



"This is how we do it" Automated Drug Testing

Progressive and Efficient – How to build a better testing program

Jon Ridge, Chief Probation/Parole Officer
Washington County, Pennsylvania

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Washington County

- Where is Washington County?
- 20 miles south of Pittsburgh, Pennsylvania
- Population – approximately 210,000
- Crossroads of two major Interstate junctions 70 and 79
- Bordering the States (Ohio and West Virginia)
- About 4,000 offenders annually
- Urban transitioning to Suburban and Rural landscape
- Ground Zero for the opiate epidemic

"This is Us"



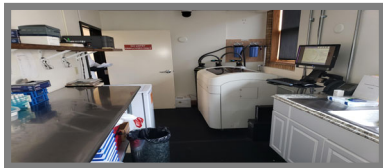
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Sequence of Drug Testing Within Washington County

- 1990's Collection → Bag → Mail (Large Laboratory)
Advantage: less manpower
Disadvantage: slow turnaround and expensive, little to no internal control
- 2000's Collection → Instant Device
Advantage: low cost
Disadvantage: hard to read, virtually no data collection, low reliability, poor quality control
- Now All Collection and Screening done in-house (On-Site Analyzer)
Advantage: low cost, superior data management, full control of processes, ability to test in large numbers, much more reliable testing, quick and easy turnaround, superior quality control
Disadvantage: requires lab buildout, requires staffing, requires training and certifications

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The Washington County Drug Testing Laboratory



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2019 Automated Drug Testing Results

- 15,119 Total Samples Run
 - 1. Cannabinoids (517 Positives)
 - 2. ETG (216 Positives)
 - 3. Cocaine (202 Positives)
 - 4. Fentanyl (152 Positives)
 - 5. Oxycodone (149 Positives)
 - 6. Opiates (148 Positives)
 - 7. Amphetamine (142 Positives)
 - 8. Benzodiazepines (93 Positives)
 - 9. Buprenorphine (84 Positives)
 - 10. Kratom (37 Positives)
- (449 Positives)

Washington County Tracking

Global Information Systems (GIS) roll out



What did the GIS show us?

- Verified the hot spots for drug usage within our County
- The information was empirical due to the results coming from the human body and then plotted on a map of verified addresses
- Allows stakeholders to quantify where treatment resources should be bolstered
- Allows law enforcement resources to concentrate efforts of surveillance
- Eliminates opinions and innuendo on where the drug problem may or may not be

How did on-site testing and data management assist us in streamlining collection and results

- Paracelsus* allows us to electronically group offenders into specific quadrants of testing matrixes
- Paracelsus removes any human error within randomized systems
- Call 2 Test saves time and effort allowing employees to concentrate on collections and testing
- On-site testing allows the agency to control turn around time and results notifications – we turn around results in less than 8 hours on average – we have run over 250 tests in one day
- Partnered with a local toxicology group allows us to receive any needed confirmations in less than one working day

*The Paracelsus® Software is a registered trademark of ACT Innovations

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Testing Volume and Ability to Run Sub-Agency Testing

- Our normal collection and testing monthly operates at approximately 1,900 per month
- Out of that 1,900 approximately 1,400 is our community correctional testing
- The remaining 500 tests are done by us for other governmental agencies, such as the jail, children and youth services, and other civil and court entities
- On-site testing capabilities has made us the central location for collections, testing, and organizing all aspects of urinalysis and oral fluid testing including confirmations
- We are now able to service almost identical to having a contracted outside laboratory for the County in-house. In addition to providing much more efficient service we have also have acquired all of the budgetary necessities in that function from the County
- Our cost per panel is approximately \$4.75 per sample (based on a formula of our standard panel + employee time) as compared to outside lab costs per panel at approximately \$10.00 per sample
- Our testing process is vastly quicker, with minimal cost, and is completely controlled by us internally

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Specialty Court Specific Functions

