hispanic or Latino (of any race): 1.8 percent.

History of Program

In 2007, the North Dakota Legislative Assembly, via Senate Bill 2003, section 11, authorized the Attorney General to establish a pilot program in one or more judicial districts of the state. The program involves coordination between state, county, and municipal agencies. The attorney general, in cooperation with law enforcement agencies, the judiciary, the North Dakota Department of Corrections and Rehabilitation, and the North Dakota Department of Transportation, was authorized to develop guidelines, policies, and procedures, and to establish user fees. On January 1, 2008, a pilot program began operation in 12 counties in the South Central Judicial District. In 2009, the Legislative Assembly authorized the attorney general to expand the 24/7 Sobriety Program to all judicial districts in the State, which was implemented by August 2010.

The North Dakota 24/7 Sobriety Program is based on a similar program developed in South Dakota. That program was the subject of a case study written under a NHTSA project titled *An Evaluation of Intensive Supervision Programs for Serious DWI Offenders* (NHTSA, 2011). As part of that program, South Dakota was using transdermal monitoring for offenders who had difficulty getting to the testing facilities twice a day.

Program Information

Offenders

24/7 Sobriety Program.

The types of offenders assigned to the 24/7 Sobriety Program include those arrested for second or subsequent DUI or convicted of driving under the influence of alcohol or controlled substances, domestic violence, abuse or neglect of a child, or for other offenses in which alcohol or controlled substances are involved.

In some cases, offenders are referred by courts, which may order an offender to participate in the program as a condition of bond or pre-trial release and/or may order an offender to participate in the program as a condition of sentence or probation. Additionally, offenders may be electronically monitored for alcohol as required by the North Dakota Parole Board or as a sanction by the supervising officer.

Monitoring periods differ as a function of the offense. The period averages 60 days for offenders assigned to the program as a condition of bond for charges of a first or second DUI or an Actual Physical Control (APC) offense, a third DUI/APC offense within 5 years, a fourth DUI/APC within 7 years, or a fifth or subsequent offense within 7 years.

Offenders ordered to participate in the program, but currently serving, or required to serve, a sentence of imprisonment may not be placed into the program until the offender has completed the sentence.

Transdermal Monitoring

A minority of offenders assigned to the 24/7Sobriety Program are considered eligible for remote transdermal alcohol monitoring. Offenders considered eligible are those for which all of the following conditions apply:

- The offender lives in a rural area and it is an unreasonable burden, or it may be dangerous, for the offender to personally report to a law enforcement agency or detention facility for blood alcohol testing.
- Based on prior contact with law enforcement or the courts or the parole board, the offender is known to be at high risk for consumption of alcohol.
- The offender has a revoked or suspended license and does not have a temporary restricted driver's permit or lawful alternative transportation for on-site testing.
- Remote electronic alcohol monitoring equipment is available to the offender.
- The offender is capable of wearing a bracelet and paying the daily monitoring fees and activation and deactivation fees.

Equipment

The program initially started implementation with SCRAM2 device and has recently been migrated to the SCRAMx bracelet in conjunction with the direct connect technology. North Dakota began the program with equipment loaned to the State from the South Dakota 24/7 Program. A legislative appropriation in 2008 authorized the purchase of 104 SCRAM sets in 2009; in 2010 an additional 87 sets were acquired through surplus funding. To date the State has purchased more than 200 units. The program does not use transdermal monitoring equipment from BI.

As of December 2010 the North Dakota 24/7 Sobriety Program average daily transdermal monitoring population was 56 offenders. Since the inception of the pilot program in June 2008 there have been a total of 197 offenders who have been monitored by the SCRAM device.

Nature of Transdermal Monitoring Implementation

The North Dakota Office of Attorney General is responsible for oversight of the 24/7 Sobriety Program and the use of transdermal monitoring with offenders. They work with the North Dakota Department of Corrections and Rehabilitation (NDDOCR), local law enforcement agencies, sheriff departments, NDDOCR locations, and selected correctional facilities. There are currently 12 agencies that have been selected to receive transdermal monitoring equipment and

have completed training in the use of transdermal monitoring equipment. The 24/7 Sobriety Program procedures and policies are based on guidelines established by the attorney general's office, executed through a series of Memoranda of Understanding with local law enforcement agencies and implemented via specifically designed training sessions.

Assignment to the 24/7 Sobriety Program

Pursuant to an order of the court or parole board, an offender in the 24/7 Sobriety Program signs a statement in the presence of the testing site officer or the clerk of the court, or if on supervised probation, in the presence of a parole and probation officer, acknowledging the terms and conditions of the referring court ordering the offender to participate in the program. Offenders who refuse to sign the statement are returned to the referring agency and probations, paroles, etc., are revoked.

The program maintains data about participants in a database called the "Sobriety Program Information System." At intake, a testing site officer enters the offender's name, address, date of birth, employment or school information, and photograph into the database. All information in the database is kept current and is kept confidential as required by law. If the offender is already in the database, the testing site officer updates the offender's information, including an updated photograph. Transdermal monitoring is maintained on AMS servers and accessible through SCRAMNET.

Offenders are responsible for paying fees associated with testing required under the program. Offenders who fail to pay fees are reported to the referring court or to the parole board. The offender may be taken into custody for violation of program requirements. In the offender's absence, an arrest warrant may be issued. Costs related to lost or damaged equipment are assessed to the offender. Costs related to twice-a-day alcohol and drug testing are paid by the offender to the local law enforcement agency. Offenders on transdermal monitoring pay the clerk of the courts. Those funds are then transferred into the attorney general's 24/7 sobriety fund. Failure to pay is reported to the referring court or supervising parole and probation officer. Depending on circumstances, these offenders may be taken into custody or arrest warrants may be issued in their absence.

Assignment to Transdermal Monitoring

A subset of participants in the 24/7 Sobriety Program are assigned to transdermal monitoring. The agency that assigns the offender to transdermal monitoring determines the eligibility of the offender, including the ability to pay. The offender reports to a law enforcement agency or detention facility serving as a testing site. A testing site officer conducts an orientation, advising the offender of the transdermal monitoring program requirements. The offender signs a statement acknowledging the requirements, receives the bracelet, a modem, and other equipment as necessary, and schedules times for data uploading. The officer informs the offender of replacement costs for the equipment, the offender's responsibility for any damaged, lost, or destroyed and that the offender must be within the range of the remote electronic alcohol monitoring modem at scheduled reporting times.

At each testing site that is using transdermal monitoring, there is one officer who monitors the transdermal monitoring offenders for that site. The numbers of testing sites with monitored offenders and the numbers of offenders per site fluctuate, however, as an example, if there were

11 testing sites across the State using transdermal monitoring at a given time, and 55 offenders being monitored, there would be 11 officers monitoring an average of five offenders each.

Only law enforcement officers and detention officers may remove the transdermal monitoring bracelets. There are several situations where 24/7 personnel may remove the transdermal monitoring bracelets including successful completion of the program, unsuccessful completion of the program, return to custody, or court authorization due to medical situations. Bracelets that require maintenance are replaced in accordance to the manufacturer's specifications.

Violations

Violations of the transdermal alcohol monitoring program include positive alcohol detection (over 0.02 TAC, as confirmed by AMS); attempts at obstruction, tampering, damaging, or removal of the bracelet or the supporting equipment; or failure to be in range of the modem at reporting time. Suspected violators are brought in for questioning about termination from the program and/or incarceration. The extent to which any violation of program conditions results in termination is at the discretion of the judge, parole officer, or probation officer.

If the communication equipment fails to upload monitoring data, the testing site officer reports the problem to a law enforcement officer or parole and probation officer as appropriate, who troubleshoots the problem and determines if there has been a violation. Offenders may be required to report to the law enforcement site location to upload transdermal monitoring data and/or to reinforce communication schedules.

The testing site officer reports all violations and communication failures to the supervising court and the prosecutor, or parole and probation officer and enters the incident into the database. In the event of a violation, the court may issue a bench warrant and order the offender be taken into custody. If the offender is on supervised parole or probation, the offender's supervising parole and probation officer determines whether to modify the terms of supervision or to revoke parole or probation.

AMS prepares a Daily Action Plan delivered electronically to each testing location. Trained and authorized staff also have access to offender data, compliance reports, inventory management reports, and caseload summaries via SCRAMNET.

Daily reports from AMS are received by program officers and are used primarily to determine compliance with the program. They are also used to generate statistics for program analysis.

Additional Elements of Program

Interlock

There is little or no use of alcohol ignition interlocks in North Dakota (Roth, 2010). The use of ignition interlocks is not a part of the 24/7 Sobriety Program.

Electronic House Arrest/Monitoring

None of North Dakota's offenders on transdermal monitoring are also subject to RF house arrest or GPS monitoring.

Treatment

The 24/7 Sobriety Program has not been integrated with any type of treatment program. Courts may impose requirements for participation in treatment programs, but that information is not reported to the 24/7 program; therefore it is unaware of the extent to which transdermal monitoring offenders are also participating in treatment.

Drug Testing

Drug testing is part of the 24/7 sobriety program. Offenders are monitored through the use of patches and urinalysis.

Funding

Most offenders pay all costs of transdermal monitoring, including fees for installation. There is no indigent fund, per se; however, offenders who can show hardship may obtain fee waivers. Offenders pay $25 for installation, $25 for de-installation (paid at the time of installation), and $5 per day for monitoring. All 24/7 Sobriety Program participants, including those assigned to transdermal monitoring, are tested for drug use using urinalysis or drug patches. The urinalysis fee is $5 per test. A positive urine test results in a $12.50 fee for laboratory confirmation. Drug patch testing costs $40 per test, paid in advance each week. No tests are administered before payment is received. Payment records are kept as part of the Sobriety Program Information System database.

Fees collected for testing can only be applied to 24/7 Sobriety Program support services, equipment maintenance and replacement, and compliance. The attorney general's office does billing and collection of transdermal monitoring fees.

Some additional funding for the program was provided by the attorney general's office from January 2008 through the end of July 2009. Since August 2009 the State has provided some additional funding. Funding is primarily used to buy monitoring equipment.

Support for Transdermal Monitoring

Political leadership of the State, including legislators and the attorney general's office, have supported the 24/7 Sobriety Program in general and the use of transdermal monitoring in particular by legislating the program and arranging for funding. The program has the support of the majority of State and municipal judges, though some judges have challenged the constitutionality of transdermal monitoring for pretrial offenders. Law enforcement agencies charged with administering the program have embraced it, although some agencies have opted not to participate as testing offices. Media coverage has been positive. Transdermal monitoring offenders have expressed appreciation for its effect on their ability to make positive changes in their lives. Officials report that offenders have requested to continue being monitored beyond the required period, to help them maintain sobriety.

Information on Program Benefits

No cost-benefit analysis or analysis of effectiveness has been conducted due to the relatively short time since it began. The attorney general's office has been working with the University of

North Dakota and other entities to determine the best approach to validating the program. They believe it is too early to determine program effectiveness at the time of this writing.

During the period from January 1, 2008, through November 18, 2010, there have been

- 197 participants;
- 12,597 total monitoring days for an average of 64 days per participant;
- 164 (83.0%) offenders fully compliant during the monitoring period;
- 33 (17.0%) offenders non-compliant;
- 7 offenders with a total of 8 confirmed drinking events;
- 27 (16.0%) offenders with a total of 53 confirmed tampers; and
- 1 (1.0%) offender with both confirmed drinking and tamper events.

There has been no evidence to suggest that forced abstinence under the 24/7 Sobriety Program has resulted in an increase in use of other drugs by offenders, including those assigned to transdermal monitoring.

To date, no transdermal monitoring offenders have absconded with the equipment. There is no evidence that offenders are drinking without being detected.

Strengths/Problems/Barriers

Strengths

A general strength of the program for those administering it is that the technology works well. They report that AMS does a good job of keeping the system upgraded. They consider the system to be user-friendly in terms of installing, using, and removing the equipment. Transdermal monitoring gives accurate and timely information about offenders' alcohol use. Offenders appreciate the ability to use transdermal monitoring as an alternative to twice-daily visits to testing stations. Another strength is that most costs are paid by offenders.

Problems and Barriers

Program representatives have experienced some barriers to effective use of transdermal monitoring, in the form of resistance to change and lack of sufficient funding at times for additional bracelets. Prior to trial, judges in several locations have challenged the constitutionality of the use of the overall 24/7 program. Some police departments have shown lack of interest in becoming testing offices. These barriers have been partially overcome through training and meetings. Lack of funding has been addressed by finding alternative funding sources. Program representatives report that AMS has been helpful in addressing challenges through ongoing training and other types of support.

So far, there have been no legal challenges regarding the use or accuracy of transdermal monitoring by the 24/7 Sobriety Program.

Lessons Learned

Program representatives recommend that agencies interested in the use of transdermal monitoring work closely with the vendors who provide it.

Wisconsin Community Services

Introduction

Wisconsin Community Services, Inc. (WCS), is a 501(c)3 nonprofit service agency that has worked with high-risk individuals both inside and outside of the criminal justice system since 1912.

WCS has five main divisions; the transdermal monitoring program falls under the oversight of the Court Services and Community Alternatives Division. The transdermal monitoring program covers six counties (Waukesha, Kenosha, Sheybogan, Milwaukee, Jefferson, and Ozaukee). WCS also provides monitoring services throughout the State. The program uses the SCRAM device from AMS exclusively.

A primary use of transdermal monitoring is within the four Pretrial Intensive Supervision Programs (ISPs) that WCS operates in Milwaukee, Kenosha, Waukesha, and Sheboygan counties. All four use transdermal monitoring as a component of supervision. WCS administers the program with four full-time transdermal monitoring technicians who manage the technology, as well as on-site case managers who are trained in the technology.

History of Program

The pretrial ISP concept was introduced in 1993 with start-up funding from a Federal Section 410 Alcohol Incentive Grant. The WCS Milwaukee County Intoxicated Driver Intervention Program began as the first pilot program in 1993, with administration and services provided by WCS. In 2004 administration of the funding for the ISP was transferred to Milwaukee County. As a result of the successful WCS Milwaukee County pilot program's outcomes, specifically reducing Operating While Intoxicated (OWI) recidivism among repeat offenders, the Wisconsin Legislature authorized state funding to support ISP efforts in the 1997-1999 budgets. After two years of operation, an independent evaluation conducted by the Mid-America Research Institute reported that the recidivism rate for participants was half of that for a control group. During the two years following the program's 1993 inception, crashes involving alcohol-impaired drivers in Milwaukee County declined by more than 20 percent and alcohol-related injuries and fatalities were reduced by over 30 percent.

WCS began transdermal monitoring services in Milwaukee in the Pretrial Intoxicated Driver Intervention Program in 2005. During an initial, offenders are screened to assess their eligibility for transdermal monitoring based on the following criteria[11]:

- OWI first offenders for whom injury is involved with their charge and "high risk" scores are noted according to the risk assessment tool;

[11] This is the criteria for Milwaukee County only.

- OWI second offenders for whom injury is involved with their charge;
- OWI third offenders with BACs of .16 or greater, when the offender's last OWI conviction was less than 24 months from the current charge, and/or whenever accident or injury is involved with the charge;
- OWI fourth or greater offenders;
- All offenders who have more than one pending OWI charge; and
- All offenders who have two consecutive, positive in-office breath tests,[12] missed office visits, and are not enrolled in treatment.

Services were expanded in an array of Southeastern Wisconsin court service programs, and then were expanded to Waukesha in 2009. In 2010, Waukesha County implemented a criteria-based program similar to Milwaukee County. Thus far in 2011, WCS has worked with Jefferson County to implement a criteria-based program in which transdermal monitoring is being used to monitor repeat alcohol-impaired driving offenders.

Program Information

Offenders

Alcohol-Impaired Driving Offenders

All four WCS Intensive Supervision Programs use transdermal monitoring devices. In 2010, WCS worked with a court commissioner and the Waukesha County Judiciary to develop criteria for courts to refer pretrial offenders to transdermal monitoring in conjunction with the ISP. The following offenders are normally assigned to transdermal monitoring by the court when bail is being set:

- OWI fourth and subsequent offenders;
- Second- and third-time offenders with BACs of .15 or greater.
- All repeat offenders younger than 21.
- Anyone charged with a criminal OWI offense who then is charged with a subsequent OWI charge while out on bail.
- Any offenders in other cases for whom the court deems transdermal monitoring is appropriate.

Exceptions may be made and are always available at the discretion of the commissioner or judge setting bail.

A description of alcohol-related offenders assigned to the transdermal monitoring program managed by WCS follows:

- Pretrial repeat alcohol-impaired driving offenders in five counties: Milwaukee, Waukesha, Kenosha, Sheboygan and Ozaukee.

[12] Offenders are given breath tests each time they visit WCS offices.

- Post-conviction alcohol offenders in three capacities or programs:
  - The Milwaukee County Sheriff's Office as an alternative to incarceration;
  - The WCS Waukesha County Day Report Center for continuous alcohol monitoring of repeat offenders and offenders post-conviction;
  - The WCS Waukesha County Alcohol Treatment Court Program for post-conviction continuous alcohol monitoring during the initial phase of the program as an alternative to incarceration, as a sanction, or for when offenders receive approval to travel for their jobs or otherwise.

