Trends In Effective Use Of Alcohol Monitoring Technology

MADCP 2013 Conference
Steve Lanning
Advisor
LifeSafer
slanning@lifesafer.com
816.554.7200
The Situation

- 2 million+ people incarcerated
- $55 Billion annually to incarcerate prisoners
- 1 out of every 150 people in the U.S.
- $20-$30K per year per prisoner
- Courts are backlogged
- Prisons are overcrowded
- 40% of crimes in the US are alcohol related
Alcohol-related offenses include driving under the influence, liquor law violations, drunkenness, disorderly conduct, and vagrancy.

Sourcebook of Criminal Justice Statistics
# Alcohol Related Crimes

Growing Percentage of All Crimes

<table>
<thead>
<tr>
<th>Year</th>
<th>Alcohol Related Crimes</th>
<th>All Crimes</th>
<th>% of All Crimes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>3,134,000</td>
<td>10,182,586</td>
<td>31%</td>
</tr>
<tr>
<td>2001</td>
<td>3,171,000</td>
<td>10,437,480</td>
<td>30%</td>
</tr>
<tr>
<td>2002</td>
<td>3,421,000</td>
<td>10,455,277</td>
<td>33%</td>
</tr>
<tr>
<td>2003</td>
<td>3,307,000</td>
<td>10,442,862</td>
<td>32%</td>
</tr>
<tr>
<td>2004</td>
<td>3,387,000</td>
<td>10,319,386</td>
<td>33%</td>
</tr>
<tr>
<td>2005</td>
<td>3,371,000</td>
<td>10,174,754</td>
<td>33%</td>
</tr>
<tr>
<td>2006</td>
<td>3,502,000</td>
<td>9,983,568</td>
<td>35%</td>
</tr>
<tr>
<td>2007</td>
<td>3,608,000</td>
<td>9,843,481</td>
<td>37%</td>
</tr>
<tr>
<td>2008</td>
<td>3,730,000</td>
<td>9,767,915</td>
<td>38%</td>
</tr>
<tr>
<td>2009</td>
<td>3,688,000</td>
<td>9,337,060</td>
<td>39%</td>
</tr>
<tr>
<td>2010</td>
<td>3,527,000</td>
<td>9,082,887</td>
<td>39%</td>
</tr>
</tbody>
</table>

*Sourcebook of Criminal Justice Statistics*

Alcohol-related offenses include driving under the influence, liquor law violations, drunkenness, disorderly conduct, and vagrancy.
Market Needs

- Keep offenders out of jail
- Maintain ability to monitor
- Keep the financial burden off the state/taxpayers
- Treatment
Alcohol Monitoring Systems Use

- Studies show that use of electronic monitoring reduce risk of recidivism by 31%
- 250,000 Installed Alcohol Ignition Interlock devices
  - 10% with Camera technology & alcohol consumption monitoring ability
- Roughly 25,000 Transdermal units in use
- Approximately 25,000 Breath Testing home monitoring devices in use
Statutory Requirements for Alcohol Monitoring

At least 7 states require some form of alcohol monitoring for repeat offenders:

- NC  Condition of probation/early release
- CO  Condition of bond
- TN  Condition of bond or probation
- OH  Violations on interlock devices
- SD, ND, MT  24/7 Sobriety Programs
- Extensively utilized by DWI and Sobriety Courts in MO & MI
- Pending in NY for Failure to install Interlock for all offenders
10 Years Ago

There weren’t a lot of choices when it came to alcohol monitoring
Ignition Interlocks

- Proven technology
- NHTSA standards since 1992
- Sampling system producing evidential quality test results +/- .005% -20°C to 70°C
- Reduced drunk driving recidivism while on the program
- 30 to 60 day lag time for offenses to be identified
- No identification of tester
- Saved lives by deterring drinking and driving but not alcohol use/abuse
- Cost $2-$3 per day
MEMS 2000

- Remote breath alcohol testing
- Fixed time testing
- Still picture ID verified
- Supervised by private house arrest provider or jurisdiction
- Non-portable limiting window of monitoring opportunities
- Circumvention issues with use of photographs and air compressors
- Fixed installed systems - Limits the test times in a 24-hour period
- Doesn’t prevent drunk driving
- Cost $7-$10 per day range
**BI Sobrietor**

- Fixed time testing
- Voice verification (not identification)
- Monitored by private house arrest provider or jurisdiction
- Non-portable – limited monitoring opportunities
- Circumvention issues with IR LED proximity sensors
- Fixed installed systems - Limits the test times in a 24-hour period
- Doesn’t prevent drunk driving
- Cost $7-$10 per day range
2003