- Our drug testing program has exponentially improved our Specialty Court testing. It is inarguable that the volume of testing for this population is the highest per individual. Some highlights of the benefits are:
1. We are able to track Specialty Court populations (positives/negatives) much easier within this system, i.e. separating this population from our other criminal justice testing groups
 2. Our Specialty Court Judge relies on quick and reliable screening as a means of deciding sanctions, this paradigm provides that availability
 3. The Call 2 Test mechanism is a much more professional tool in regards to the offender, it presents the image of an agency that has their processes in-line
 4. Color coded grouping inherent within the Paracelsus allows for easy scheduling and multiple drug testing sub-sets
 5. It has prompted a robust interest in testing mechanisms and processes. I think our Specialty Court team members may be some of the most educated in regards to testing and the realities v. myths regarding drug testing. This is because they have the advantage of being familiar with the equipment, and the availability to be part of the quality control of our in-house processes

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COVID-19 and In-House Testing

Benefits:

1. Labs that have transitioned to COVID testing did not affect our ability to process samples
2. We can transition our analyzer over to oral fluid which provides a much safer sample collection process relative to COVID, i.e. we can collect outside, practice safe distance observed collections, have limited contact with the donor, and process the collection by touching nothing but the sample bag until it goes into the analyzer.

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Our Outside Oral Fluid Collection Team



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Thank You

To all that made our lab and process possible

- Thermo Fisher Scientific
- Med-Test
- SteelFusion Toxicology
- All of the dedicated employees of the Washington County Drug Testing Laboratory

Please feel free to contact me if you would like:

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“This is how we do it”

Implementing Automated Drug Testing Strategies for Better Outcomes

NADCP Hosted Webinar - Wednesday May 27, 2020

Presenter: Joel Carter BA LSW
Mount Vernon Municipal Court
Probation Officer / Program Coordinator

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Presentation Overview

- ▶ Our Drug Court Program - An Overview
- ▶ Challenges experienced within the Program
- ▶ Limitations of Dip Test for Drug Screening
- ▶ Considerations for Drug Testing Automation
- ▶ The “Fear” of Automated Drug Testing
- ▶ Program Improvements since using Automated Drug Testing
- ▶ Summary / Conclusions

Our Drug Court Program - An Overview

- ▶ Drug Court Program Established in 2016
 - ▶ Located in Knox County: ~60,000 residents
 - ▶ Low Income: ~\$20K/year
 - ▶ Select for offenders most at risk to re-offence
 - ▶ Usually have more than 60 days suspended
 - ▶ Judge was tired of reading about all of the overdoses in the county



Our Drug Court Program - An Overview

- ▶ Year 2016
 - ▶ 6 participants
 - ▶ 5 probation officers
 - ▶ Drug Testing Method: Manual Dip Test
 - ▶ Budget - \$5,000 for training, testing
 - ▶ Recidivism rate - 40%
- ▶ Today, 2019
 - ▶ 24 participants
 - ▶ 6 Probation officers
 - ▶ Drug Testing Method: Automated
 - ▶ \$25,000 per year, grant funded mostly
 - ▶ Recidivism rate - almost 0%



Goals of Probation

1

Rehabilitating the offender

- through an individualized program so that he or she may make a seamless transition back into the community

2

Protecting the community from habitual criminal offenders

- by supervising offenders and enforcing conditions of probation

3

Providing accurate and relevant information

- to the court, law enforcement officers and the judge
- so that the justice system remains effective.