Other Offenders

- Family court cases in Waukesha and Milwaukee and Ozaukee counties to enhance the safety of children with the non-custodial parent, to maximize placement with the non-custodial parent, and to allow for out-of-area travel with the non-custodial parent.
- Waukesha County Juvenile Court to monitor high-risk juveniles identified as having severe alcohol and other drug abuse (AODA) issues to prevent costly placements in secure AODA facilities.
- Waukesha County Department of Health & Human Services Child Protection Unit to provide continuous alcohol monitoring within the Permanency Services, specifically the Child Protective Services - out of home care placement, to ensure children's safety and following court orders to monitor and test parental alcohol consumption around the clock[13].
- Ozaukee and Waukesha County Division of Community Corrections to monitor continuous alcohol consumption for high-risk alcohol offenders as a component of their probation supervision.
- Conditional release programs throughout Wisconsin to enhance monitoring and supervision services to high-risk offenders found not guilty by reason of mental disease or defect and granted conditional release by the courts. Transdermal monitoring is used as a cost-savings measure for offenders with significant alcohol issues who would otherwise need to reside in a community-based rehabilitation facility or an AODA residential facility.

Sentencing

The standard length of monitoring is 90 days; however this varies among counties in that the term may be shortened, or lengthened due to compliance, or non-compliance, respectively. Table 2 shows the length of monitoring for each county.

[13] Permanency Services is a Social Work Unit of the Waukesha County Department of Health and Human Services that provides services to abused and neglected children. Some of those children are placed outside their homes for their safety. Transdermal monitoring is used to assess a parent's progress in adequately addressing alcohol usage concerns and, in so doing, to determine whether a child can safely return to the parent's home. Transdermal monitoring is also used to monitor a parent's progress in situation in which the child is living with the parent. If it has been established in Juvenile Court that alcohol use is a concern, the Court can order that a parent comply with alcohol testing and monitoring.

Table 2. WCS Monitoring Terms

County	Sentence (Monitoring Term)	Conditions
Milwaukee	40 days	Must be 100% compliant with WCS rules; must be enrolled in treatment; must not have any violations of bail conditions
Waukesha	90 days	Monitoring can be suspended at 60 days if the offender is in compliance.
Jefferson & Ozaukee	90 days (minimum)	Must be in compliance with all WCS rules
Sheboygan & Kenosha	Determined on case-by-case basis	High-risk offenders have the opportunity to report in less frequently if they volunteer for transdermal monitoring; ordered by the court as a sanction for repeated reports of non-compliance (positive random alcohol tests in the office)

Equipment

The monitoring device currently used by WCS is the SCRAMx. This device offers the flexibility of including an RF house-arrest monitoring component. Among WCS' offenders assigned to transdermal monitoring, the house arrest sanction is imposed by the judiciary as an alternative to incarceration for some offenders.

WCS bought all 436 SCRAMx units in the program, which are installed and maintained by the four technicians on-staff. They handle the installations in Milwaukee, Waukesha, Ozaukee, and Jefferson Counties; installations in the outlying areas of Sheboygan and Kenosha counties are handled by WCS case managers, each of whom is also trained in transdermal monitoring installation procedures; however their procedure is to call upon WCS transdermal monitoring technicians for trouble-shooting issues and confirmation of alerts/violations.

Staffing

WCS` transdermal monitoring program intersects with various other WCS programs that supervise individuals pre- and post-conviction. The Intoxicated Driver Intervention Programs are staffed by 6 full-time equivalent (FTE) case workers in Waukesha County; 6 FTE case workers in Milwaukee County; 2.5 FTE case workers in Kenosha County; and 2.5 FTE case workers in Sheboygan County whose caseloads vary depending on how many offenders are being monitored. Additionally, there are 3.5 FTE case workers at the Day Report Center; and 3 full-time case workers in the Alcohol Treatment Court Program.

Monitoring and Compliance

On average, WCS has 300 offenders on transdermal monitoring on a given day. In 2009, more than 1,200 offenders were monitored with an 89.25 percent compliance rate, defined as zero violations of any kind. This is 13 percent greater the National average, according to AMS data. A non-compliant offender may be defined as an individual with multiple violations, and not all violations are confirmed drinking event. From the transdermal monitoring program's inception in November 2005, to February 2011, WCS monitored of 4,689 people.

Reports are used to track compliance and non-compliance within programs. The flow of information is as follows:

- Offenders are required to do a daily download at same time each day at a designated location from their monitoring bracelet to the base station.
- The data is then transmitted to AMS, where an AMS analyst reviews the data.
- AMS sends a report to WCS every morning.
  - WCS staff who receive the daily reports are the multi-county administrator, Division of Court Services & Community Alternatives; transdermal monitoring technicians; and case managers.
- All alerts, as labeled by AMS are followed up.
  - Alerts may be the result of an equipment issue (e.g., someone not downloading data as required, low battery, etc.); or specify a confirmed drinking or tampering event.
  - Court officials or other contact people are notified upon confirmed alert (tampering) as they are taken as seriously as a drinking event.

Full compliance, proved by WCS transdermal monitoring reports, may result in consideration at sentencing by courts. Full compliance in law enforcement programs result in alternatives to incarceration for offenders. Additionally, increased compliance amongst offenders within the ISPs assists WCS to expand its transdermal monitoring services to assist more offenders.

Noncompliance is reported immediately to the courts and/or entity contracted to provide the service. The sheriff's departments typically enforce zero-tolerance policies. For court service programs, especially WCS-operated programs that use transdermal monitoring, noncompliance may result in a sanction (increased monitoring period, increased reporting to the program, the requirement to re-enroll in treatment), from least to most restrictive - with the most restrictive being incarceration. The final decision for court-referred offenders rests with the courts.

There is evidence of increased drug use among DWI offenders being monitored by the WCS transdermal monitoring program. There is evidence of an increased trend in prescription drug use and other illegal substances, as offenders apparently replace alcohol with other substances.

Compliance Rates

Milwaukee, Waukesha, Kenosha, and Sheboygan county ISPs' compliance rates are detailed below.

Milwaukee County ISP—From November 2, 2005, to January 31, 2011, there were 1,831 offenders placed on transdermal monitoring, for approximately 81,769 wear days. The average was 44.4 days for each offender. Of the 1,831 offenders monitored during this time period, 135 (7%) tested positive for alcohol use.

Waukesha County ISP—From October 1, 2008, to January 31, 2011, there were 341 offenders with an estimated 25,934 wear days; the average was 76 days per offender. Of those, 14 (7%) tested positive for alcohol use.

Kenosha County ISP — From October 1, 2008, to January 31, 2011, there were 78 offenders monitored for an estimated 3,745 wear days, averaging 48 days per offender. Of those, only 1 offender (1%) tested positive for alcohol use.

Sheboygan County ISP— From October 1, 2008, to January 31, 2011, there were 39 offenders monitored for an estimated 2,050 wear days averaging 52.5 days each. No offenders monitored during this time period tested positive for alcohol use.

Consequences

All ISP participants are informed of the rules of the transdermal monitoring program during the initial intake process, including the requirement to submit to random drug testing and regular alcohol testing throughout supervision. Offenders must comply at any and all supervision appointments to ensure that they are in compliance with their conditions of bail and that they are responding appropriately to treatment interventions. Case workers respond to positive alcohol and drug tests by notifying the court and the current treatment provider. The offender's supervision level may be increased to ensure that issues are properly addressed.

The consequences for tampering with equipment vary among the ISPs. Penalties may include extension on transdermal monitoring or a sanction by the program and/or the court, Including, and up to, returning to jail.

Removal From the Transdermal Monitoring Program

An offender can be removed from the program for non-payment of fees; in Milwaukee County this is not an issue because fees are paid for all offenders who remain in compliance. In other jurisdictions, accommodations such as payment plans throughout their duration of monitoring, and sliding-scale fees are made available to assist offenders with fulfilling their obligation to pay monitoring-related fees; and to prevent "drop-outs" due to inability to pay.

Waukesha County offenders who are unable to pay the fees may be removed from the transdermal monitoring program and enrolled in an alternative testing program, called Enhanced Supervision, as a part of their involvement with the ISP. These offenders submit to breath tests each morning at the WCS office; in Sheboygan County, the ISP requires breath testing twice daily at a the WCS Sheboygan Office.

An offender can also be removed from the transdermal monitoring program if the offender's compliance is brought before the courts by the attorney with a request to allow termination in the program.

Additional Elements of Program

Interlock

WCS is not involved with the ignition interlock device; no information has been obtained from WCS regarding the number of offenders using both transdermal monitoring and ignition interlocks.

Electronic House Arrest/Monitoring

As was stated previously, WCS uses the SCRAMx a transdermal alcohol monitoring device with RF house-arrest monitoring capabilities. However, not all offenders monitored by WCS are sanctioned to house arrest. House arrest cases, used as a sanction in the WCS Day Report Center and Alcohol Treatment Court Programs, are a small part of the monitoring done by WCS. Fourth offense alcohol-impaired driving offenders enrolled in the WCS Alcohol Treatment Court are placed on SCRAMx during phase one of the program, as an alternative to incarceration.

The Milwaukee County Sheriff's Office uses a combination of GPS units and SCRAMx; as well as house arrest with SCRAMx.

Treatment

Most of the offenders involved in WCS-operated programs that use transdermal monitoring are enrolled in treatment (it is a requirement of their participation in the program). Among the WCS-operated programs for DWI offenders, 75 to 85 percent or more comply with enrolling in treatment.

Drug Testing

Drug testing is not part of WCS's transdermal monitoring program; however, offenders in the various ISPs managed by WCS submit to drug testing as part of their programs.

Funding

Funding for the Milwaukee, Waukesha, Kenosha, and Sheboygan programs comes from offender fees, the Wisconsin Department of Transportation, and from the counties. Milwaukee County is currently the only county that pays for transdermal monitoring services pretrial; however, if an offender becomes non-compliant he/she must pay all fees.

WCS contracts with some referring agencies that pay for the transdermal monitoring directly, but the majority of the SCRAM services are offender-funded. In Milwaukee, the county pays for SCRAM monitoring within the Pretrial Intoxicated Driver Intervention Program, as well as post-conviction through the Milwaukee County Sheriff's Office. These funding commitments are arranged through contract and the dollar amount is based on economy of scale (i.e. how many offenders are monitored in a given day). Waukesha County also provides limited funding to WCS for SCRAM services within the Day Report Center for indigent clients, as well as within the Alcohol Treatment Court Program to pay for 45 of the 90 days in which offenders are required to be monitored by SCRAM, in the first phase of the program.

WCS offenders who self-pay are offered a payment-plan option, and in some case, reduced/sliding-scale fees.

Support for Transdermal Alcohol Monitoring

Political leadership in Wisconsin supports transdermal monitoring as it is used and managed by WCS. This is demonstrated by continued or increased funding, and/or support to implement criteria to mandate the use of the technology to monitor DWI offenders (i.e., Waukesha and Milwaukee Counties). Additionally, political support is manifested through the court services administrator's membership on county committees, as well as through presentations to, or contacts with, officials in various counties.

The WCS multi-county court services administrator provides consistent education and/or information through presentations and attendance at various county committees, judges' meetings, or other meetings to promote the use of transdermal monitoring based on the strengths of the services—especially when used in conjunction with programs or the WCS Full-Support Transdermal Monitoring Program model. The administrator also makes presentations at local and national conferences to educate other areas of the country and/or other transdermal monitoring service providers on the development of a successful transdermal monitoring program, including the identified strengths to get buy-in from officials in their territory.

Support is measured by the growth of the WCS transdermal monitoring services, and the support of officials in the various territories served by the program.

Information on Program Benefits

WCS has never been approached to conduct a detailed cost-benefit analysis for any of the entities or programs that use transdermal monitoring. However, the cost benefits of using transdermal monitoring as an alternative to incarceration have been discussed at many levels, including the capital expenses to expand or build a new jail facility due to overcrowding issues. Transdermal monitoring also provides a high-level of cost efficiencies to programs, allowing programs to effectively monitor numerous cases without hiring additional staff.

Strengths/Problems/Barriers

Strengths

WCS officials believe that transdermal monitoring:

- provides an unprecedented level of accountability;
- increases offender compliance;
- enhances public safety;
- provides immediate reporting of non-compliance and swift accountability;
- has created efficiencies within programs with numerous cases, allowing for a reduction in the number of weekly supervision appointments; and

- is an alternative to incarceration and assists with issues surrounding overcrowding (including costs).

Clients and their attorneys also see the benefits of transdermal monitoring, especially when it is used as an alternative to incarceration. It reduces the number of times each week that offenders are required to report to an office or entity for supervision appointments. It increases program compliance, which results in positive consideration at sentencing. Case managers and/or the transdermal monitoring technicians inform offenders of these benefits prior to their assignment to transdermal monitoring.

Many offenders state that the physical presence of the monitoring bracelet serves as a significant deterrent to drinking because it's a reminder of the consequences.

Problems and Barriers

A barrier to effective use of transdermal monitoring exists in the form of objections by the defense attorneys and public defenders offices in various counties, especially relating to costs in offender pay programs in which transdermal monitoring is mandated by the courts. WCS works to overcome this barrier through education regarding the benefits of transdermal monitoring (e.g., monitoring as an alternative to incarceration, reduced supervision appointments each week, positive consideration at sentencing) and through the support of the judiciary, as well as other criminal justice system partners in various counties (especially Waukesha and Milwaukee counties).

Lessons Learned

To build a successful transdermal monitoring program, it is WCS's belief that the following are essential:

- Strong working relationships with criminal justice partners and officials, including providing ongoing presentations and information (outcomes and testimonials from participants);
- An investment in specialized transdermal monitoring staff to manage the technology, and ensuring ongoing training and education for those personnel;
- The ability to be flexible and creative when it comes to fees (not just one model works; offer a variety of fee scales);
- Taking advantage of the partnership with AMS (e.g., visit courts together, use available collateral and marketing programs, do not re-invent the wheel); and
- Ensure that quality-assurance measures are built into the program (from staff protocol to billing practices).

Summary of Case Studies

Program Histories

The various agencies studied have mostly been in operation for longer than they have been engaged in transdermal monitoring. Transdermal monitoring was generally added to their program when they became aware of the technology. An exception is the North Dakota 24/7 program, which was modeled after a similar South Dakota program already in operation and using transdermal monitoring. Transdermal monitoring therefore was part of the North Dakota 24/7 program from its inception.

The earliest program to incorporate transdermal monitoring was the Denver EMP in 2003. The New York 8th District program incorporated transdermal monitoring in 2005. Jefferson County and the Nebraska Supreme Court introduced it in 2007. The North Dakota program began in 2008. The WCS began using transdermal monitoring in 2010.

Table 3 provides statistics concerning the current and total number of transdermal monitoring offenders for each case-study site as of January 6, 2011.

Table 3. Offenders on Transdermal Alcohol Monitoring

	Denver EMP[14] SCRAM	Jefferson Co. , MO	Nebraska Supreme Court	New York 8th District	North Dakota 24/7	WCS
Total Offenders	4,242	510	3,081	500	176	4,387
Current Offenders on Transdermal Alcohol Monitoring	162	100	205	129	57	304
Offenders Who Completed Transdermal Alcohol Monitoring	4,080	410	2,876	371	119	4,083

Program Information

Offenders

The types of offenders typically assigned to transdermal alcohol monitoring are very similar across the various programs. They include:

- Impaired-driving offenders with prior impaired-driving offenses;
- Serious or felony impaired-driving offenders who were involved in a high-BAC offense or a crash resulting in death or injury;
- Assault, domestic violence, or other types of offenders for whom alcohol was a factor in the offense;

[14] Comparable figures for TAD were not available.

- Any offender for whom there is reason to believe he/she has a history of problems related to alcohol;
- Youthful offenders who have a history of alcohol problems or for whom alcohol was a factor in their offense; and
- Other types of offenders for whom judges, probation officers, or other officials have determined that abstinence from alcohol is needed and monitoring is warranted.

Data breaking down the types of offenders on transdermal-monitoring were generally unavailable, as monitoring service providers tend not to keep easily queried records about which agencies referred individual clients, and referring agencies tend to not keep easily queried records about which offenders are assigned to transdermal-monitoring.

Some offenders who have a history of offenses and/or problems related to drugs other than alcohol are assigned to transdermal monitoring under the belief that treatment for drugs will require abstinence from all impairing substances. WCS sometimes assigns parents who are offenders to transdermal monitoring for the safety of children they may supervise. The New York 8th District DWI court limits transdermal monitoring to impaired-driving offenders.

The circumstances under which offenders are monitored also tend to be similar among programs. Typically, offenders may be monitored before the trial, often as a condition of bond, or after the trial as a condition of probation or parole or as an alternative to incarceration. The Denver EMP monitors offenders participating in in-home detention (house arrest) and offenders on work-release programs who return to jail each night.

The decision as to who should be assigned to transdermal monitoring generally is made by judges, probation officers, or parole officers for each case. Sometimes, there are agency or personal policies under which all offenders meeting a certain criteria are routinely assigned to monitoring.

Duration of Transdermal Alcohol Monitoring

The periods for which offenders are assigned to transdermal monitoring differ from program to program and are based on the offense and the offender's history. Periods often are extended in response to noncompliance. In Jefferson County periods are assigned on a case-by-case basis. Pretrial offenders may be monitored for the duration of the pretrial period. Officials reported that typical durations are from 90 to 180 days with an average of 137 days.

Denver EMP officials report that courts may order a monitoring period from a few days to many months. In Nebraska, durations are at the discretion of the courts or the parole board. Financial assistance to help offenders pay for monitoring is limited to 120 days. The New York DWI court requires monitoring for a minimum of 6 months with time added for noncompliance. In the North Dakota 24/7 program, periods vary as a function of the offense. Offenders assigned to transdermal monitoring as a condition of bond are monitored an average of 60 days. For offenders monitored as a condition of parole or probation, the duration varies based on the offenders' behavior. WCS offenders are generally monitored for 30 to 90 days with additional time added for noncompliance.