SCRAM
Secure, Continuous, Remote Alcohol Monitoring

• 2003 – Introduction of SCRAM for continuous alcohol monitoring (CAM).
• Anklet utilizing fuel cell sensor technology to measure alcohol evaporating off the skin through sweat/perspiration.
• Test more frequently
• Improved anti-circumvention through proximity, body heat sensors and strap cutting.
• Unproven technology
• Doesn’t prevent drunk driving
• Cost $10 - $20 per day
Market and Technology Changes and Convergence

- IID manufacturers leverage proven Breath Alcohol Testing into the home monitoring space.
- Electronic monitoring manufacturers develop transdermal devices and compete directly with SCRAM.
- IID technology improved with cameras, electronic reporting, GPS and 911 reporting
- Resulting in:
  - advances and improved technology
  - increased competition
  - improved pricing for users
  - Extended use of alcohol monitoring in the treatment process, versus short-term alternative to incarceration
  - Confusion on what is the best technology for each situation
Introduction of Ignition Interlock Camera Systems capable of being utilized as an alcohol consumption monitoring system
Ignition Interlocks with Camera

- Photo ID of who takes the test
- A photo log is available online for review.
  - Client photo embedded into the device is displayed for comparison
  - Photo can be selected to include in violation report
- Some models allow for scheduled “Driveway Tests”
Ignition Interlocks with Camera
Additional Anti-Circumvention

• Target Tracking – (some models)
  Target must stay in view of the camera the entire
duration of the test or abort is recorded.
  • No one else inside or outside the car could blow the
test without having their picture taken.
  • Can not be circumvented by covering lens or shining
light at the camera
Programmed Testing

- Programmed Scheduled Test Times “Driveway Tests”
- Allows up to six program test times during the course of a day.
- Configurable window before and after test times.
- Imposes tone and horn sanctions during test.
- If no test is taken, photo is captured, and refused program test violation is logged.
When Photos are Taken

• Reference photo is taken and embedded in device memory
• Every test taken to start and drive the vehicle
• After the camera detects the vehicle has been started
• On a random retest
• Anytime a Violation is recorded
• When an Programmed In-Driveway Breathalyzer test is required
Key Benefits of Ignition Interlocks with Cameras

- Positive identification of tester with windshield mounted camera
- Programmed testing for daily alcohol monitoring
- Integrated for electronic reporting
- Identification and test results evidential and admissible in court
- Affordable - average cost is $3.00 per day.
- User cannot drink and drive interlocked vehicle
- Some models have target detection and tracking for anti-circumvention
Where are Camera Interlocks Utilized?

- MN, HY, NY, WA – are 100% camera interlocks
- TX - Heavily court ordered for repeat offenders
- Nassau and Suffolk County (LI) NY require real time reporting
Trends

- Cellular/wireless technology
- GPS
- Real-time reporting
- Text / email monitor notifications
- Online & mobile access to reporting
- Anti-circumvention features
- User identification capabilities
Regardless of Technology, Reporting is Critical.
Ignition Interlocks with Camera

- A photo log is available online for review.
  - Client photo embedded into the device is displayed for comparison
  - Photo can be selected to include in violation report
  - Photos include date, time, and BAC results
Wireless Ignition Interlocks with Camera

- Combine IID and Camera technology with GPS and cellular
- Real-time reporting of violations via Text or Email
  - No more 30 day lag time and reports can go directly to monitor
  - Monitor can call up and order a test on demand
- Costs average $4.00 per day
Breath Alcohol Home Monitoring

- Evidential breath alcohol test results
- Photographic positive-ID
- Reliable reporting
- Anti-circumvention features:
  - Early Recall for too many camera aborts
  - Voice/Hum Tone enabled
  - Target Tracking (some models)
- Pre-programmed test times
- Random testing
Benefits of Home Monitoring

- Ideal system for offenders who need some form of alcohol monitoring and:
  - Do not own or have access to a vehicle
  - Require home and work monitoring in conjunction with an ignition interlock device
  - Are under hard suspension
  - Are under house arrest
  - Are out on bond, pending charges
Trends: Home Monitoring Breath

- Reduced size for portability
- Cellular/wireless technology
- AC & Rechargeable battery
- GPS
- Real-time reporting
- Text / email monitor notifications
- Online & mobile access to reporting
- Anti-circumvention features
- User identification capabilities
- Affordability
2010

Transdermal CAM

• Transdermal now proven and widely accepted technology
• TAC (Transdermal Alcohol Content) measurements correlate well with BAC
• Introduction of SCRAMx (Alcohol & Home Arrest monitoring)
• Additional manufacturers / competition
• Wireless & GPS technology
Transdermal CAM

- Pricing ranged from $10 to as high as $20 per day.
- Frye or Daubert testimony (expert witness) required to establish evidence of drinking episodes.
- Primarily used for short durations (90 days or less) as a condition of probation and alternative to incarceration.
- Doesn’t prevent drunk driving
Trends: Continuous Alcohol Monitoring