Requirements of an Effective Drug Court Program

Drug Court Program is "treatment" focused

Treatment focus means you're trying to change the behavior and address the problem

Moral support and relationship building

Requires that Social worker, alcohol counselor, probation officer to develop relationships with each participant. Encourage participants to keep moving forward in their recovery

Accurate data and data tracking

AA meetings
Service contribution hours
Other
Drug test results: Timely, Accurate, Valid

Accurate Data and Data Tracking "Impossible task, it was all manual"



- ▶ Ledger Book
 - ▶ Participant name
 - ▶ Chain of Custody
 - ▶ Test results: entered as positive or negative
 - ▶ Hand tabulated & created drug testing reports
- ▶ Manual process did not lend itself to...
 - ▶ Participant trend reports
 - ▶ Easy Access to drug test results (not computer or internet based)
- ▶ Manual Dip Test method
 - ▶ Subjective interpretation of results: repeats
 - ▶ Limited other test options
 - ▶ No specimen validity tests



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Dip Test Identified the Problem, but Didn't Address It

- ▶ If you're reducing your drug usage, how can I find out?
- ▶ What other drugs might you be taking that are not offered in the panel?
- ▶ What if I only want to test for a few drugs in the panel, not the entire panel?
- ▶ The dip test can be subjective, is it really positive or negative?
- ▶ Has the specimen been tampered with?
- ▶ What drugs are trending in my region?

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From Dip to Automated:





Question	Feature	Dip Test	Automated Test
Positive or negative? False Positives?	Qualitative Testing	Subjective: may require repeat testing	Objective: minimal repeat testing
Reducing drug usage? Have you improved?	Semi-quantitative testing	No - Not available	Yes - compare with previous test results
Can I test for specific drugs?	Flexible testing menu	No - Limited to panels	Yes - individualized and randomized
Has the specimen been tampered with?	Specimen validity test e.g. creatinine	Not available???? Not easily integrated	Yes - select from a menu of 4 tests
What is the true result, when creatinine is factored?	Normalized reports: e.g. THC + creatinine	No-Not available	Yes - calculated automatically
How soon to test result, so I may share with participant?	Time to Result	~37 Minutes per panel (1, 6, 13)	~15 minutes, first test, ~1 minute for every test thereafter
What drugs are trending in this region?	Trend Reports: compare participant positives	No - all manual	Yes - calculated automatically

Confirmation Testing

- ▶ Necessary to confirm any presumptive screening test result from the Immunoassay
- ▶ Confirmation could help with proving a result that is challenged
- ▶ Gold Standard is GC-MS/MS, LC-MS/MS
- ▶ Provides specific identification of the parent/metabolite
- ▶ Provides quantitative measure of drug in the sample

Automation - is it Right for Me?



- ▶ I am not a lab rat!!
 - ▶ Myth - you have to be a chemistry grad to run the analyzer
- ▶ Busting the Myth
 - ▶ On-site training
 - ▶ Vendor performs validation upon install
 - ▶ Support team is dedicated to toxicology only
 - ▶ 24/7 phone support
- ▶ Its easier than you think (fear)
 - ▶ "Fear" is false evidence appearing real

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It's an Investment You Get What you Pay For



- ▶ **COST**
 - ▶ Initially, it will cost more than dip tests
- ▶ **TIME**
 - ▶ Getting set-up
 - ▶ Garnering internal support and funding
 - ▶ Learning the new method
 - ▶ Overcoming the "fear"
 - ▶ Changing the way we think
 - ▶ Using the data more effectively
 - ▶ Normalized reports (e.g. creatinine)
 - ▶ Drug trend reports
- ▶ **Quality**
 - ▶ Better data = Better Participant Outcomes

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Costs for Automation: Is it Right for Me?

- ▶ It costs how much???
- ▶ Price is based on testing volume
 - ▶ The more you do, the more cost-effective
 - ▶ Reagent rental option (no need to purchase analyzer, just cost/test)
- ▶ Drug Court Program Savings
 - ▶ Test more participants, with less
 - ▶ Less recidivism, lower drug court costs over all
 - ▶ More money from grant programs - Data supports grant submission
 - ▶ Pull in testing from other agencies
 - ▶ Cost Benefit: Greater financial impact to individuals and community



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Direct Drug Testing Costs vs Program Cost Savings

- ▶ Drug Courts save as much as \$27 for every \$1 invested with Reduced...
 - ▶ Re-arrests
 - ▶ Law enforcement contacts
 - ▶ Court hearings
 - ▶ Use of jail or prison beds
 - ▶ Foster care placement
 - ▶ Health care utilization