Equipment

Historically, there have been four types of transdermal-monitoring bracelets available: three from AMS and one from BI. AMS began with a first-generation SCRAM1 bracelet and followed with the second-generation SCRAM2 device. Later, RF monitoring capabilities were added to the SCRAM2, and it became the SCRAMx. Because there are no outward differences between SCRAM2 and SCRAMx, the perceived differences are as much a function of how they are used (i.e., whether the RF feature is used) as is their innate capabilities. For that reason, officials describing their AMS bracelets may use the terms SCRAM2 and SCRAMx interchangeably or describe bracelets as SCRAM with or without RF, depending on how they are being used. In addition to the AMS bracelets, there is the BI TAD device. Denver EMP was the only selected agency using the TAD system. The Denver EMP decided to use TAD to take advantage of its ability to have alcohol and RF monitoring in one device. Since the SCRAMx became available, the Denver EMP has used both devices.

Depending on how long a program has been using transdermal alcohol monitoring, it may have used any of the progression of AMS SCRAM devices. Agencies usually start by using the currently available version and then upgrade over time by rotating older devices out and newer ones into their inventory. AMS reports that there are no longer any of the SCRAM1 devices in service. Programs are currently using either SCRAM2 or SCRAMx devices, though they may not discriminate between them when describing their inventory.

Denver EMP owns 237 SCRAM devices and leases 16 TAD devices. North Dakota 24/7 program officials reported owning more than 200 devices. WCS owns 436. New York 8th District own approximately 150 devices. Neither Jefferson County nor the Nebraska Supreme Court own or lease devices. Offenders in those two programs work with private transdermal-monitoring service providers.

Nature of Transdermal Alcohol-Monitoring Implementation

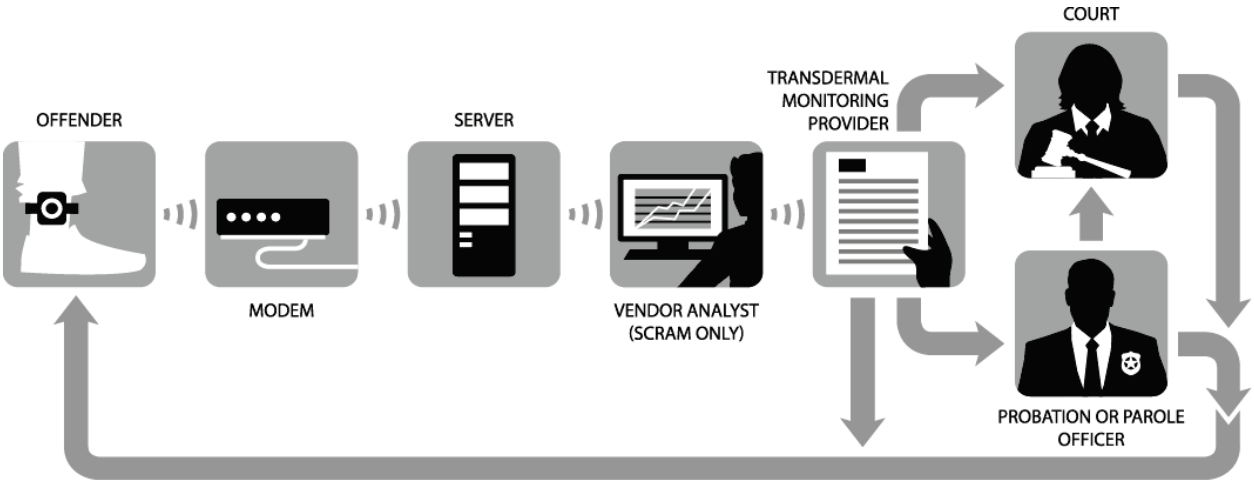
Sites vary as to whether equipment is owned, installed, and maintained by governmental agencies that assign offenders to monitoring or by private companies. In the Jefferson County and Nebraska Supreme Court programs, transdermal-monitoring services are provided by private companies for courts and probation and parole departments. In Denver, transdermal monitoring services are provided by a governmental agency for courts and probation and parole departments. The North Dakota 24/7 program maintains its own inventory of SCRAM equipment that it installs, maintains, and monitors. In the North Dakota 24/7 program, offenders are assigned to the overall sobriety program by judges, probation departments, or the State Parole Board; however, the decision to assign an offender specifically to transdermal monitoring is made by program officials. The New York 8th District program owns, installs, and maintains its own SCRAM equipment. Three court employees handle transdermal-monitoring tasks and report outcomes to judges. WCS owns, installs, and maintains the transdermal-monitoring equipment it uses.

Generally, agencies providing transdermal monitoring services receive fees from offenders and additional funding from referring agencies to support transdermal-monitoring services. These funds are used to pay vendors (AMS and BI) to cover the cost of monitoring and the equipment. The New York 8th District program contracts with Recovery Solutions to collect fees because

the court is prohibited from doing so. These are used to pay AMS for services and to cover Recovery Solutions operating costs.

The flow of information is generally the same across all case study sites. An illustration of the flow of information is included as Figure 3.

Figure 3 - Information Flow



Data is recorded on the transdermal monitoring ankle bracelet and stored there until they are uploaded to the transdermal monitoring system modem or "base station." Data is then transferred over telephone lines to the vendors' servers.[15]. Computer programs analyze the data to identify potential violations. At AMS, staff members trained in interpreting data identify confirmable instances of drinking and tampering. The vendors create reports listing violations," i.e., instances of noncompliance in the form of confirmed drinking events, attempts to tamper with equipment, or failure to upload data. The reports may include other information, such as instances of low-level TAC readings not confirmable as drinking events, for agencies that request additional information. After analysis, reports are created and sent out electronically. Reports generated by BI contain the same general information, but are sent automatically without human analysis. BI does not confirm drinking events, but reports TAC measurements that exceed thresholds specified by offenders' supervising agencies. The absence of reported violations for an offender is interpreted as a report that that the offender is in compliance. A sample AMS report is provided as Appendix C.

For the six programs studied, reports are sent from the vendors (AMS or BI) to the organization responsible for providing transdermal-monitoring services. They could be private companies, governmental agencies, or employees of the court. These organizations then relate information about the offenders to judges, probation officers, parole officers, or other case managers. Sometimes service providers may have the authority to, and responsibility for, discussing violations directly with offenders. Discussions regarding offenders' reports occur between transdermal-monitoring service providers and referring agencies. Occasionally, vendors will be asked to provide additional information. If a violation results in a court case, vendors provide

[15] Some offenders using SCRAM go directly to officials' offices and have data uploaded directly from the bracelet to the vendor servers via a direct connection to officials' computers.

reports suitable for testimony in court. On rare occasions, vendor representatives are asked to appear in court to discuss transdermal alcohol monitoring generally and the facts of the case specifically.

Consequences for noncompliance vary from case to case and, across all sites, generally include:

- Extension of time on the overall program and/or duration of transdermal monitoring;
- Removal from the program and subsequent incarceration; and
- A short period of incarceration before being returned to the program.

In programs in which offenders pass through various stages before they can successfully complete the program, they may be returned to an earlier stage of their probation requirements.

Sometimes, whether a violation occurred is uncertain. For example, data may suggest a tamper attempt occurred, but offenders can reasonably explain the incident and/or evidence of equipment damage does not exist. Data suggesting that drinking occurred may be blamed on exposure to alcohol for a lengthy time span, such as a bartender might experience. In these cases, offenders are given information on how to avoid such circumstances in the future and warned to comply. Sometimes, offenders may be forbidden to engage in activities, such as bartending, that result in suspicious data.

Some programs use transdermal alcohol monitoring as a sanction for other types of noncompliance. For example, an offender who must report for breath tests and who provides a positive test may be sanctioned with transdermal monitoring as an alternative to incarceration.

In rare cases, offenders may abscond while on the program, with or without the transdermal equipment. Consequences for absconding are generally more severe. Commonly, they would involve incarceration. Offenders who lose or damage transdermal-monitoring equipment are responsible for the costs of replacing or repairing it.

None of the sites studied reported that there were plans to discontinue the use of transdermal monitoring.

Additional Elements of the Case Study Programs

Interlock

Offenders could be using both transdermal monitoring and alcohol ignition interlocks in their vehicles. Agencies using or providing transdermal monitoring services are generally unaware of the extent to which offenders are also using interlocks. This is often because the agencies responsible for assigning and tracking the use of the two technologies are different (e.g., local court and State department of motor vehicles), and these agencies do not share the information or do not have a reason to share the information. Officials in Jefferson County reported that courts are not inclined to assign both technologies as they are considered redundant.

Electronic House Arrest/Monitoring

Officials did not provide significant information on the extent to which transdermal-monitoring offenders are also subject to other types for monitoring, such as electronic (RF) house arrest

monitoring, remote breath testing, and GPS tracking systems. The exception was the Denver EMP, which is familiar with electronic house arrest and GPS tracking because it provides those services. The EMP reported that as of December 2010, 66 offenders were assigned to house arrest monitoring using either SCRAMx or TAD, and 7 offenders were assigned to both transdermal and GPS tracking. The EMP reported that no other types of electronic monitoring were being used with transdermal-monitoring offenders. It may be that other sites did not report on other types of electronic monitoring because it does not occur or they are unaware of the extent to which it occurs.

Treatment

Information from the case studies indicates that most offenders who are assigned to transdermal monitoring are also participating in some sort of treatment for alcohol abuse. Depending on the offense, the offenders also may be assigned to treatment for drugs, violence, spousal abuse, etc. Although the officials interviewed were aware that their offenders were participating in treatment, that treatment often was supervised by another agency. Consequently, officials were not involved in the treatment, were not specifically aware of which offenders were in treatment, and were not privy to treatment outcomes. Generally, no formal systems existed to provide transdermal-monitoring data to treatment providers for use as a resource. An exception was the New York 8th District court, which reported that transdermal alcohol monitoring data is routinely sent to treatment providers and aftercare groups. Officials of the Denver EMP noted that sharing transdermal-monitoring data with treatment providers would be problematic due to privacy concerns and suggested that treatment providers may consider transdermal-monitoring data to be unnecessary. Though no formal systems for sharing transdermal data with treatment providers exist, informal ways may be available (e.g., when a case manager with knowledge of transdermal-monitoring information for a given offender shares that information with treatment providers).

Drug Testing

All sites reported that offenders assigned to transdermal monitoring are required to abstain from the use of illicit drugs and are subject to drug testing. Drug testing appears to occur most often in the form of urinalysis. Skin patches and hair samples also are used.

Funding

Transdermal monitoring activities require funding to cover the costs of:

- Acquiring transdermal monitoring equipment;
- Installation and de-installation of equipment;
- Paying ongoing monitoring fees to vendors; and
- Financing program administration.

All sites strive to fund transdermal monitoring through offender fees; however, nearly all have a system for providing financial assistance to offset some of the costs. The Denver EMP budgets some funds so it can offer reduced rates to offenders who apply for the special rates and meet certain criteria. Additionally, probation offices have funds that can be used for offenders who

cannot afford to pay. Nebraska offenders can apply for reduced costs on a sliding scale based on their income. The scale is set based on the Federal Poverty Level Guidelines. Financial assistance is limited to 120 days of transdermal monitoring. The North Dakota 24/7 program offenders who can show hardship can apply for a waiver of fees. The New York 8th District offenders must find a way to pay their fees.

Depending on the county and, in some cases, the referring agency, transdermal monitoring provided by WCS may be subsidized by State and/or county governments and/or the referring agency. Currently, Jefferson County has no system for funding transdermal monitoring for indigent offenders; however, the court is considering applying for a grant to start a fund for those who cannot pay. Offender fees vary from site to site. Table 4 shows the full costs of services for unsubsidized offenders.

Table 4. Costs of Transdermal Alcohol Monitoring in the Six Case-Study Sites

Site	Daily Monitoring	Installation	De-Installation
Denver EMP	$12	$75	$0
Jefferson County, Missouri	$12	$75	$0
Nebraska Supreme Court	$12	$25	$25
North Dakota 24/7	$5	$25	$25
NY 8th District	$7	N/A	N/A
WCS	$12.50	$50	$0

Some sites require offenders to pay for some or all of the projected transdermal-monitoring costs in advance. The Denver EMP charges an additional one-time $25 administrative fee for out-of-county offenders. It charges an additional $3 per day for combined alcohol and RF monitoring bracelets. Costs are reduced for juvenile offenders ($20 installation and $11 daily monitoring). The North Dakota 24/7 program has additional fees associated with urinalysis, drug patches, and laboratory fees.

The costs provided in Table 4 are those charged to the offender. These are based on the costs of obtaining and maintaining the equipment, monitoring fees paid to the vendors, and other administrative costs (e.g., maintaining a fund for offenders who cannot pay). The costs to offenders may exceed the costs paid by the program. Costs to the programs vary and are the result of private negotiations between the programs' staff and the vendors. Those costs were not available for this report.

Support for Transdermal Alcohol Monitoring

In general, program officials believe that there is support for transdermal alcohol monitoring from elected officials, courts, law enforcement, the public, and the media. Examples include:

- Legislation that allows or encourages the use of transdermal alcohol monitoring;
- The approval of funding for transdermal monitoring;
- The continued assignment to monitoring by courts and parole and probation departments;
- The continued cooperation of law enforcement agencies that participate in the program;

- Vocal support from private citizens and citizen groups; and
- Positive media coverage of transdermal monitoring.

Sometimes, the support is considered to be tacit (i.e., there is no controversy or other negative response surrounding the use of transdermal monitoring; therefore, the community must support it).

Information on Program Benefits

None of the agencies in the six case studies reported any formal evaluations of the effectiveness of their alcohol-monitoring programs. There are only a few studies reported in the literature, and these studies did not determine whether the program reduced offender recidivism or alcohol consumption.

There are various ways that agencies might evaluate the effectiveness of transdermal monitoring, however. These include examining levels of compliance with conditions of the program, studies of recidivism of transdermal-monitoring offenders during and after monitoring, studies of the costs and benefits of the program, and feedback from the community.

Compliance

Table 5 shows statistics on compliance and noncompliance of SCRAM transdermal-monitoring offenders who have completed monitoring. Program officials do not compile these statistics; instead, they rely upon vendors to supply them. These statistics were supplied by AMS on January 6, 2011, and are based on the entire history of each program. Percentages for compliant and noncompliant rows are percentages of all offenders. Percentages for drinking violations and tampering violations are percentages of all violations.

Table 5. Compliance and Noncompliance With Transdermal Alcohol Monitoring

	Denver EMP SCRAM	Jefferson Co., MO	Nebraska Supreme Court	New York 8th District	North Dakota 24/7	WCS
Total Completed	4,080	410	2,876	371	119	4,083
Compliant	3,253 (80%)	328 (80%)	2,356 (82%)	252 (68%)	96 (81%)	3,583 (88%)
Noncompliant*	827 (20%)	82 (20%)	520 (18%)	119 (32%)	23 (19%)	500 (12%)
Drinking Violations**	66 (8%)	5 (6%)	31 (6%)	39 (33%)	1 (3%)	25 (5%)
Tampering Violations	761 (92%)	77 (95%)	489 (94%)	80 (67%)	22 (97%)	475 (95%)

*Noncompliance is defined as either a confirmed drinking event or a confirmed tamper attempt.
**Counts of drinking violations may include participants who have also incurred tampering violations.

Data on compliance provided by BI for Denver EMP offenders is maintained and provided in a different format. According to BI, for a 5-month period (April through August 2010), the average number of active TAD devices at a time was 57. The average number of alcohol alerts

generated per week was 11, and the average number of tamper alerts per week was 17. Alcohol and tamper alerts are generated by an automated alert system and are separated into confirmed and unconfirmed events. The criteria for confirming events and protocols for sending notifications varies between agencies based on customer preferences.

Other potential forms of noncompliance include low-level drinking not confirmed as a drinking event; failure to upload data at the scheduled time, either due to not being at the upload location or accidental or purposeful disabling of the modem; absconding from the program (normally after removing transdermal-monitoring bracelets); or failure to pay for services. Neither vendor could provide statistics on these types of violations. Absconding was reported as being rare by program officials.

A potential concern about the use of transdermal monitoring to enforce alcohol abstinence is that offenders may use other drugs that cannot be detected by alcohol monitoring. This is not likely to be a problem for the case-study sites, as all of them required abstinence from drugs other than alcohol and all included periodic drug testing. Some sites reported that offenders occasionally had positive results on drug tests, but lacking any information regarding offenders' drug use before entering the program, there is no way to know whether drug use changed because of changes in drinking. Nebraska Supreme Court officials reported that they believe that relapsing methamphetamine addicts tend to relapse on alcohol before methamphetamines, and that transdermal monitoring therefore has a side benefit of preventing methamphetamine use.

Recidivism and Cost/Benefit Studies

As mentioned, none of the case-study sites had performed studies of recidivism rates of transdermal-monitoring offenders or a cost-benefit analysis of transdermal monitoring. The Nebraska and the North Dakota 24/7 program officials reported that they are currently working with local universities to conduct statistical analysis of program effectiveness. Some program officials reported that they would have some difficulties conducting statistical research due to limits of their own databases, difficulties accessing data from different agencies (e.g., DMVs), and difficulties in merging datasets, which would be necessary to conduct such studies.