- Size and weight reductions
- One piece solutions
- GPS
- Improved reporting
- Reduction in costs
- Real time and customized reporting
## Transdermal Devices

<table>
<thead>
<tr>
<th>Feature</th>
<th>BI TAD</th>
<th>SCRAMx</th>
<th>G4S</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Price per day</strong></td>
<td>$7 - $10</td>
<td>$7-12</td>
<td>$7 -10</td>
</tr>
<tr>
<td><strong>Testing Times</strong></td>
<td>Continuous</td>
<td>Continuous every ½ hours</td>
<td>Continuous every 15 minutes</td>
</tr>
<tr>
<td><strong>Download Data</strong></td>
<td>Daily (must be in range of receiver)</td>
<td>Daily (must be in range of receiver)</td>
<td>Real Time and GPS</td>
</tr>
<tr>
<td><strong>Anti-Circumvention</strong></td>
<td>Via Secure Ankle Bracelet</td>
<td>Via Secure Ankle Bracelet</td>
<td>Via Secure Ankle Bracelet</td>
</tr>
<tr>
<td><strong>Photo available</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>BAC Result</strong></td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Portable &amp; Discreet</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Admissible in Court</strong></td>
<td>Yes*</td>
<td>Yes*</td>
<td>Yes*</td>
</tr>
<tr>
<td><strong>Home Arrest (RFI)</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

* Usually requires expert witness to be admissible
**2012**

**Breath Testing Camera**  
**Home Monitoring Devices**

<table>
<thead>
<tr>
<th></th>
<th>LifeSafer HMU 2</th>
<th>LifeSafer HMU</th>
<th>Smart Start</th>
<th>CST</th>
<th>MEMS3000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Price per day</strong></td>
<td>$4</td>
<td>$3 - $2.50 - $4</td>
<td>$2.50-$4</td>
<td>$4 - $5</td>
<td>$5 - $8</td>
</tr>
<tr>
<td><strong>Testing Times</strong></td>
<td>Programmable and Random up to 24 times/day</td>
<td>Programmable and Random</td>
<td>Programmable and Random</td>
<td>Programmable</td>
<td>Programmable</td>
</tr>
<tr>
<td><strong>Download Data</strong></td>
<td>Real Time and GPS</td>
<td>Transport to Service Center 7-30 days</td>
<td>Real Time and GPS</td>
<td>Real Time and GPS</td>
<td>Via Phone - Daily</td>
</tr>
<tr>
<td><strong>Anti-Circumvention</strong></td>
<td>Target Tracking</td>
<td>Target Tracking</td>
<td>No</td>
<td>No</td>
<td>Facial Recognition</td>
</tr>
<tr>
<td><strong>Photo available</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>BAC Result</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Portable &amp; Discreet</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td><strong>Admissible in Court</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Breath vs. Transdermal

• Both acceptable & effective forms of alcohol consumption monitoring.
• Improvements and convergence of breath testing, camera, GPS, and anti-circumvention technology dramatically reduce the differences in effectiveness of the systems
## LifeSafer Breath HMU vs. SCRAMx Transdermal

<table>
<thead>
<tr>
<th></th>
<th>Breath</th>
<th>Transdermal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time to detect Low BAC .02%</strong></td>
<td>1/2 hr.</td>
<td>2-3 hrs.</td>
</tr>
<tr>
<td><strong>Sampling Times</strong></td>
<td>1-24 scheduled times per day</td>
<td>12-48 times per day</td>
</tr>
<tr>
<td><strong>Real Time Reporting Capable</strong></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Download of Data</strong></td>
<td>7-30 days at Svc. Ctr. or Real-Time</td>
<td>Daily provided user at Home</td>
</tr>
<tr>
<td><strong>Anti-tampering</strong></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Photo available</strong></td>
<td>Yes</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Portable</strong></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Admissible in Court</strong></td>
<td>Yes. Meets or exceed NHTSA</td>
<td>Yes. Case law. No standards</td>
</tr>
<tr>
<td><strong>Cost</strong></td>
<td>$3-$4 per day</td>
<td>$7-$12 per day</td>
</tr>
</tbody>
</table>
When To Use What Technology

- Recommend a mix of technology based on the offender’s needs and budgets

- General Recommendation
  - CAM for hardcore offenders
  - Breath for low to medium risk offenders or for staged approach i.e. pre or post CAM
  - Ignition Interlocks for everyone – LifeSafer Bias

- Prefer a graduated program based on performance to minimize costs and optimize the offender’s treatment
  - Move up or down the technology platform based on tangible results
Trends

• Integration of monitoring data into treatment programs
• Multi-level treatment & product mix
  – Intervention / enhanced supervision
  – Treatment
  – Aftercare/ support
• Customized solutions for the offender
Questions

Steve Lanning  
LifeSafer  
slanning@lifesafer.com  
816.554.7200