	Funding	Cost	Success
Traditional Criminal Justice System	\$60 billion ⁹ <i>National expenditures</i>	\$22,650 ¹⁰ <i>Average annual cost per prisoner</i>	30% <i>Success rate of drug abusers released from prison</i>
Drug Courts	\$306.8 million ¹¹ <i>Federal and state expenditures</i>	\$6,985 ¹¹ <i>Average annual cost per Drug Court participant</i>	75% <i>Success rate of Drug Court graduates</i>

Source: <https://www.nadca.org/wp-content/uploads/2018/03/NADCP-Brief.pdf>; CostBenefits NADCP-Brief 2018

Time Required Automation: Is it right for me?

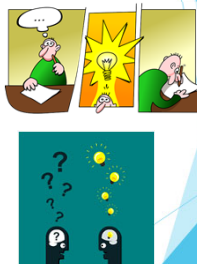
- ▶ I don't have the time to implement something new!
- ▶ Better to invest time to save time and resources in the long run...
- ▶ Consistent, methodical, legally defensible



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Making the Transition to Automation

- ▶ Changing the way we think
 - ▶ Its not an immediate result - dip and go
 - ▶ Quality over instant gratification
 - ▶ I'm getting all of this useful data out of it - takes a little time to understand and use
- ▶ Using the drug testing information
 - ▶ Normalized report (e.g. creatinine)
 - ▶ Participant drug trends over time
 - ▶ Assessing drugs trending in our community



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Creatinine VS THC Example of a "Normalized Report"

- ▶ Creatinine - indicates how accurate the test results are relative to how hydrated a participant is
 - ▶ hydrated (took lots of fluids before their test)
 - ▶ Dehydrated (more dehydrated than normal)
 - ▶ Common use is with THC, which can stay in the fat cells

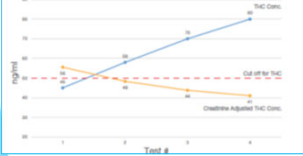
Source: Thermo Scientific™ Specimen Validity SmartKite, copyright 2018

Creatinine VS THC Example of a “Normalized Report”

Graph 1 - Red line is 50 ng/mL cutoff

- ▶ THC Concentrations: increasing over time (blue line)
- ▶ Normalized: THC (yellow line) below cutoff (red line)

Drug Test: Indicated they had used the drug
Normalized drug test: no new use of the drug

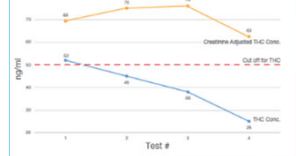


Source: Thermo Scientific™ Specimen Validity SmartNote, copyright 2018

Graph 2 - Red line is 50 ng/mL cutoff

- ▶ THC Concentrations: decreasing over time (blue line)
- ▶ Normalized: THC (yellow line) above cutoff (red line)

Drug Test: Indicated they had no new use of the drug
Normalized drug test: new use of the drug



Making the Transition to Automation

- ▶ The learning curve
 - ▶ Learning consistency
 - ▶ Patience - you'll get comfortable with it
 - ▶ Some officers take to it better than others
 - ▶ You need to focus on the benefits to keep moving forward
- ▶ “How did I ever live without it?”



Growing pains with implementation

Issue: Changing the way we think

Old vs New Ways of Thinking

Two groups of officers

Old Ways of Thinking - “I know this person is positive; so I will wait for the drug test report so I can file” and send them back to jail

Dip Test: Yes/No answers

New Ways of Thinking - Probation Officers that are also licensed as Social Workers

Use your results to your advantage!

If sobriety is self initiated, it is far more successful than if it is mandated



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Growing pains with implementation

Issue: as we brought automated system on online, started testing more people

20 dip tests/day vs 40 urine collections a day for automation

In the past, just let people come in whenever

Issue: Where do you store everything that comes with the analyzer?