Where offenders are assigned to transdermal monitoring as an alternative to incarceration, programs may view the differences between costs of incarceration and costs of transdermal monitoring as a measure of the cost savings attributable to transdermal monitoring. This, however, is only somewhat valid. Transdermal monitoring is often part of a larger program that is an alternative to incarceration, and if transdermal monitoring were unavailable, offenders would still be in the program and out of jail. The difference is usually that some other form of alcohol monitoring (e.g., periodic breath tests) would be used. Program officials therefore appear to view transdermal monitoring in terms of increased confidence in the alcohol-monitoring system rather than a means to cut costs.

Feedback

Program officials reported anecdotal evidence that political leaders, citizens, and news media have generally been supportive of transdermal monitoring; however, none of the officials reported any type of surveys conducted to determine the level of support.

Similarly, there is only anecdotal information concerning offenders' support for transdermal monitoring. Negative feedback from offenders generally consists of concerns for the cost of the service, discomfort caused by the bracelets, and inconvenience due to office visits necessary to check and maintain equipment. Positive feedback from offenders includes the fact that access to transdermal monitoring has kept them out of jail and/or reduced the number of visits with caseworkers for testing and other purposes. Offenders also report that transdermal monitoring has been instrumental in their ability to quit drinking and enjoy the benefits of a healthier, more productive lifestyle. Multiple sites reported cases of offenders asking to continue on transdermal monitoring after the requirement had ended to help them abstain from alcohol.

Strengths/ Problems/Barriers

Strengths

The main strengths of transdermal-monitoring systems as reported by case study officials include the following:

- ***Improved Public Safety***

  Officials believe that the transdermal-monitoring systems they used provided an effective means for improving public safety because:

  - Transdermal monitoring is generally effective in deterring offenders from drinking alcohol;
  - Information collected through transdermal technology is generally very accurate;
  - Offenders who drink or are otherwise noncompliant are very likely to be identified;
  - Information regarding noncompliance flows quickly to the appropriate officials;
  - Transdermal monitoring helps enforce abstinence, which in turn helps offenders quit drinking where necessary, potentially creating long-term safety benefits for the community; and
  - Continuous transdermal monitoring is a more effective means of monitoring drinking than other techniques and technologies (e.g., periodic breath tests, patches, or urinalysis).

- ***User Friendliness***

  Officials find the equipment, daily reports, and Web interface easy to use. This simplifies the tasks of installing equipment, educating offenders in its use, keeping track of inventory, and tracking offender data.

- ***Cost-Effectiveness***

  Although none of the sites has completed studies of the cost-effectiveness of transdermal monitoring, all believe that there have been cost savings over alternatives to transdermal monitoring. These savings result from:

  - Reduced jail costs for offenders being monitored as an alternative to incarceration;

  - Reduced labor per offender for case workers due to the use of automated monitoring and reporting and by reducing the number of office visits with offenders; and
  - Offenders paying much of the costs of monitoring.

- ***Provides Alternatives for Offenders***

  Positive aspects of transdermal monitoring for offenders include avoiding incarceration and reducing the number of visits to case managers and/or breath- and drug-testing centers.

- ***Service***

  Officials believe that the service they have received from vendors has been good. Positive aspects of service include good communications; willingness to address specific needs of individual programs; access to consulting services; and continual work to address problems, upgrade products and add new features.

Problems and Barriers

Barriers to the adoption and effective implementation of transdermal monitoring as reported by program officials include:

- Paying the costs of the service;
- Needing to educate stakeholders; and
- Monitoring systems' dependence on landline telephones.

Another problem encountered by program officials is the inability of vendors to confirm low levels of drinking with BACs $\leq$.02 g/dL.

Costs

The costs of transdermal monitoring are sufficiently high that some offenders cannot afford it, and some programs have insufficient funds to subsidize transdermal alcohol monitoring for all offenders assigned to it. These high costs have resulted in an inability to use transdermal monitoring for all offenders for whom it might be appropriate, thus limiting its potential effectiveness. Programs have attempted to overcome the cost barrier by seeking grants and other types of funding to help subsidize the costs of transdermal monitoring. Some programs have arranged payment schedules that allow offenders to pay costs on a sliding scale over a longer time.

Need for Education

Early doubts as to the effectiveness of transdermal alcohol monitoring led to the hesitance of courts and probation and parole officials to use the technology. This provided another barrier to the implementation of transdermal monitoring. Programs overcame this by arranging training and education for stakeholders. This often included opportunities to wear and test the equipment.

Another educational issue concerns the effects of misinformation about transdermal monitoring. Misinformation about how the technology works and how offenders might be able to "beat the

system" sometimes leads offenders to attempt to circumvent the system when they might not otherwise do so. Using household products that contain alcohol or placing an object between the sensor and the skin will result in violations. For example, clients may attempt to place an object between the sensor and the skin, believing that it will prevent the device from detecting transdermal alcohol. The devices are equipped with infrared sensor that will send a tamper alert when an obstruction is detected. If a client has been drinking they may use household products that contain alcohol around the bracelet in an attempt to claim that the positive alcohol reading was due to the use of a product rather than drinking alcohol. The TAC readings from the device will increase rapidly due to an environmental exposure, and will not resemble the TAC readings which one would get from consuming alcohol.

Landline Telephones

Both SCRAM and TAD rely on landline telephone service to upload data from modems in offenders' homes to company servers. This results in problems when offenders do not have landline telephones, or the quality of the service is not sufficient to transfer data. Offenders may not have landline telephones because they have chosen to use cellular phones exclusively. A larger problem is offenders who cannot afford service, have been denied such service due to past financial problems, or have no fixed address. This results in great difficulty in using transdermal monitoring for some offenders. AMS has developed a system that allows SCRAM offenders to go to a central office to upload data. This allows offenders to participate in transdermal monitoring who otherwise could not; however, they must travel to the central office and are likely to be scheduled for uploading less frequently than nightly (e.g., weekly). Both AMS and BI are working on systems for using cellular or wireless communications to transfer data.

Confirming Low-Level Drinking

For both transdermal-monitoring systems, it may be possible to consume alcohol in a way that TAC curves do not meet the criteria for a confirmed drinking event. This can occur when blood alcohol levels are kept low, generally lower than .02 g/dL. An offender might do this by drinking no more than one drink per hour or by drinking two drinks with a large meal. Historically, low-level drinking has not been of great concern because offenders who have TACs corresponding to .02 g/dL or lower are not considered a safety problem. Program officials may believe that offenders with serious alcohol problems are not likely to constrain their drinking to low levels for very long, and those who drink more will be detected. Officials of the Denver EMP and the agencies with which it works have expressed a concern over this situation for two reasons: (1) Transdermally monitored alcohol offenders have been ordered to remain abstinent from alcohol. Offenders who drink any alcohol are in violation of that order. The Denver EMP would like to be able to respond to any amount of drinking but cannot do so for low-level, unconfirmed drinking events; (2) a low-level drinking event may be the first sign that an offender is starting to drink again. Having information regarding whether a possible low-level drinking event is an actual drinking event is desired. This issue was not listed as a problem by programs other than the Denver EMP. The Denver EMP has addressed the issue by having low-level, unconfirmed drinking events included in daily reports from AMS to facilitate the identification of such events. Program staff can check an offender's data on SCRAMNET and discuss the event with the offender if desired. Though they may not be able to take action in court, they can express their concerns about the event with the offender and make the offender aware that he or she is being monitored closely.

Lessons Learned

A common thread through comments from officials at the six sites was the importance of education for those considering the use of transdermal monitoring. Those who are considering it must first educate themselves regarding the equipment, systems, Web interface, and other aspects of the technology. It is important to understand the strengths and limitations of the systems. Officials are advised to work with the equipment, if possible, before showing it to others and/or installing it on offenders. This includes testing the equipment to verify that it works as advertised, rather than depending entirely on information from vendor's sales staff. Once transdermal monitoring has been established, it is recommended to have staff members available who are relatively expert in understanding the various transdermal-monitoring issues. As officials begin learning about transdermal monitoring, it is recommended that they also learn the needs and expectations of potential referring agencies and to ensure those agencies understand what the equipment can and cannot do.

Once officials of the primary agency in charge of implementing transdermal monitoring are thoroughly educated on its operation and familiar with its use, it is recommended that they need to begin outreach to potential stakeholders in its use. This includes court officials, probation and parole officers, prosecutors, law enforcement officers, defense attorneys, and offenders. Stakeholders should be educated early in the process and re-educated often after transdermal monitoring is implemented. Attempt to get buy-in from stakeholders early in the process.

Case-study site officials also recommended working closely with vendors to obtain key information, to voice concerns, and to take advantage of resources vendors have to offer. These officials recommended establishing firm guidelines for offenders and enforcing them consistently. AMS has established offender guidelines as a participation agreement (see Appendix D). These are useful to agencies in creating their own guidelines. The AMS Participant Agreement is included as Appendix D. Documents intended to assist agencies in understanding and implementing transdermal alcohol monitoring are available from Traffic Injury Research Foundation: www.tirf.ca/publications/index.php.

Some case study sites reported instances when apparent tamper attempts were investigated and determined to be inadvertent by the offender. Officials determined that it is a good practice to investigate apparent tamper attempts, e.g., by discussing them with vendors and offenders, before instituting sanctions.

Finally, officials recommend that agencies be prepared to find ways to provide financial assistance to offenders who cannot afford the full cost of transdermal monitoring.

Legal Issues

A recent ruling in the Supreme Court of South Dakota allowed the use of SCRAM for offenders *(State of South Dakota v. Eric S. Greenfield)*. One case in Michigan in 2005 *(State of Michigan v. Lisa C. Glaza)* questioned the validity of SCRAM testing, but nearly 150 courts in Michigan (including Judge Powers) use SCRAM technology to monitor offenders.

Search of the Westlaw database identified only three relevant cases in the six case study states. All three are from New York and directly cite the use of SCRAM devices. The cases date from 2009 and 2010. The first two cases involved the imposition of SCRAM devices as conditions for

fathers to retain custody of their children. The third case involved a defendant who pleaded guilty to driving while his ability was impaired by alcohol. The defendant agreed to be monitored by a SCRAM device while awaiting sentencing. The absence of case law in a given state is not an indication of the usage or admissibility of SCRAM data as evidence; it merely means that there is no case law regarding its use.

The court findings in the cases from New York do not attempt to dispute the science of SCRAM devices or their use for monitoring persons with alcohol issues. Though the court in *In re Todd*[16] removed the SCRAM requirement as one of the terms the defendant was required to meet to retain custody of his children, it did so on the grounds that the father's problems stemmed from abuse of substances other than alcohol. In *People v. Dorcent,*[17] the issue facing the court was whether the defendant violated the terms of his release by not explaining satisfactorily an obstruction between his leg and SCRAM bracelet that prevented a reading by the device. As part of its evaluation, the court allowed testimony from a co-inventor of the technology and the admission into evidence of several studies, including Marques and McKnight (2007). Based on this evidence, the court concluded that the SCRAM provided consistent and reliable evidence during daily usage. Because the defendant failed to provide a satisfactory explanation about what caused the blockage and missed readings, the court found that the defendant had violated the terms of his open plea. Notes from these three cases appear in Appendix A of this document.

[16] 904 N.Y.S.2d 588 (2010).

[17] 909 N.Y.S.2d 618 (2010).

Conclusions

Based upon information gathered from several courts using transdermal alcohol monitoring from AMS and from the six case studies, we concluded the following:

- There is increasing use of transdermal alcohol monitoring and specifically of the SCRAM bracelet. According to the AMS Web site, SCRAM is currently being used in 1,764 courts around the country in 46 States. A total of 162,778 offenders have been monitored by a total of 620,943,819 transdermal alcohol-monitoring tests. BI currently has more than 1,700 TAD units in use at nearly 200 sites.
- Transdermal alcohol monitoring appears to be beneficial to courts, probation and parole departments, and others involved in monitoring alcohol use of offenders required to be abstinent. Prior monitoring techniques were reported as inadequate.
- AMS data shows that 1.4 percent of offenders who had finished SCRAM from the six case study sites had a confirmed drinking event. AMS data also show that 16.9 percent had tamper violations. None of the case study sites had completed studies of the effects of transdermal monitoring on recidivism rates nor had they conducted any cost-benefit studies on the use of transdermal monitoring.
- There do not seem to be any issues with using SCRAM or TAD systems to monitor offenders. At $5 to $12 a day, compared to significantly lower costs for other technologies (e.g., $2.25 to $2.75 per day for ignition interlocks), the cost of transdermal monitoring is a barrier to its use. In most programs, however, it is largely offender paid. There is some concern over low-level drinking events that may be occurring but cannot be confirmed by vendors that may warrant further investigation.

Recommendations

For the most part, officials from the six case-study agencies are satisfied with their transdermal alcohol-monitoring programs and would recommend them to similar agencies. Because the technology and programs are relatively new, many lessons were learned and these are described in this report. In summary, here are our key recommendations to officials considering transdermal alcohol monitoring:

1. Officials interested in the use of transdermal monitoring should first educate themselves. They should obtain first-hand experience with the equipment, if possible. Then officials should educate all potential stakeholders including defense attorneys, again providing first-hand experience where possible to counter any misinformation about transdermal alcohol monitoring devices.
2. A funding mechanism should be established for offenders who cannot afford transdermal alcohol monitoring services. Ideally, monitoring should be offender paid; however, referring agencies will likely want to assign offenders to monitoring even if they cannot afford to pay for it.
3. Officials should work closely with vendors to obtain information, voice concerns, and take advantage of resources vendors have to offer.
4. Agencies using transdermal alcohol-monitoring technology should establish firm guidelines for offenders and enforce them consistently.
5. For noncompliant offenders, officials recommend applying immediate and appropriate consequences.

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Appendix A: Notes on Three Legal Cases

Case 1

Supreme Court, Appellate Division, Third Department, New York.
In the Matter of ASHLEY E. and Another, Neglected Children.
Clinton County Department of Social Services, Respondent;
Mark E., Appellant.

Dec. 3, 2009.

Background: Father appealed an order of the Family Court of Clinton County, Lawliss, J., granting petitioner's application to hold him in willful violation of prior orders of disposition and protection.
Holdings: The Supreme Court, Appellate Division, Kavanagh, J., held that:
(1) father's appeal was not moot, and
(2) petitioner failed to establish by clear and convincing evidence that father willfully violated Family Court's orders.
Reversed.

West Headnotes

[1] Infants 211 247

211 Infants

211VIII Dependent, Neglected, and Delinquent Children

211VIII(F) Review

211k247 k. Dismissal, hearing, and rehearing. Most Cited Cases

Father's appeal of order of Family Court holding him in willful violation of prior orders of disposition and child protection, and sentencing him to 90 days in jail, was not rendered moot because father had served his 90-day jail sentence; father's parental rights had not been terminated and he still had the right to bring a proceeding that would allow him to regain custody of his children should future circumstances permit, and in such a proceeding, a finding that father had deliberately violated a court order involving placement of his children would be relevant and have adverse consequences for father's position.

[2] Infants 211 221

211 Infants

211VIII Dependent, Neglected, and Delinquent Children

211VIII(E) Judgment; Disposition of Child

211k221 k. Judgment or order in general. Most Cited Cases

Petitioner agency failed to establish by clear and convincing evidence that father willfully violated Family Court's prior orders of disposition and child protection by deliberately attempting to sabotage operation of Secure Continuous Remote **Alcohol Monitoring** (SCRAM) **device** that was installed in his home to monitor his consumption of alcohol; father testified that each day he positioned himself near SCRAM device so data could be transmitted from his ankle bracelet to modem, and he also testified, and caseworker confirmed, that when he first suspected the device was not working, he called caseworker to say it was not reading.

[3] Infants 211 221

211 Infants

211VIII Dependent, Neglected, and Delinquent Children

211VIII(E) Judgment; Disposition of Child

211k221 k. Judgment or order in general. Most Cited Cases

Petitioner agency failed to establish by clear and convincing evidence that father willfully violated Family Court's prior orders of disposition and child protection by failing to appear as required for urinalysis examination; caseworker who scheduled urinalysis appointment that father missed did not categorically confirm that she spoke with father regarding that appointment, rather than simply leaving a telephone message, and father denied speaking with caseworker regarding that test, and it was undisputed that father complied with other instructions he received regarding urinalysis tests, and did report as ordered three days before missed test and six days after missed test.

****728** Jessica C. Eggleston, Saratoga Springs, for appellant.

Christine G. Peters, Department of Social Services, Plattsburgh, for respondent.

Omshanti Parnes, Law Guardian, Plattsburgh.

Heidi Dennis, Law Guardian, Plattsburgh.

Before: PETERS, J.P., ROSE, KANE, KAVANAGH and McCARTHY, JJ.

KAVANAGH, J.

***1185** Appeal from an order of the Family Court of Clinton County (Lawliss, J.), entered November 20, 2008, which granted petitioner's application, in a proceeding pursuant to Family Ct. Act article 10, to hold respondent in willful violation of prior orders of disposition and protection.

Respondent is the father of three children, including Ashley ***1186** E. (born in 1996) and Grace E. (born in 1993). In 2006, after respondent consented to the entry of a finding of neglect, his children were placed in petitioner's custody, but were later allowed to return to respondent's home with the understanding that he abide by certain conditions incorporated in court orders tailored to monitor his use of alcohol and drugs. Two months after their return to his care, in February 2008, a petition was filed alleging that respondent had willfully violated the terms and conditions of these orders by, among other things, failing to submit to scheduled tests to determine if he had consumed alcohol or drugs. After a hearing, Family Court found that respondent had, in fact, deliberately violated these orders and fined him $700. A permanency hearing was held after which, in July 2008, Family Court returned the children to respondent's care, but imposed conditions that barred him from consuming any alcohol or illegal drugs and required him to submit to alcohol and drug testing and monitoring. Less than one month later, petitioner once again filed a petition claiming that respondent, on eight separate instances, had willfully violated the terms of the court's July 2008 orders of disposition and protection. ****729** After a hearing,[FN1] Family Court found that respondent had violated these orders on six occasions and that each violation was willful, and sentenced him to 90 days in jail. Respondent now appeals.