Multiple reagents, calibrators and controls that need to be refrigerated

Resolution:

Purchase refrigerator

Insights with Automation

- ▶ Drug Trends
 - ▶ What drugs are we seeing with a participant?
 - ▶ What is the population using?
 - ▶ Are they opioid-pills, heroin, fentanyl, kratom?
- ▶ How did we live without this? If we still used dip test:
 - ▶ Efficacy of providing treatment would decrease
 - ▶ Accountability would decrease
 - ▶ Positive conversations with people to put belief back in them, would be eliminated

Test	Result
Amphetamine	Negative
Barbiturate	Negative
Benzodiazepine	Negative
Buprenorphine	Positive
Cannabinoid	Negative
Cocaine	Negative
Ethyl Alcohol	Negative
Metadone	Negative
Opiate	Negative
Oxycodone	Negative
Creatinine	Normal
Kratom	Negative

Time + Money = Quality It's Worth the Investment




Joel Carter with the Thermo Scientific® Indiko™ Plus Analyzer

- ▶ Reduced recidivism
 - ▶ (40% to ~0%)
- ▶ Enhanced grant opportunities
- ▶ Tested more with less
- ▶ What's next in our program?

Questions?

- ▶ Joel Carter BA LSW
- ▶ Mount Vernon Municipal Court
- ▶ Probation Officer / Program Coordinator
- ▶ jcarter@mountvernonohio.org



Automated drug testing


SUPPORTING BEST AND EVIDENCE-BASED PRACTICES

ANDREW CUMMINGS
EXECUTIVE DIRECTOR, ADVANCED OUTCOMES CONSULTING GROUP



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Accountability court practitioner objectives

- ▶ Decrease participant risk of re-arrest
- ▶ promote stabilization and recovery
 - ▶ Substance use and mental health disorders
- ▶ Improve family functioning and child safety
 - ▶ Decrease family services re-entry rates
- ▶ Enhance justice and treatment system resourcing
- ▶ *Change the world one person at a time*

The promise of accountability courts

- ▶ The drug court model can reduce re-arrest by 30 to 50% (Carey et al., 2012) when high quality program services match the needs of the target population (Marlowe et al., 2012; Zweig et al., 2012)
 - ▶ Accountability courts generally return better outcomes than baseline or normal-course community-based or correctional programming
- ▶ Obviously, drug testing is among the most important practices
 - ▶ Stopping drug abuse is foundational for effective treatment of anything
 - ▶ Detection is mission critical
 - ▶ Undetected drug abuse is a ticking time bomb leading to post-graduation recidivism, relapse, and re-entry for child services cases
 - ▶ Effective detection accompanied by sound behavioral modification improves outcomes - certainty and timeliness (Harrell & Roman, 2001)

The argument for Automated labs

- ▶ Level of detection (LOD) is generally lower for automated labs versus point of care (POC) testing
 - ▶ While not appropriate as a basis for sanctioning it can and should affect testing practices
- ▶ Flexibility is greater than POC as panels can be easily changed to keep-up with changing drug abuse patterns
- ▶ Data integrity is enhanced with automation as results are easily integrated into data management systems and formatted for analysis and policy discussion
- ▶ Subjectivity and human error is reduced through automation
- ▶ Automated systems help improve collection practices with notification and randomization tools

Best and evidence-based practices

- ▶ Automated labs **should** promote better outcomes
 - ✓ Set LOD and sensitivity to optimal levels
 - ✓ Increased sensitivity helps detect drug use and promote treatment effects **once the**
 - ✓ Expand testing beyond static panels
 - ✓ Decrease contested positives by increasing specificity and sensitivity **with confirmation**
 - ✓ Improves certainty and timeliness of court responses to substance abuse
 - ✓ Use lab data to drive policy discussion and enhance testing practices
 - ✓ Improve data integrity
 - ✓ Support monitoring for MAT practices

Thank You