> FN1. We feel obligated to note that when respondent failed to appear in court on the original date for this hearing, Family Court inexplicably issued a warrant for his arrest even though no evidence was presented that respondent was ever served with the violation petition or notified as to the date for the hearing. In fact, all parties agreed that respondent had never been served with any notice regarding this appearance.

[1] Initially, petitioner, as well as the Law Guardians for both children, argue that this appeal is moot because respondent has served his 90-day jail sentence. We disagree. Respondent's parental rights have not been terminated and, while the children now reside with his brother, respondent still has the right to bring a proceeding that would allow him to regain their custody should future circumstances permit. If such a proceeding were brought, a finding that respondent had deliberately violated a court order involving the placement of his children would be obviously relevant and have adverse consequences for respondent's position in such a proceeding (*see* *Matter of Andrew L.*, 64 A.D.3d 915, 917, 883 N.Y.S.2d 607 [2009]; *Matter of Er-Mei Y.*, 29 A.D.3d 1013, 1013, 816 N.Y.S.2d 539 [2006]; *see also* *Matter of Bickwid v. Deutsch*, 87 N.Y.2d 862, 863, 638 N.Y.S.2d 932, 662 N.E.2d 250 [1995]).

[2] As for the merits of respondent's appeal, we find that petitioner has failed to establish by clear and convincing evidence***1187** that respondent willfully violated any provision of Family Court's orders (*see* *Matter of Shelby B.*, 55 A.D.3d 986, 987, 866 N.Y.S.2d 375 [2008]; *Matter of Blaize F.*, 48 A.D.3d 1007, 1008, 851 N.Y.S.2d 734 [2008]; *Matter of Brittany T.*, 48 A.D.3d 995, 997, 852 N.Y.S.2d 475 [2008]). In essence, respondent was charged with failing to appear as required for urinalysis examinations and with deliberately attempting to sabotage the

operation of the Secure Continuous Remote Alcohol Monitoring (hereinafter SCRAM) device that was installed in his home to monitor his consumption of alcohol. As for the SCRAM machine, it is a device that consists of a modem connected to a phone line and an ankle bracelet that, when worn by a subject, transmits data to the modem indicating whether the subject has consumed alcohol during a relevant time period. Each morning, respondent had been instructed to sit near the modem so that it could download data from the bracelet and then transmit that data to petitioner through the phone line. When no data was received by petitioner between July 9, 2008 and July 13, 2008, it filed a petition alleging that respondent had deliberately failed to comply with its instructions regarding the machine's operation. Family Court, based on evidence presented at the hearing, found that respondent "failed to properly cooperate on each of the five occasions specified herein to allow a download of the information on his SCRAM device and that those actions are in willful violation of this [c]ourt's orders." [FN2] While there is no doubt that the device failed to transmit any data to petitioner during the five days in question, it does not necessarily follow that respondent was responsible for this failure or that he engaged in conduct that was deliberately designed to thwart the successful operation of this machine. Respondent testified that, as instructed, he wore the bracelet at all times, ****730** and that each morning he positioned himself near the device so that data could be transmitted from the ankle bracelet to the modem. Respondent testified, and petitioner's caseworker confirmed, that when he first suspected that the machine may have malfunctioned, he had called the caseworker "several days in a row to say that it wasn't reading." In addition, when the modem was examined by petitioner, it was able to download the information obtained from the ankle bracelet and the data did not in any way indicate that respondent had consumed alcohol in violation of the court's orders.

> FN2. An allegation contained in the petition that on July 13, 2008 respondent deliberately removed the SCRAM bracelet from his leg was found not to be supported by clear and convincing evidence and was dismissed.

[3] As for respondent's failing to report as required for a urinalysis examination on July 11, 2008, the caseworker who ***1188** scheduled the appointment did not categorically confirm in her testimony that she actually spoke with respondent regarding this appointment and may have simply left a message on his cellular telephone concerning the date the test was to be conducted. Respondent denied ever speaking with the caseworker regarding this appointment or receiving an instruction that he report for a test on July 11, 2008. He stated that when he learned that the caseworker had called him, he returned her telephone call but never spoke to her and was not told to report on this date for a urine test. Equally important, there is no dispute that respondent actually complied with other instructions he received regarding these tests, and did report as ordered on July 8, 2008 and July 17, 2008. [FN3] As a result, we cannot conclude on this record that the evidence clearly and convincingly established that respondent willfully violated any order he received requiring that he appear for such a test or examination.

> FN3. Each test was negative.

Given this finding, we need not reach respondent's remaining arguments.

ORDERED that the order is reversed, on the law, without costs, and petition dismissed.

PETERS, J.P., ROSE, KANE and McCARTHY, JJ., concur.

Case 2

Supreme Court, Appellate Division, Third Department, New York.
In the Matter of TODD NN., a Neglected Child.
Clinton County Department of Social Services, Respondent;
Todd OO., Appellant.
(And Another Related Proceeding.)

July 8, 2010.

Background: Father appealed from two orders of the Family Court of Clinton County, Lawliss, J., which granted petitioner's application to extend placement of father's children.
Holding: The Supreme Court, Appellate Division, held that Family Court abused its discretion in imposing the requirement that father wear a Secure Continuous Remote **Alcohol Monitoring** (SCRAM) **device**.
Affirmed as modified.

West Headnotes

[1] Infants 211 222

211 Infants

211VIII Dependent, Neglected, and Delinquent Children

211VIII(E) Judgment; Disposition of Child

211k222 k. Disposition of child in general. Most Cited Cases

While Family Court has considerable discretion to impose conditions of behavior in connection with its orders involving the placement of children, such conditions must be reasonable and necessary to promote the best interests of the children.

[2] Infants 211 222

211 Infants

211VIII Dependent, Neglected, and Delinquent Children

211VIII(E) Judgment; Disposition of Child

211k222 k. Disposition of child in general. Most Cited Cases

In proceedings in which father's children had been adjudicating to be neglected and children had been placed in temporary custody of County Department of Social Services, Family Court abused its discretion in imposing requirement that father wear a Secure Continuous Remote **Alcohol Monitoring** (SCRAM) **device**; children were initially removed from father's care due to his substance abuse, and he subsequently violated court's orders by his failure to submit to drug tests and his admitted use of marihuana, oxycodone, oxymorphone, and cocaine, but nothing in record established that he abused alcohol or was diagnosed as an alcoholic, and there was no indication that he violated provision of order of protection prohibiting him from purchasing, possessing, or consuming alcohol.

****588** Jessica C. Eggleston, Saratoga Springs, for appellant.

Barry J. Jones, Hudson Falls, attorney for the children.

Before: CARDONA, P.J., MERCURE, SPAIN, MALONE JR. and McCARTHY, JJ.

***814** Appeals from two orders of the Family Court of Clinton County (Lawliss, J.), entered January 27, 2010, that, among other things, granted petitioner's application, in two proceedings pursuant to Family Ct. Act article 10-A, to extend placement of respondent's children.

Respondent is the father of two children (born in 2004 and in 2006). In July 2009, Family Court issued an order of disposition adjudicating them to be neglected due to, among other things, respondent's substance abuse. The children were placed in the temporary custody of petitioner. Family Court also issued an order of protection that,

among other things, required respondent to undergo drug testing and prohibited him from purchasing, possessing or consuming alcoholic beverages. Thereafter, respondent was found to be in willful violation of the court's orders due to his failure to submit to certain drug tests and his use of various drugs. As a result, he was sentenced to 90 days in jail. In January 2010, Family Court held a permanency hearing to determine if the placement**589 of the children should be extended. At the conclusion of the hearing, the court issued orders extending the children's placement until the next permanency hearing on July 8, 2010, as well as orders of protection consistent therewith. One condition of the orders, imposed by the court sua sponte, was that respondent be fitted with a Secure Continuous Remote Alcohol Monitoring (hereinafter SCRAM) device and that a SCRAM monitoring system be installed in his home. Respondent appeals from that part of the permanency hearing orders that imposed this condition.[FN1]

> FN1. Petitioner has declined to file an opposing brief "[g]iven that the limited issue raised by this appeal was not an issue supported by [petitioner] at the Family Court."

[1][2] Respondent argues that Family Court abused its discretion in imposing the requirement that he wear a SCRAM device. Based upon our review of the record, we must agree. While Family Court has considerable discretion to impose conditions of behavior in connection with its orders involving the placement of children, such conditions must be reasonable and necessary to promote the best interests of the children (*see* *Matter of Naricia Y.*, 61 A.D.3d 1048, 1049, 876 N.Y.S.2d 546 [2009]; *Matter of Joyce SS.*, 234 A.D.2d 797, 800, 651 N.Y.S.2d 995 [1996]). Here, the children were initially removed from respondent's care due to his substance abuse. His subsequent violation of the court's orders was based upon his *815 failure to submit to certain drug tests and his admitted use of marihuana, oxycodone, oxymorphone and cocaine. There is nothing in the record before us establishing that respondent abused alcohol or was diagnosed as an alcoholic. Although the order of protection accompanying the order of disposition contained the generic provision that he not purchase, possess or consume alcohol, there is no indication that, between the date of the disposition and the permanency hearing, he violated this provision. Likewise, there is nothing in the record to explain why, at the conclusion of the permanency hearing, Family Court imposed upon respondent the more onerous condition that he wear a SCRAM device rather than continue the generic alcohol prohibition contained in the initial order of protection. In view of this, we cannot conclude that the imposition of such condition was reasonable or in the best interests of the children under the circumstances presented here. Therefore, the orders must be modified accordingly.

ORDERED the orders are modified, on the law, without costs, by deleting those portions thereof as required that a Secure Continuous Remote **Alcohol Monitoring device** be installed and utilized by respondent, and, as so modified, affirmed.

Case 3

Criminal Court, City of New York,
Kings County.
The PEOPLE of the State of New York
v.
Steve DORCENT, Defendant.

Oct. 22, 2010.

Background: Defendant pleaded guilty to driving while his ability was impaired by alcohol and agreed to be monitored by Secure Continuous Remote Alcohol Monitoring (SCRAM) bracelet pending sentencing. The government asserted defendant violated the terms of his plea agreement.
Holdings: The Criminal Court, Alex M. Calabrese, J., held that:
(1) SCRAM device and technology was admissible, and
(2) defendant violated the conditions of his open plea.
Ordered accordingly.

West Headnotes

[1] Criminal Law 110 388.1

110 Criminal Law

110XVII Evidence

110XVII(I) Competency in General

110k388 Experiments and Tests; Scientific and Survey Evidence

110k388.1 k. In general. Most Cited Cases

Scientific evidence can only be admitted if it is relevant to an issue in the case, beyond the knowledge of the average juror, proffered by a qualified expert and generally accepted as reliable by the scientific community.

[2] Criminal Law 110 388.2

110 Criminal Law

110XVII Evidence

110XVII(I) Competency in General

110k388 Experiments and Tests; Scientific and Survey Evidence

110k388.2 k. Particular tests or experiments. Most Cited Cases

Secure Continuous Remote **Alcohol Monitoring** (SCRAM) **device** and technology was sufficiently reliable and generally accepted in the scientific community such that it was admissible for determining whether defendant intentionally tampered with the device and thus violated the conditions of his open plea; SCRAM was currently used in forty-six states and 1,900 jurisdictions, and each individual component of SCRAM had been accepted by the scientific community as well as the commercial marketplace.

[3] Criminal Law 110 273.1(2)

110 Criminal Law

110XV Pleas

110k272 Plea of Guilty

110k273.1 Voluntary Character

110k273.1(2) k. Representations, promises, or coercion; plea bargaining. Most Cited Cases

Defendant violated the conditions of his open plea to driving while his ability was impaired by alcohol, in which he agreed to be monitored by Secure Continuous Remote Alcohol Monitoring (SCRAM) bracelet pending sentencing, where obstruction between defendant's leg and the SCRAM bracelet prevented the device from reading defendant's transdermal alcohol concentration (TAC) levels without a satisfactory explanation.

***619** Kings County, Charles J. Hynes, Esq., District Attorney, by Brandon Smith, Esq., Assistant District Attorney. Brooklyn, Attorney for the People of the State of New York.

Legal Aid Society by David Werber, Esq., Brooklyn, Attorney for Defendant Steve Dorcent.

ALEX M. CALABRESE, J.

Defendant was charged before this court with violating VTL § 511(1)(a), for allegedly driving with a license that was suspended multiple times on two different dates. Several months prior, in a different court, he pled guilty to violating VTL § 1192(1), driving while his ability was impaired by alcohol.

In this case, pursuant to a plea agreement, defendant entered an "open plea" to VTL §§ 511(1)(a) and 509(1). While pending sentence, defendant agreed not to break the law, to clear his license with the Department of Motor Vehicles and not to consume alcohol for a period of thirty days. His abstinence would be monitored by the Secure Continuous Remote Alcohol Monitoring (SCRAM) bracelet, to be worn on his ankle. Upon successful completion of the conditions, he would receive a sentence of a $300 fine on VTL § 509(1), and the higher charge of VTL § 511(1)(a) would be dismissed.

Three weeks after entering his plea, personnel monitoring the SCRAM bracelet reported that the bracelet was unable to monitor the defendant's alcohol consumption for a ten-hour period due to an alleged obstruction preventing the device from gathering data. The People requested that the Court consider this a violation of the defendant's plea agreement. The defendant denied tampering with the device. A hearing was held on the issue of whether the defendant violated the terms of his plea agreement.

***620** *Issues Presented*

Is SCRAM technology sufficiently reliable scientific evidence to satisfy the *Frye* test for admissibility of scientific evidence in New York State? [FN1] If so, did the People in this case meet their burden of proving that the defendant intentionally obstructed the SCRAM device in violation of his plea agreement?

FN1. *Frye v. United States,* 293 F. 1013, 1014 (D.C.1923).

FINDINGS OF FACT

At the hearing, the People called Amanda Spears, an employee of Rocky Mountain Offender Monitoring Systems (RMOMS), the agency responsible for purchasing, installing, monitoring, and explaining the SCRAM bracelet and its terms of use to the defendant. She testified that pursuant to his plea agreement, she met with the defendant and fitted him with a SCRAM bracelet on April 21, 2008. At that meeting, defendant was informed of the requirements of the program and given specific instructions for the care of the bracelet.[FN2] Ms. Spears discussed obstruction and tampering prohibitions, explained the SCRAM agreement and Offender Policy, asked the defendant to initial each section and provided the defendant with a copy of each document.

FN2. Defendant agreed to abide by the terms of the SCRAM Participation Agreement, including agreeing to abstain from all alcohol consumption, to avoid all products containing alcohol and to avoid restricted activities. The agreement specified that failure to comply with any of its terms would be considered a violation of the agreement and may result in adverse consequences on his criminal case.

She testified further that between April 21 and May 10, the monitoring company identified some short-term obstructions that did not rise to the level of what they considered to be a violation or required reporting. She discussed those incidents with the defendant, but believed he was complying with the terms of the SCRAM agreement at that time.

The People also called Jeff Hawthorne, co-founder and chief technology officer of Alcohol Monitoring Systems (AMS) and a co-inventor of SCRAM, as an expert. With the aid of a power-point presentation, Mr. Hawthorne attempted to lay the foundation for the admission of SCRAM by describing SCRAM technology, it's acceptance by the scientific community and its use by criminal justice agencies.

He testified that he reviewed the data received from defendant's SCRAM bracelet for May 11 and determined that

defendant's SCRAM bracelet was unable to detect the defendant's transdermal alcohol concentration (TAC) from 8:12 am to 6:21 pm, a period of ten hours and nine minutes. During that time, the SCRAM device showed a reading of 2.067 volts, considered above the program's allowable range and indicative of an obstruction between the infrared signal of the SCRAM device and defendant's skin. AMS considered this to be a violation and prepared a report. Defendant's alcohol concentration readings earlier that morning, from 2 am to 4 am, indicated a slight increase in the defendant's TAC. As this increase did not rise above .02, it was not considered a violation of the SCRAM program.[FN3]

> FN3. Jeff Hawthorne testified at the hearing that the SCRAM would have to register three consecutive .02 TAC readings for AMS to flag it as a drinking episode. He stated further that a person would have to consume approximately two drinks per hour to attain one .02 TAC reading.

The People introduced six documents into evidence: defendant's SCRAM Program Participant Agreement (SCRAM Agreement), RMOMS SCRAM Program ***621** Offender Policy, a scientific study titled "Validity of Transdermal Alcohol Monitoring: Fixed and Self-Regulated Dosing" by Joseph T. Sakai, *et. al.,* (Sakai study), [FN4] a printout of AMS's PowerPoint presentation explaining the functionality of the SCRAM bracelet, a 2007 Final Report from the National Highway Traffic Safety Administration, titled "Evaluating Transdermal Alcohol Measuring Devices" (NHTSA report),[FN5] and the SCRAM System Data Interpretation prepared for RMOMS by AMS, confirming the defendant's bracelet obstruction (Violation Report).

> FN4. Joseph T. Sakai et al., *Validity of Transdermal Alcohol Monitoring: Fixed and Self-Regulated Dosing,* 30 Alcoholism: Clinical and Experimental Research 26 (2006).

> FN5. Paul Marques & A. Scott McKnight, *Evaluating Transdermal Alcohol Measuring Devices,* National Highway Traffic Safety Administration (2007).

Defendant testified and denied tampering with the device at any time. He testified that he was at work at the time the alleged obstruction occurred. In support of this contention, he submitted his employee time sheet for the week of May 11, indicating that he worked from 7:30 a.m. to 4:30 p.m., with a lunch break from 1 to 2 p.m., on the day in question. He entered two additional documents into evidence: an article by the Hon. Dennis N. Powers and Daniel Glad, titled "The SCRAM Tether as Seen Through the Eyes of *Davis-Frye* and *Daubert,*" [FN6] analyzing the SCRAM bracelet and an article by the National Association for Defense Lawyers, titled "Alcohol Monitoring Ankle Bracelets: Junk Science or Important Scientific Breakthrough?" [FN7]

> FN6. Hon. Dennis N. Powers & Daniel Glad, *The SCRAM Tether as Seen Through the Eyes of Davis-Frye and Daubert,* 85 Mich. Bar Jnl. 35 (2006).

> FN7. Patrick T. Barone, *Column: DWI: Alcohol Monitoring Ankle Bracelets: Junk Science or Important Scientific Breakthrough?* NACDL, 29 Champion 41 (2005).

Conclusions of Law

In determining whether SCRAM evidence is sufficiently reliable for admission under *Frye,* the court needs to consider: (1) the science behind SCRAM; (2) SCRAM procedure and technology; (3) New York evidentiary requirements; (4) the development and acceptance of SCRAM by the scientific community; (5) the reliability and judicial acceptance of SCRAM; and (6) the SCRAM procedure followed in this case.

1. *The Science Behind SCRAM*

When alcohol is consumed, a portion of it is digested in the stomach, while the majority of it passes through the small intestine. It is absorbed by the small intestine, passes through the liver, enters the bloodstream and is circulated throughout the body. A small portion of the alcohol gets transferred to the water components of the skin. This process allows alcohol to be detected in the blood, breath, urine and sweat.

Courts throughout the United States routinely admit evidence of blood alcohol content derived from blood, breath, and urine tests. In recent years, technology that measures the elimination of alcohol through the skin through perspiration, transdermal excretion of alcohol', is being utilized by criminal justice agencies, such as the department of probation and parole, as part of the resolution of criminal court cases. AMS contends that their SCRAM device is able to determine Transdermal Alcohol Concentration (TAC), non-intrusively, twenty-four hours a day, seven days a week for the entire supervision period set by the Court.

***622** Since it takes much longer for alcohol to be processed and eliminated through the skin, alcohol consumption

takes longer to register by TAC than blood and breath tests. TAC does not quantify the amount of alcohol consumed, but can identify whether a small, moderate or large amount was used, as well as show the length of time the drinking event lasted. TAC levels tend to be lower than blood alcohol concentration and continue to register alcohol long after breath and blood tests would.

2. *SCRAM Procedure and Technology*

Secure Continuous Remote Alcohol Monitoring (SCRAM) is an automated **alcohol monitoring device** that uses transdermal testing to measure alcohol consumption. The SCRAM system has three components, the SCRAM bracelet, the SCRAM modem and SCRAMnet.

The SCRAM bracelet is an eight-ounce device, approximately the size of a deck of cards that attaches securely around a person's ankle, leaving approximately one-half inch of space. It is designed to be worn around-the-clock. The bracelet has a collection chamber and fuel cell, which tests the vapors in a person's perspiration at reoccurring times throughout the day and night. It also has a tamper strap and securing clip that prevents the wearer from removing the device and a temperature sensor and an infrared (IR) sensor to detect obstructions. The IR sensor sends an IR beam between the bracelet and the leg. The reflection of the beam is measured in volts. Alcohol readings, tamper alerts, body temperature and diagnostic data are transmitted to a modem inside the subject's home at least once every twenty-four hours and then to SCRAMnet via an internet connection for analysis, monitoring and storage.

AMS analyzes the alcohol data received and compares it against known blood alcohol content curves for absorption, concentration, and elimination of alcohol. To avoid false positives, AMS disregards readings that are too low to suggest alcohol use or that show a sharp short term spike, which is more indicative of an interferant. Only when TAC levels are elevated above .02%, for three consecutive readings, does AMS confirm an alcohol event. According to AMS, to reach a .02% TAC, the participant would have had to consume approximately two drinks per hour.

To detect tampering or an obstruction, a baseline voltage is established when the SCRAM bracelet is first fitted on a subject, and AMS sets the allowable range, called a "sleeve", of 12 % upwards and 17 % downwards from the baseline. The wearer must maintain voltage readings at the baseline or within the sleeve percentages. When the voltage is outside the acceptable range for a period of eight hours or longer, it is considered a violation and is reviewed by AMS technicians.[FN8]

> FN8. AMS sets an eight hour minimum time period for an interferant violation to be reported to allow the participant some time for an innocent violation that may block the signal for a short time. However, any blockage in excess of eight hours may be an attempt to conceal a drinking event, which usually lasts an average of ten to twelve hours.

Different obstructions create discernable patterns which help the AMS technicians determine the substance inserted between the leg and the device. For example, AMS has tested and has determined the pattern created by a wet paper towel, socks, aluminum foil, and lunch meats. An item like aluminum foil, which is reflective, creates a pattern with several high peaks, while items like paper towels and socks create a more level pattern, similar to a plateau.

***623** AMS technicians routinely analyze the data collected. If alcohol consumption or the use of an interferant is suspected it is investigated and submitted to a review committee within AMS which includes Jeff Hawthorne, the director of customer service and the VP of engineering. If this committee confirms that a violation has occurred, they prepare and send a report to the compliance agency.

3. *New York Evidentiary Requirements*

[1] Scientific evidence can only be admitted in New York if it is relevant to an issue in the case, beyond the knowledge of the average juror, proffered by a qualified expert and generally accepted as reliable by the scientific community.[FN9]

> FN9. *See* *Frye,* 293 F. at 1014; *People v. LeGrand,* 8 N.Y.3d 449, 457-458, 835 N.Y.S.2d 523, 867 N.E.2d 374 (2007) and *People v. Wesley,* 83 N.Y.2d 417, 429, 611 N.Y.S.2d 97, 633 N.E.2d 451 (1994).

[2] SCRAM technology is relevant to the issue at hand and is clearly beyond the knowledge of the average juror. Analysis of the SCRAM data is essential evidence in the Court's decision as to whether the defendant intentionally tampered with the device and thus violated the conditions of his open plea. The technology of the SCRAM device requires expert knowledge to explain how it functions, how the TAC is obtained, how data is stored, and how to

interpret the meaning of that data.

Here, the People offered Jeff Hawthorne as an expert on the SCRAM device and technology. Mr. Hawthorne has a bachelor's degree in electrical engineering, began working with hand-held breath testing equipment in 1986 and co-invented the SCRAM device in 1991. He is the co-founder and chief technology officer of AMS, the company responsible for manufacturing, distributing and reviewing the SCRAM data and has previously been admitted as an expert witness on the device in approximately forty-seven other states. Clearly his qualifications merit his admission as an expert in this matter, with the caveat that as an employee of the company, he is interested in the outcome of the case.

The evidence is relevant, beyond the knowledge of the average juror and was presented by a qualified expert. The final requirement for admission of SCRAM technology in New York State is the SCRAM device's reliability and general acceptance by the scientific community.

4. *The Development and Acceptance of SCRAM by the Scientific Community*

The principle of transdermal transport, which allows chemicals to be transported across unbroken skin is used in common marketplace items such as patches for nicotine, birth control, and sea sickness, as well as muscle relaxants, chest pain medication and blood pressure drugs.[FN10]

> FN10. Exhibit 4 in evidence, Power Point print-out of SCRAM technology prepared by AMS and used by Jeff Hawthorne as he testified at the hearing; *see also, State of South Dakota v. Lemler,* 774 N.W.2d 272, 282 (S.D.2009).

In 1930, scientists began collecting perspiration excreted from the skin to detect alcohol.[FN11] Shortly thereafter, a sweat ***624** patch that attached to a subject's skin for several days was developed and clinically studied.[FN12] Since that time, numerous articles published in scientific journals have concluded that alcohol concentration levels detected in perspiration show a measurable relationship to the concentration of alcohol in blood and breath tests and TAC does not produce any false negatives.[FN13]

> FN11. Nyman, E. & Palmlov, A, *The Elimination of Ethyl Alcohol in Sweat,* Scandinavian Archives of Physiology 74: 155-159 (1936); Bruisilow, S.W. & Gordes, E.H., *The Permeability of the Sweat Gland to Non-Electrolytes,* American Journal of Diseases in Children, 112: 328-333 (1966); Pawan, G.L. & Grice, K., *Distribution of Alcohol in Urine and Sweat After Drinking,* Lancet 2: 1016 (1968); Johnson, H.L. & Maiback, H.I., *Drug Excretion in Human Eccrine Sweat,* The Journal of Investigative Dermatology 56(3): 182-188 (1971); Scheuplein, R.J., *Permeability of the Skin: A Review of Major Concepts,* Current Problems in Dermatology, 7: 172-186 (1978), *as cited in* Robyn Robertson, Ward Vanlaar & Herb Simpson, *Continuous Transdermal Alcohol Monitoring: A Primer For Criminal Justice Professionals* (2007).
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> FN12. Phillips, M. & McAloon, M., *A Sweat Patch Test for Alcohol Consumption: Evaluation in Continuous and Episodic Drinkers,* Alcoholism: Clinical and Experimental Research, 4(4), 391-395 (1980); Phillips, M., *An Improved Adhesive Patch for Long-Term Collection of Sweat,* Biomaterials, Medical Devices and Artificial Organs, 8(1), 13-21 (1980); Phillips M., *Sweat-Patch Test for Alcohol Consumption: Rapid Assay With an Electrochemical Detector,* Alcoholism: Clinical and Experimental Research, 6(4), 532-534 (1982), *as cited in* Victor E. Flango & Fred L. Cheesman, *Effectiveness of the SCRAM* ***Alcohol Monitoring Device****: A Preliminary Test,* Drug Court Review, Vol. VI 2, 109-134 (2009).
>
> FN13. *Id.;* Zettl, J.R., *The Determination of Blood Alcohol Concentration by Transdermal Measurement,* http://www.alcoholmonitoring.com/pdf/ Transdermal White Paper. pdf, (2002); Swift, R.M., *Transdermal Measurement of Alcohol Consumption,* Addiction, 88:1037-1039 (1993); Swift, R., *Transdermal Alcohol Measurement for Estimation of Blood Alcohol Concentration,* Alcoholism: Clinical and Experimental Research, 24(4) 422-423 (2000); Robertson, *supra* note 11; Flango, *supra* note 12; and Jeffrey S. Hawthorne & Mark H. Wojcik, *Transdermal Alcohol Measurement: A Review of the Literature,* Canadian Soc'y of Forensic Science Jnl 39(2): 65-71 (2004).

The other components of SCRAM utilize widespread commercially accepted technology. The fuel cell technology present in the device is identical to that used in many breath testing instruments and preliminary breath testing devices.[FN14] Similar technology is currently utilized in approximately 50,000 alcohol sensors worldwide, across five continents.[FN15]

> FN14. *Supra* note 10, Exhibit 4, "Scram Usage."

FN15. *Id. See also, Lemler,* 774 N.W.2d at 282 (S.D.2009).

SCRAM's infrared (IR) technology, used to detect obstructions by examining the reflection created, has been in existence for decades and is commonly used in cameras, copy machines, security equipment and electronic monitoring devices. FN16 It is a standard technology, generally considered to be reliable. FN17

FN16. *Supra* note 10, Exhibit 4, "Scram Usage."

FN17. *Id.*

Clearly, each individual component of SCRAM has been accepted by the scientific community as well as the commercial marketplace.

Furthermore, scientific studies such as the Sakai study and the NHTSA report, submitted by the People, support the accuracy of the SCRAM device. The Sakai study concluded that the device is reliable and valid, while the NHTSA study reported that the SCRAM device detected 88% of the subject's drinking events and did not have any false reports. The NHTSA report found that SCRAM's IR technology was effective in identifying obstructions when the device was intentionally blocked by a defendant from producing any readings.

In 2009, the Pacific Institute for Research and Evaluation in Calverton, Maryland published their findings after conducting a ninety-six week trial with twenty-two paid research assistants who wore either SCRAM or another device (the Giner WrisTAS) that utilized the same TAC technology. They concluded that both devices***625** were able to detect alcohol at the skin surface; neither device registered false positives; and the SCRAM device was more reliable. FN18

FN18. Marques, P.R. & McKnight, A.S., *Field and Laboratory Alcohol Detection with Two Types of Transdermal Devices,* Alcohol Clin Exp Res 33(4): 703-711 (2009). *See also* Michael J. Buono, *Sweat Ethanol Concentrations are Highly Correlated with Co-Existing Blood Values in Humans,* Experimental Physiology 84 401-404 (1999); Alan R. McKelvie, *An Implementation of Remote Alcohol Monitoring in Alaska,* 22 Alaska Justice Forum Winter 2006, available at: http:// justice. uaa. alaska. edu/ forum/ 22/ 4 winter 2006/ d-scram. html (last visited October 18, 2010).

In another study, AMS conducted a trial with ten people over thirty days. Participants agreed to wear the SCRAM device while going about their normal activity but were required to log any alcoholic beverages consumed. AMS then compared their data with the logs the participants prepared. Mr. Hawthorne reported that AMS was able to identify only thirty percent of the participants who reported having one drink, forty one percent of the participants who report two drinks at a time, sixty-five percent of the participants who reported three drinks, ninety percent of the participants who reported having four or five drinks and one hundred percent of the participants who reported six drinks or more.

AMS, by their own admission, only detects and reports violations for drinking episodes when the wearer has in excess of two drinks in an hour or an interferant when the signal had been blocked for eight hours or more. It is therefore reasonable to conclude that AMS allows a wearer every reasonable inference of innocence.

5. *Reliability and Judicial Acceptance of SCRAM*

SCRAM is currently used in forty-six states and 1,900 jurisdictions. FN19 As of 2007, SCRAM evidence was found to be reliable and admitted in 49 hearings throughout the United States.FN20 According to Mr. Hawthorne, as of March of 2009, SCRAM had been used to perform 254,755,986 alcohol tests on 93,463 individuals over 7,995,962 days.FN21

FN19. *Supra* note 10.

FN20. Robyn Robertson, Ward Vanlaar & Herb Simpson, *Continuous Transdermal Alcohol Monitoring: A Primer for Criminal Justice Professionals,* 21 (2007).

FN21. *Supra* note 10.

Last year, two Courts considered the admissibility of the SCRAM device under the federal standard.FN22 Those Courts reviewed and considered the same articles, studies and publications presented to this Court and found that the technology had been or could be tested, the process was subject to review and publication, had potential error rates lower than some other accepted methods of measuring alcohol consumption and that it has been accepted within the relevant scientific community.FN23 They concluded that the technology was reliable and generally accepted in the

commercial marketplace.

FN22. Fed. R. Evid. 702. *See also, Daubert v. Merrell Dow Pharmaceuticals, Inc.,* 509 U.S. 579, 113 S.Ct. 2786, 125 L.Ed.2d 469 (1993).

FN23. *See Mogg v. State of Indiana,* 918 N.E.2d 750 (Ind.Ct.App.2009); *Lemler,* 774 N.W.2d at 272. In both matters, Mr. Hawthorne, the same expert as herein, testified and was accepted as an expert in the field.

Although the federal standard is more flexible than the *Frye* standard used in New York, the reasoning used in determining the admission of SCRAM in other jurisdictions is persuasive.[FN24] This court ***626** finds that the SCRAM device and technology is sufficiently reliable and generally accepted in the scientific community and satisfies the *Frye* standard for admission of evidence under New York law.

FN24. The federal standard outlined by *Daubert* requires a finding that there is widespread acceptance in the *relevant* scientific community, while the *Frye* standard requires general acceptance by the scientific community.

6. *SCRAM Procedure Followed in this Case*

As the Court of Appeals set forth in *People v. Wesley,* "[o]nce *Frye* has been satisfied, the question is whether the accepted techniques were employed by the experts in this case. The focus moves from the general reliability concerns of *Frye* to the specific reliability of the procedures followed." [FN25]

FN25. *Wesley,* 83 N.Y.2d at 429, 611 N.Y.S.2d 97, 633 N.E.2d 451 (Internal citation and quotation marks omitted).

Here, the People introduced testimony explaining how the device was fitted specifically to the defendant, how the base line was adjusted to conform to the defendant's specific characteristics and how the defendant was instructed on the proper care of the bracelet. Defendant was warned about placing items between his leg and the device and specifically told to fold his socks beneath the device to avoid any interference with the signal. Defendant acknowledged receiving these instructions both orally and in writing.

The AMS technicians followed a very careful procedure prior to reporting a blockage violation. When defendant's IR levels were outside the proper range for a consecutive eight-hour period, the data was reviewed, investigated, and then sent to the committee for confirmation. Since this was a clear violation, there was no need for AMS to take additional steps to request that RMOMS, the service provider, interview the defendant or inspect the device. Furthermore, since defendant did not claim any interference and since no alcohol use was specifically reported, there was no need for AMS to further investigate or test. This eight-hour minimum time period and the series of internal reviews exist to give the wearer the benefit of the doubt and to eliminate any false positive reports.

The People established that RMOMS and AMS followed specific procedure to fit, adjust and monitor the defendant's SCRAM bracelet. The Court finds that this procedure ensured the reliability of the data collected and served as a proper foundation for AMS to find and report that defendant violated the terms of the SCRAM agreement.

Having now concluded that the People have satisfied the general requirements of *Frye* for admissibility of the SCRAM device, as well as established that the procedures followed in this case were reliable, the data collected and the subsequent violation report are admissible in evidence.

Violation of Conditional Plea

[3] The second issue presented is whether the People met their burden of proving a violation by the defendant in this case. The court has reviewed the testimony and the other evidence introduced in this matter and concludes that an obstruction between defendant's leg and the SCRAM bracelet on May 11th prevented the device from reading defendant's TAC from 8:12 am to 6:21 pm. Readings from this time period would have been important for the Court to determine if the defendant consumed alcohol earlier that morning, when his TAC levels were elevated.

A SCRAM violation is reported only after a continuous blockage for eight hours or more. Consequently, when a blockage ***627** is reported, without a satisfactory explanation from the wearer, it is reasonable to conclude that a defendant intentionally blocked the device. This blockage was a violation of his plea agreement to comply with the terms of the SCRAM device.

Since the People have proved by a preponderance of the evidence [FN26] that the defendant violated the terms of his

open plea, the charge of VTL § 511(1)(a) is therefore retained and the case is adjourned for sentencing.

> FN26. No standard is specified by statute for a violation of a conditional plea. However, CPL 410.70 applies a preponderance standard of proof to hearings to determine violations of conditional discharge, probation and parole.

This opinion constitutes the decision and order of the Court.

Appendix B.1: Jefferson County, Missouri Court Orders for Transdermal Monitoring

IN THE CIRCUIT COURT OF THE TWENTY-THIRD JUDICIAL CIRCUIT
OF MISSOURI AT HILLSBORO, JEFFERSON COUNTY, MISSOURI
ASSOCIATE DIVISION XI

STATE OF MISSOURI	)	
	)	
v.	)	Cause No.
	)	
	)	Division No. XI
Defendant.	)	

ORDER

On April 9. 2010 this Court issued a warrant for defendant's arrest and denied bond. Now on this date the terms and conditions of defendant's bond are set as follows: Bond shall be $5,000.00 which may be satisfied by surety only. Bond return date shall be: May 19, 2010 at 9:00 a.m. Defendant's release on bond shall though be subject to the following special terms and conditions:

1. Defendant's release shall be under the supervision of, Private Probation Services of Jefferson County, 424 Main Street, Hillsboro, Missouri; defendant shall comply in full with all directives given to him by the probation officer.

2. Defendant shall, immediately upon release from incarceration, report to Private Probation Services of Jefferson County where defendant will be fitted with a "SCRAM™" alcohol monitoring bracelet which defendant shall wear at all times until further order of this Court in accordance with directives given by the probation officer. Any obstruction or tampering with the SCRAM™ unit will be a violation of defendant's release on bond. A retainer of $500.00 shall be paid to the probation officer before defendant's release from incarceration; defendant shall thereafter pay the fee charged by Private Probation Services for the SCRAM™ monitoring.

3. Defendant shall consume no alcohol after release.

4. Defendant shall not enter any establishment the primary business of which is the sale of intoxicating liquors.

5. Defendant shall not unlawfully use or possess any controlled substances or be in the presence of anyone unlawfully possessing, using or manufacturing controlled substances.

6. Defendant shall submit to random drug testing as directed by or another at her request.

7. Defendant shall immediately inform the probation office of defendant's place of residency and will not change the same unless upon 48 hours advance notice.

8. Defendant shall not operate a motor vehicle (unless reinstated, licensed and insured).

9. Defendant shall obey all federal, state and local laws.

10. Defendant shall report all arrests and law enforcement related contact to the probation officer within 48 hours of the occurrence.

11. Defendant's case is set for announcement at 9:00 a.m. on May 19, 2010.

It is so ordered this ____ day of April, 2010.

_____
Stephen Bouchard,
Associate Circuit Court Judge, Division XII,
For Judge Ray Dickhaner

IN THE CIRCUIT COURT OF THE TWENTY-THIRD JUDICIAL CIRCUIT
OF MISSOURI AT HILLSBORO, JEFFERSON COUNTY, MISSOURI
ASSOCIATE DIVISION 12

STATE OF MISSOURI	)	
	)	
v.	)	Cause No.
	)	
	)	Division No. XII
	)	
Defendant.	)	

ORDER

On January 21, 2009 this Court issued a "no bond" probation violation capias warrant for defendant's arrest. **Now on this date the Court sets the following terms and conditions for defendant's release on bond: Bond is set at $2,500.00 which may be satisfied by surety only. Bond return date shall be: March 26, 2009 at 1:00 p.m.** Defendant's release on bond shall though be subject to the following special terms and conditions:

Defendant's release shall be under the supervision of, Private Probation Services of Jefferson County; 424 Main Street, Hillsboro, Missouri, defendant shall comply in full with all directives given to him by the probation officer.

Defendant shall, immediately upon release from incarceration, report to Private Probation Services of Jefferson County where defendant will be fitted with a "SCRAM™" alcohol monitoring bracelet which defendant shall wear at all times until further order of this Court in accordance with directives given by the probation officer. Any obstruction or tampering with the SCRAM™ unit will be a violation of defendant's release on bond. A retainer of $500.00 shall be paid to the probation officer before defendant's release from incarceration; defendant shall thereafter pay the fee charged by Private Probation Services for the SCRAM™ monitoring.

Defendant shall consume no alcohol after release.

Defendant shall not enter any establishment the primary business of which is the sale of intoxicating liquors.

Defendant shall not unlawfully use or possess any controlled substances or be in the presence of anyone unlawfully possessing, using or manufacturing controlled substances.

Defendant shall submit to random drug testing as directed by the probation officer or another at her request.

Defendant shall undergo a drug and alcohol evaluation within 30 days of his release to be arranged by Private Probation Services. This shall be "a real" substance abuse evaluation and not merely a SATOP alcohol evaluation. A copy of the evaluation shall be filed with the Court upon completion. Defendant shall comply with all treatment recommendations made as a result of said evaluation.

If he has not already done so, Defendant shall register for REJIS monitoring and pay the $100.00 fee for the same.

Defendant shall report all arrests and law enforcement related contact to the probation officer within 48 hours of the occurrence.

Defendant shall immediately inform the probation officer of his place of residency and will not change the same unless upon 48 hours advance notice.

Defendant shall not operate a motor vehicle (unless reinstated, licensed and insured).

Defendant shall not possess any firearms.

Defendant shall obey all federal, state and local laws.

Defendant's case is set for revocation hearing at 1:00 p.m. on Thursday March 26, 2008.

It is so ordered this 22nd day of January, 2009.

_____
Stephen Bouchard,
Associate Circuit Court Judge, Division XII

Signed sealed copy hand delivered this date to_____, attorney for defendant, _____, APA; copies emailed to the probation.

Appendix B.2: Nebraska Supreme Court Transdermal Monitoring Forms

Continuous Alcohol Monitoring Technology and Financial Assistance Overview

Continuous Alcohol Monitoring Request Authorization Form

Continuous Alcohol Monitoring Progress Report

Instructions for Continuous Alcohol Monitoring Request/Authorization Form

Provider Application for Continuous Alcohol Monitoring

Continuous Alcohol Monitoring Registered Provider Agreement

Nebraska Office of Probation Administration

Continuous Alcohol Monitoring Technology and Financial Assistance Overview

Continuous Alcohol Monitoring (CAM) and Financial Assistance Goals

- To promote overall behavior change through providing a meaningful period of abstinence from alcohol with the use of CAM, ordered in conjunction with a substance abuse evaluation and treatment.
- To provide financial assistance toward the use of CAM technology for those offenders who are unable to pay.

Description of Services

- The client will wear a tamper-resistant ankle bracelet that appears like a typical electronic- monitoring device. This device measures the client's transdermal alcohol concentration by monitoring perspiration for the presence of alcohol excreted through the skin.
- The bracelet communicates with a modem that is connected to the client's phone. The modem transmits the data to a host computer that downloads all stored data including tests and information regarding tampering.
- In order to maintain the equipment's validity, individuals may be required to report to the local registered CAM provider for equipment maintenance or routine inspection.

Target Population

- Any adult offender as determined by the Courts, Parole Board, or Problem-Solving Court that requires abstinence from alcohol as a condition of community supervision.
- Individuals who have demonstrated an inability to refrain from the use of alcohol and as part of a sanction.

Referral and Registration Process

- The Judge or Parole Board will determine the client's need for abstinence / monitoring and enter an order for Continuous Alcohol Monitoring for a specific period of time.
- A supervising officer may utilize CAM as part of a sanction.
- A referral is made through the supervising officer to the registered provider via the referral form.
- The individual to be placed on CAM will contact the local registered CAM provider to schedule installation.

Financial Fees and Assistance

- The costs of CAM will be $12.00 per day per client, in addition to an installation and removal fee of $25.00 each. The CAM Sliding Fee Scale will be applied to eligible individuals to determine the actual cost.
- The client will be required to submit a CAM Sliding Scale Application and supporting employment verification documentation to the registered CAM provider.
- The registered CAM provider will determine the individual's ability to pay via the CAM Sliding Fee Scale Application, based on Federal Poverty Level Guidelines.
- Individuals will set up a payment schedule according to an agreement with the registered CAM provider.

- Only individuals sentenced or placed on community supervision (probationers, parolees, and problem-solving court participants) or as part of a sanction, are eligible to receive financial assistance for a **maximum of 120 days.**

- Individuals in pretrial status, diversion, bond release, etc. are **not** eligible for financial assistance.

Reports and Program Success

- Abstinence from alcohol through the duration of the monitoring period will result in the successful completion of CAM. It can be expected that not all offenders will remain alcohol free for the entire period of monitoring. Offenders may experience some initial adjustment issues, but should become and remain alcohol free within the first few weeks.

- Registered CAM providers will report to the supervising officer within 1 business day any noncompliance, including the detection of alcohol and equipment tampering.

- Registered CAM providers will submit monthly progress reports to the supervising officer.

- The Nebraska Office of Probation Administration will administer payments for offenders who qualify for financial assistance, and will conduct audits on registered CAM providers to insure adherence with the CAM Provider Agreement.

Nebraska Office of Probation Administration
Continuous Alcohol Monitoring Request Authorization Form

Section I

CLIENT DATA

Offender's Name: Case Number:
Address: City:
State: Zip:
Phone: DOB: Sex:
Employed: Hourly Wage:
Current Charges:

☐ **CAM REFERRAL** ☐ **CAM MODIFICATION**

Date of Order/Certificate: Judge Name or Parole Board:
Referring Officer: Officer Fax:
Officer Phone: District #:
Officer Email: Court:
☐ Probation Order ☐ Parole Certificate ☐ Problem-Solving Court ☐ Sanction
Method of contact by provider of any non compliance (email, phone or fax):

CAM Conditions

Monitoring Days Ordered: (max 120 days financial eligibility)
Comments:

Section II

Providers Name: Name of Agency:
Number of Monitoring Days: Provider Phone Number:
Date:

Section III

Authorized by: Authorization Number:
Denied by: Date:

Section IV

Date of Installation:
Sliding Fee Scale Amount Requested from State for entire monitoring period:
% of Total Fees: Date:
Providers Name: Effective Modification Date:

Section V

1st Invoice #	date from:	to:	Requested amount:
2nd Invoice #	date from:	to:	Requested amount:
3rd Invoice #	date from:	to:	Requested amount:
4th Invoice #	date from:	to:	Requested amount:
5th Invoice #	date from:	to:	Requested amount:
6th Invoice #	date from:	to:	Requested amount:
7th Invoice #	date from:	to:	Requested amount:

Installation Fee: Removal Fee: 10/27/08

Nebraska Office of Probation Administration

Continuous Alcohol Monitoring Progress Report

Attachment II

Date: _____

Client: _____ Case Number: _____

Supervising Officer: _____ Provider: _____

Intake Status: Client enrolled and began Continuous Alcohol Monitoring on: _____

Length of Program: _____ Days Completed to Date: ___

Status

☐ Client has missed an appoint time on_____
☐ Client will not return calls from CAM registered provider
☐ Client has a confirmed drinking event on_____
☐ Client has confirmed tampering with CAM Bracelet on _____
☐ Client modem has not communicated with server since _____
☐ Client has confirmed bracelet removal _____
☐ Client has a critical communication alert that has not be resolved in ____ days
☐ Client is not complaint with established payment plan/last payment received was_____
☐ Completed Monitoring Program Successfully on _____

Comments:

_____
_____
_____
_____
_____
_____
_____

CAM Registered Provider Signature: _____Date: _____

09/15/08

Nebraska Office of Probation Administration

Instructions for Continuous Alcohol Monitoring Request/Authorization Form

Section I to be completed by supervising officer:

The following section must be completed in full and emailed to a CAM registered provider, listed below, prior to installation. If section I is not filled out in its entirety, the provider will send the form back to the officer before CAM device will be installed. For initial referral, check the CAM Referral Box. If modifying an order (i.e. changing number of days on CAM, restarting service because of a break in monitoring days, change in employment), check the CAM Modification box. Documents should be saved and referenced by offender last name, CAM referral or modification, and date of request (ex. *Jones.camrefferal.91508)*.

Section II to be completed by CAM registered provider:

The following section must be completed and submitted to the Nebraska Office of Probation Administration. Authorization prior to installation of the CAM device is required, if financial assistance is a consideration. Submit approval form to CAM Coordinator

Section III to be completed by Nebraska Office of Probation Administration:

Completed by the Nebraska Office of Probation Administration and returned to the requesting CAM registered provider, prior to installation of the CAM device.

Section IV to be completed and submitted by the CAM registered provider:

Within 48 hours after CAM device is installed, CAM registered provider must complete the following section and submit to the CAM Coordinator in order for payment to be authorized.

Section V to be completed by the CAM registered provider:

CAM registered providers will submit completed form via e-mail to CAM Coordinator for billing purposes. Billing should be submitted by the 10th of each month.

9/15/08

Nebraska Office of Probation Administration

Provider Application for Continuous Alcohol Monitoring

Continuous Alcohol Monitoring Providers

1) Providers must apply and be approved by Nebraska Office of Probation Administration before they can provide continuous alcohol monitoring for Probation, Parole or Problem-Solving Courts.

2) Must complete Continuous Alcohol Monitoring Provider Agreement Form

3) Must use continuous alcohol monitoring devices approved by the Nebraska Office of Probation Administration

Name of Provider: _____ **Date:** _____

Address of Provider: _____ **Phone:** _____

_____

_____ **Fax:** _____

E-mail address: _____

Continuous Alcohol Monitoring Model to be Used: _____

Date provider was certified by manufacturer: _____

Attach copy of certification: _____

_____ _____

Date **Signature of Applicant**

Internal Use Only

Nebraska Office of Probation Administration approval as CAM registered provider

Yes No

_____	_____
Date	**Signature**

6/28/10

Nebraska Office of Probation Administration

Continuous Alcohol Monitoring Registered Provider Agreement

Continuous alcohol monitoring (CAM) registered providers hereafter noted as "Provider" shall be trained according to manufacturer policies and procedures, and agree to the following conditions:

Registration

1. Abide by the Rule Governing Approval of Continuous Alcohol Monitoring Devices and Means of Installation. Attachment I.
2. Provider must use the most current technology available as approved by the CAM Coordinator.
3. Any changes, modifications or monitoring disruptions, as ordered by the court affecting reimbursement for services, requires authorization from the Nebraska Office of Probation Administration.

Installation

4. Install the approved unit on the individual.
5. Explain the rules, stipulations of the technology, and the unit operations to the individual.
6. Submit report to the supervising officer within 48 hours of installation or individual failure to report.

Financial Assistance

7. Only individuals ordered as a condition or sanction of community supervision (probationers, parolees, and problem-solving participants) are eligible to receive financial assistance. (Ex: Pre-trial, diversion, bond release, etc. are not included)
8. Financial assistance reimbursement is only available during the dates designated by the Nebraska Office of Probation Administration. Should the status of funding change financial assistance may be eliminated upon notice.
9. Pre-authorization to encumber financial funds is required **before** installation of the transdermal monitoring device by filling out the Continuous Alcohol Monitoring Request/Approval Form and submitting it to the Nebraska Office of Probation Administration
10. Determination and documentation of an individual's ability to pay via sliding scale application form, based on Federal Poverty Level Guidelines is required.
11. Cooperate with any audits by the Nebraska Office of Probation Administration, and provide documentation of the individual's income and application.
12. Billing submitted may not exceed a maximum of 120 days per order.
13. Collection for payment and/or co-pay from the offender is the responsibility of the provider.
14. Utilizing the sliding fee scale, financial assistance reimbursement is available for installation and removal fees charged to the individual.
15. Only the documents authorized by the Nebraska Office of Probation Administration, will be accepted for CAM reimbursement. Invoices must be received by the Office of probation Administration by the 10^{th} of each month.
16. The Nebraska Office of Probation Administration retains the right to audit all submissions for payment to insure adherence to the CAM Provider Agreement.

Reporting Requirements

17. Report to the supervising officer within 1 business day of any noncompliance, including the detection of alcohol, via report by email, telephone or fax, as is set up by officer. Attachment II.
18. Contact the defendant and/or supervising officer of a missed manual download based on the following criteria:
    a. Day 1 missed download: Contact the defendant to schedule a download and the supervising officer of the missed download
    b. Day 2 missed download: Contact the defendant to schedule a download and the supervising officer of the missed download
    c. Day 3 missed download: Contact the defendant to schedule a download and the supervising office of the missed download. Discuss with the officer any recommendations regarding defendant program completion.

_____
Name of Provider

_____ _____
Date Signature

6/28/10

Appendix B.3: WCS Compliance Statistics

Compliance Summary for 1/01/2009 - 12/31/09

	Total Clients Monitored	# of Compliant Clients	% of Compliant Clients	# of Clients with Confirmed Alerts	% of Non-Compliant Clients	# of Confirmed Alerts
Agency						
Kenosha Intoxicated Driver Intervention Program	43	40	93.00%	3	7.00%	3
Lutheran Social Services	2	2	100.00%	0	0.00%	0
Milwaukee County CCRS	3	1	33.40%	2	66.60%	4
Milwaukee County Drug Treatment Court Program	2	1	50.00%	1	50.00%	10
Milwaukee County Pretrial	375	320	85.00%	55	15.00%	126
Milwaukee County Pretrial (Private Pay)	15	11	73.40%	4	26.60%	10
Milwaukee County Sheriff Department	586	547	93.00%	61	7.00%	92
Ozaukee County	24	19	79.00%	5	21.00%	13
Ozaukee County P & P	3	3	100.00%	0	0.00%	0
Private Pay	8	7	87.50%	1	12.50%	1
Sheboygan Intoxicated Driver Intervention Program	12	10	83.00%	2	17.00%	2
Waukesha Alcohol Treatment Court	58	54	93.00%	4	7.00%	8
Waukesha County Human Services	2	2	100.00%	0	0.00%	0
Waukesha County Pretrial	4	4	100.00%	0	0.00%	0
Waukesha Day Reporting Center	5	5	100.00%	0	0.00%	0
Waukesha Family Court	2	2	100.00%	0	0.00%	0
Waukesha Intoxicated Driver Intervention Program	50	40	80.00%	10	20.00%	25
Waukesha Post Conviction	6	3	50.00%	3	50.00%	15
Totals:	**1200**	**1071**	**89.25%**	**151**	**10.75%**	**309**
Client Type						
Pre-Trial				74		182
Private				2		4
Probation				55		93
Volunteer				20		36
Totals:				**151**		**309**
Alert Type						
Alcohol Detected					46.67%	147
Potential Tamper					53.33%	168
Totals:					**100.00%**	**315**

Compliance Summary for 1/01/2010 - 12/31/2010

	Total Clients Monitored	# of Compliant Clients	% of Compliant Clients	# of Clients with Confirmed Alerts	% of Non-Compliant Clients	# of Confirmed Alerts
Agency						
Adult Care Consultants	2	2	100%	0	0%	0
Kenosha Intoxicated Driver Intervention	45	44	98%	1	2%	6
Lutheran Social Services	3	3	100%	0	0%	0
Milwaukee County CCRS	2	1	50%	1	50%	1
Milwaukee County Drug Treatment Court	3	2	67%	1	33%	1
Milwaukee County Family Court	2	2	100%	0	0%	0
Milwaukee County Pretrial	425	395	93%	30	7%	62
Milwaukee County Pretrial (Private Pay)	43	34	79%	9	21%	18
Milwaukee County Sheriff Department	892	854	96%	38	4%	45
Ozaukee County	56	39	70%	17	30%	24
Ozaukee County Family Court	5	4	80%	1	20%	11
Ozaukee County P & P	12	7	58%	5	52%	7
Private Pay	12	11	92%	1	8%	1
Sheboygan County Family Court	1	1	100%	0	0%	0
Sheboygan Intoxicated Driver Intervention	30	29	97%	1	3%	1
Waukesha Alcohol Treatment Court	67	63	94%	4	6%	4
Waukesha County Day Report	60	52	87%	8	13%	13
Waukesha County Family Court	15	11	73%	4	17%	12
Waukesha County Pretrial	4	4	0%	0	0%	0
Waukesha Day Reporting Center	5	5	0%	0	0%	0
Waukesha Family Court	2	2	100%	0	0%	0
Waukesha Intoxicated Driver Intervention	300	265	88%	35	12%	66
Waukesha Post Conviction	9	7	78%	2	22%	3
Waukesha SCRAMx	2	2	0%	0	0%	0
Totals:	**1992**	**1834**	**92%**	**158**	**8%**	**275**
Client Type						
Pre-Trial				92		170
Private				1		1
Probation				33		49
Volunteer				32		55
Totals:				**158**		**275**
Alert Type						
Alcohol Detected					30%	82
Potential Tamper					70%	193
Totals:					**100%**	**275**

Appendix C: Daily Action Plan

Daily Action Plan – 12/21/2010

Alcohol Detected

Client Name	Agent Name	Agency	Alert Date	Rcvd Date	Days Open	Action Taken
[redacted]	[redacted]	Adams County	12/17/2010	12/20/2010	3	
		Large-scale interferant detected on bracelet—Question client's actions.				
[redacted]	[redacted]	Larimer County	12/18/2010	12/20/2010	1	
		Confirmed Consumption with tamper. The absorption rate is 0.016%/hr and elimination rate is 0.008%/hr.				
[redacted]	[redacted]	Larimer County	12/18/2010	12/20/2010	1	
		TAC jumps to peak in two readings—question client's actions.				
[redacted]	[redacted]	Phillips County	12/17/2010	12/20/2010	2	
		Confirmed Consumption. The absorption rate is 0.021%/hr and elimination rate is 0.023%/hr				
[redacted]	[redacted]	Douglas County	12/20/2010	12/20/2010	2	
		TAC jumps to peak in two readings—question client's actions.				

Potential Tamper

Client Name	Agent Name	Agency	Alert Date	Rcvd Date	Days Open	Action Taken
[redacted]	[redacted]ick	Douglas County	12/20/2010	12/21/2010	1	
		Significant drop in temperature in approx. 10 hours – Question client's actions and let AMS know client's response.				
[redacted]	[redacted]	Larimer County	12/18/2010	12/20/2010	1	
		(2) Confirmed tampers (1) from 9:02pm on 12/18 to 1:37am on 12/19 and (2) from 5:14am to 10:21am on 12/19. Alcohol is detected during this same time period.				
[redacted]	[redacted]	Larimer County	12/18/2010	12/20/2010	2	
		Confirmed tamper from 8:41am on 12/18 to 1:32pm on 12/19.				
[redacted]	[redacted]	Arapahoe County	12/13/2010	12/14/2010	6	
		Continued dipping in IR could indicate bracelet is loose – Need to inspect bracelet for fit and tighten using maintenance link on client's equipment tab. Direct connect when completed.				
[redacted]	[redacted]	Weld County	12/17/2010	12/18/2010	4	
		Inspect bracelet for fit and for any signs of moisture. If moisture present, replace. If not, take observed readings and contact AM when readings are completed.				

Critical Communications

Client Name	Agent Name	Agency	Alert Date	Rcvd Date	Days Open	Action Taken
[redacted]	[redacted]	Phillips County	12/16/2010	12/19/2010	2	
		No communication with bracelet since 12/17				
[redacted]	[redacted]	Grand County	12/16/2010	12/16/2010	5	
		ATTENTION: No communication from bracelet since 12/14. Direct connect is now required to obtain all data.				
[redacted]	[redacted]	Grand County	12/20/2010	12/20/2010	1	
		No communication from bracelet since 12/18.				
[redacted]	[redacted]	Douglas County	12/20/2010	12/20/2010	1	
		No communication from bracelet since 12/18.				
[redacted]	[redacted]	Grand County	12/20/2010	12/20/2010	1	

		ATTENTION: No communication from bracelet since 12/14. Direct connect is now required to obtain all data.			
[redacted]	[redacted]	Douglas County	12/19/2010	12/20/2010	2
		No communication from bracelet since 12/18.			
[redacted]	[redacted]	Phillips County	12/19/2010	12/19/2010	2
		No communication from bracelet since 12/17			

Replace Equipment

Client Name	Agent Name	Agency	Alert Date	Rcvd Date	Days Open	Action Taken
[redacted]	[redacted]	Grand County	12/20/2010	12/20/2010	3	
		Replace SCRAM Bracelet 32276				
[redacted]	[redacted]	Weld County	12/16/2010	12/16/2010	6	
		Replace SCRAM Bracelet 78004				

Battery Low

Client Name	Agent Name	Agency	Alert Date	Rcvd Date	Days Open	Action Taken
[redacted]	[redacted]	Weld County	12/19/2010	12/19/2010	5	
		Replace battery/faceplate and re-init bracelet. Use the Bracelet Maintenance Wizard on client's Equipment page when replacing so that alert resolves/resets, then perform a Direct Connect upload.				
[redacted]	[redacted]	Grand County	12/11/2010	12/14/2010	14	
		Replace battery/faceplate and re-init bracelet. Use the Bracelet Maintenance Wizard on client's Equipment page when replacing so that alert resolves/resets, then perform a Direct Connect upload.				

Replace Battery/Faceplate

Client Name	Agent Name	Agency	Alert Date	Rcvd Date	Days Open	Action Taken
[redacted]	[redacted]	Grand County	12/19/2010	12/19/2010	3	
		Replace battery/faceplate and re-init bracelet. Use the Bracelet Maintenance Wizard on client's Equipment page when replacing so that alert resolves/resets, then perform a Direct Connect upload.				
[redacted]	[redacted]	Weld County	12/19/2010	12/19/2010	4	
		Replace battery/faceplate and re-init bracelet. Use the Bracelet Maintenance Wizard on client's Equipment page when replacing so that alert resolves/resets, then perform a Direct Connect upload.				
[redacted]	[redacted]	Grand County	12/20/2010	12/20/2010	1	
		Replace battery/faceplate and re-init bracelet. Use the Bracelet Maintenance Wizard on client's Equipment page when replacing so that alert resolves/resets, then perform a Direct Connect upload.				
[redacted]	[redacted]	Boxar County	12/17/2010	12/17/2010	4	
		Replace battery/faceplate and re-init bracelet. Use the Bracelet Maintenance Wizard on client's Equipment page when replacing so that alert resolves/resets, then perform a Direct Connect upload.				

Appendix D: AMS Program Participation Agreement

SCRAMx Program Participant Agreement

Participant Name	**Leia Princess**
Agency	**Susan Test**
Agent Name	**Marco Polo**
Date Placed on Program	**01/15/2011**

I, Leia Princess, have been placed in the SCRAMx Program. As a condition of being allowed to participate in this Program, I agree to comply with all Program requirements set forth in this Agreement and to strictly follow the instructions of my Probation Officer or Pre-trial Services Agent. I understand that any failure by me to comply with this Agreement or the instructions of my officer or agent will be considered a violation of my supervision and may result in adverse legal consequences.

As a condition of my participation in the Program, I agree to properly use the Secure Continuous Remote Alcohol Monitoring ™ ("SCRAM") equipment provided to me by my officer or agent. In that regard, I will wear the SCRAMx Bracelet on my ankle for the duration of the Program and will allow the SCRAM Modem/SCRAMx Base Station to be connected to my home or office telephone or as agreed with my officer or agent. I understand that the SCRAMx Bracelet will, at pre-programmed intervals, test me for the presence of alcohol concentration by measuring the alcohol concentration of the vapor created when I sweat. When the SCRAMx Bracelet detects the presence of alcohol, it will record a positive reading and will transmit an alcohol alert to the SCRAM Modem/SCRAMx Base Station. The SCRAMx Bracelet also contains systems designed to detect interference or tampering and will also transmit a tampering alert to the SCRAM Modem/SCRAMx Base Station. When maintenance is required, I agree to come into the office within 48 hours after being notified by my agent.

I acknowledge receipt of:

SCRAMx Bracelet Number	24788	Initial Here
SCRAM Modem/SCRAMx Base Station Number		
1 Power Cord		_____
1 Phone Cord		

I understand that I may be required to pay the daily cost of my SCRAMx monitoring. If so ordered, I agree to pay the following cost per day on a schedule set forth in a separate payment agreement and will submit payments as directed by my officer or agent:

Daily Monitoring Cost	Initial Here
Hook Up Fee	
Additional Hook Up	_____

The additional hook up fee will be assessed if a new bracelet is required as a result of cut strap, submersion, or intentional damage to the bracelet components. I also understand that I will be held responsible for damage, other than due to normal wear, to the SCRAMx equipment. I also understand that if I do not return the equipment in good working condition, I will be charged for the repair or the replacement of the equipment as follows:

Full Replacement of the SCRAMx Bracelet	$1400.00	Initial Here
Full Replacement of the SCRAM Modem	$700.00	
Full Replacement of the SCRAMx Base Station	$700.00	_____

SCRAMx Program Participant Agreement

Straps Replacement	$175.00

As a condition of being allowed to participate in the Program, if required, I agree to pay these costs. And, I agree to allow authorized personnel to inspect and maintain the SCRAMx Bracelet and SCRAM Modem/SCRAMx Base Station.

While participating in the Program, I agree to wear a non-removable SCRAMx Bracelet that will be attached by my agent, officer, or other authorized agency personnel. I agree not to remove, tamper with, or place any obstruction material between the SCRAMx Bracelet and my leg. Only in an emergency or with the prior permission of my officer or agent will I remove the SCRAMx Bracelet. I also agree not to move, disconnect, or tamper with the SCRAM Modem/SCRAMx Base Station without the prior approval of my agent.

WARNING: If I experience a burning sensation, rash on my skin or any other apparent health risk from the bracelet, I will contact my agent immediately. If I must remove the SCRAMx Bracelet for health risks, I will cut the bracelet strap where the words "Cut Here" appear.

I agree to maintain an analog telephone line and electrical service in my residence at my own expense. I agree that I will not make any changes in the telephone equipment or services at my residence without prior approval of my agent. If notified by my agent or officer, I agree to remove any telephone features or functions that interfere with normal operation of the SCRAM Modem/SCRAMx Base Station. I agree to provide copies of my monthly telephone and electric bill when requested by my agent or officer.

I understand that my officer or agent will use telephone calls, the SCRAMx equipment, and personal visits to monitor my compliance with this Agreement. Therefore, when I am at home, I agree to promptly answer my telephone or door. I further understand and agree that all telephone calls from my officer or agent to my residence may be tape-recorded.

Reporting Schedule: I understand that my daily SCRAMx equipment reporting times are as follows:

Reporting Time 1: Must upload every 2 day (48 hours).

For those being monitored for alcohol use only:

I agree to be physically in range of my SCRAM Modem for 15 minutes prior to each of the above designated reporting periods. I will go into the room where the SCRAM Modem is located and not leave the SCRAM Modem's range while the green light is blinking. The SCRAM Modem's range is within 30 feet direct line of sight.

For those being electronically monitored in addition to being monitored for alcohol use:

I agree to be, and remain, in my residence at all times, except when specifically authorized by the Court, my Pre-Trial Services Agent, or Probation Officer. I will place the SCRAMx Base Station in a central location in my house. I will not install the SCRAMx Base Station on the floor. I will keep the base station on a wood surface at least three feet off the ground. I will keep the SCRAMx Base Station away from windows, mirrors, and electrical items.

SCRAMx Program Participant Agreement

If I experience problems with the SCRAMx Bracelet or SCRAM Modem/SCRAMx Base Station, or if I lose electrical power at my residence, I agree to call my agent immediately. If I am unable to speak to my agent in person, or during non-business hours, I agree to call my agent and leave a message on their answering machine including my name, the date, the time, and the nature of my problem. If there has been a power problem, I agree that I will call and leave another message when the power is restored. I also agree to notify my agent of any problems with my telephone service as soon as I am able to do so.

I understand that as a participant in the Program that I am to abstain from any and all alcohol consumption and to avoid the use of products containing alcohol and to avoid certain restricted activities, as described as follows:

Initial Here _____ **Banned Products:**

I understand that I am not to use or possess any product containing alcohol, including, but not limited to: mouthwash, medicinal alcohol, household cleaners and disinfectants, lotions, body washes, perfumes, colognes, or other hygiene products that contain alcohol. No products other than soap and water should be used on the skin around the bracelet.

Initial Here _____ **Tampering:**

I understand that the use of banned products or any topical application of a product near the SCRAMx Bracelet in an attempt to tamper with or alter its readings will be considered a violation of this Agreement.

Initial Here _____ **Swimming & Bathing:**

I understand that I am not to submerge the SCRAMx Bracelet in water. Showers are the only permitted bathing method. I understand that if I submerge the SCRAMx bracelet in water it will be treated as an 'attempt to defeat' and will be handled in the same manner as a tamper or obstruction. I understand that I will be held liable for any damages caused by submerging or damaging the SCRAMx Bracelet as well as for additional hook up fees when new equipment is required due to intentional damage.

Initial Here _____ **Personal Hygiene:**

I agree that when showering, I will thoroughly clean the area around the bracelet with soap and water. I will thoroughly rinse with clean water and dry underneath the SCRAMx Bracelet. I understand that failure to rinse away all soap and dry the area around the bracelet may result in a mild skin rash.

Initial Here _____ **Current Health Status or Pre-existing Medical Conditions:**

I agree that I will reveal my current health status to my officer or agent and will also notify them of any pre-existing medical conditions that I am aware of such as pregnancy, diabetes or any type of known skin disorder or condition.

I acknowledge that I have received a copy of this Agreement and that it has been explained to me before signing. I understand that I must comply with the requirements of this Agreement until notified otherwise by my probation officer or pretrial services agent. I agree to call my officer or agent immediately if I have any questions about this Agreement or if I experience any problems with the SCRAMx Bracelet or SCRAMx Base Station. I further understand that any violation of this Agreement will constitute a violation of the Program and may cause immediate adverse legal action to be taken against me.

SCRAMx Program Participant Agreement

Participant		Date
Field Representative/Witness	Title	Date

DOT HS 811 603
August 2012

U.S. Department of Transportation
National Highway Traffic Safety Administration

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