To Automate or Not to Automate

A Practitioner's Review of Point of Care (POC) Drug Testing and On-Site Automation.

Key factors and considerations to support decision making process to move to automation

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Automation

The adult drug court model reduces criminal recidivism when it adheres to evidence-based and best practices. Drug courts have the potential to break the repeated cycle of incarceration, save lives, and restore families at costs significantly less than traditional sentencing practices (National Drug Court Institute [NDCI], 2016; U.S. Government Accountability Office, 2011). As a result of drug courts' success, multiple problem-solving courts have emerged that apply similar operating components across a diverse set of priority areas, including child abuse and neglect, domestic violence, DUI's, juvenile delinquency, mental illness, re-entering offenders, and veterans' issues. Effective drug testing and monitoring is among those key program components for every problem-solving court (NDCI, 2016).

Drug courts are among the most studied criminal justice programs and the results are clear. The model can reduce recidivism (rearrests) by 30 to 50% (Carey et al., 2012; Lowenkamp et al., 2005) with the best outcomes achieved when high quality program services match the needs of the target population (Marlowe et al., 2012; National Association of Drug Court Professionals [NADCP], 2013 & 2015). To quote NADCP, "Drug Courts Work," but the best results come from sound evidence-based and best practices (Marlowe et al., 2012; Zweig et al., 2012). Drug testing is among the most vital practices and the way in which services are operated matters. Candidly, not all approaches are equal.

Currently, there are a few different options for how problem-solving court professionals can operate their drug testing services. The most common are Point-of-Care (POC) testing, such as instant cups and

Automation supports best practice

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(Harrell &Roman, 2001; Marlow& Kirby, 1999)

dipstick testing, or an in-house automated laboratory, which includes equipment such as an analyzer. While there are pros and cons to each approach, automation is the clear winner regarding accuracy, ease of use, and in many cases, cost.

Results Matter

Accurate drug tests drive better program outcomes. Automation adds significant improvements to most of the limitations inherent with POC testing. POC does not offer quantitative data to drive decision-making and often has cutoff levels that are too high for accurate drug use interpretation. The practitioner also loses the ability to adjust drug panels to the changing demands of your target population and accommodate new drugs of abuse. Automation delivers on all these factors: semi-quantitative results, lower-level cutoffs, tailored drug panels and error free reporting.

Automation allows for adjustable cutoff levels and semi-quantitative results that ensure the most accurate picture of drug use history. Problem-solving court programs that rely solely on POC testing for their drug tests are missing important information as many drugs are metabolized at a high rate and concentrations may fall below POC levels of detection. Alcohol, cocaine, methamphetamine and opioids all fall into this category. Lower cutoff levels and semi-quantitative results make all the difference as to what you can uncover from a very narrow detection window for most abused substances. While indication of sub-cutoff concentrations should not necessarily result in sanctions, they are certainly a basis for further investigation and increased monitoring. Your participants' success and program integrity are dependent, in part, on this information.

Problem-solving court programs can develop superior monitoring and compliance protocols with the ability to monitor semi-qualitative results, even those below the standard cutoff levels. A drug court coordinator who now uses a Thermo Fisher Scientific automated analyzer stated that before moving to automation: "Without the ability to monitor flags and analyze levels [with the semi-quantitative detection], participants would be graduating while using drugs the entire time. Programs that do not look at levels are missing the point of what our clients do. They manipulate." Another drug court coordinator from Georgia shared: "Without the automated lab, we would not be able to serve participants efficiently who abused alcohol. We would miss too much." Semi-quantitative results may further help programs with participants approved for Medication-Assisted Treatment (MAT), as drug levels can be tracked overtime to monitor compliance with prescription dosage. This is particularly important as MAT prescriptions such as Buprenorphine and Methadone are subject to abuse. In addition, automation enables practitioners to monitor THC/Creatinine ratios over time to help determine if a marijuana positive is the result of new use or because of residual drugs in the system. This is specifically relevant for new participants who have a history of chronic marijuana use.

THC can remain in their systems long after they have abstained, making abstinence monitoring difficult in these cases; the THC/creatinine ratio enables you to easily determine if use is recent or from prior use.

Automation indirectly supports effective behavior modification as certainty and timing are essential factors when administering incentives and sanctions (Harrell & Roman, 2001; Marlow & Kirby, 1999). Behavior modification, done well, is one of the accountability court practices that sets the model apart from conventional programming and helps deliver the 30 to 50% reduction in re-arrest rates. Automation delivers a superior level of detection for many drugs of abuse, which means missing fewer incidents of use. That promotes improved program responsiveness to participant behavior. Program administrators and judges can have confidence that those responses are grounded in reliable data which minimizes human error due to manual reporting and subjective interpretation of results. The same can't be achieved with POC.

Also, automation utilizes cutoffs that provide both information and insight, and allows for tailored drug panels that make the most sense given participant drug use histories; this gives practitioners high-confidence in the results, especially with the additional insights provided by semi-quantitative data. The presence of an on-site analyzer gives the interdisciplinary team the most accurate and timely information to make informed decisions in every participant's case.

Perceived vs. Real Ease of Use

Many problem-solving court professionals believe that POC tests offer the simplest and cheapest solution for their drug testing needs. In reality, these tests often coincide with a greater reliance on confirmation labs that are costly and time-consuming. In addition, subjectivity plays an uncomfortably large role in the interpretation of POC results. *It was only a faint line, so it must be negative, right?* Given that these results can have real impacts on participant liberties, this is a big concern.

Automation provides real ease of use and ease of mind. Greater confidence in the results means less reliance on confirmation testing. Many of those time-consuming drug testing steps are consolidated into the automated system's functionality. Chain-of-Custody (COC) forms, random screen assignment, flexible drug panels and other functions are all built into the analyzer's software capabilities. Thermo Fisher Scientific partners with ACT Innovations to provide a software package called Paracelsus, which is a cloud-based data management system. No need to worry about the test results being misinterpreted visually, as the analyzer very accurately interprets the results for you. The results are sent via automatic emails to designated team members who can view results in real time or simply log into the web portal.

Paracelsus is one of the most user-friendly and intuitive systems available; it offers significant utility including the ability to produce reports as well as invoices for those programs that decide to generate revenue by providing outside screening services.

No highly trained medical professionals or toxicologists are needed to operate an automated system. Most programs designate one or two members of their core interdisciplinary team to run the analyzer. A few days of training is all you need for better results in perpetuity. Shortly after your analyzer arrives, a Thermo Fisher Scientific representative will join you on-site to install the equipment and provide training on-site to those who will be responsible for daily operations. The training is provided at no cost to the consumer. Automation can be established within modest space requirements as the analyzers take up no more bench space than a couple of computers. When it comes to keeping it simple, Thermo Fisher Scientific has real solutions.

Cost Effective

Two words: revenue generator. For many programs, it pays to automate because they offer drug testing services to other programs or outside agencies. That revenue may fund or defray screening costs and support other evidence-based services. Regardless of whether you generate revenue from the lab or not, the cost per test is often at a lower cost-point than many POC tests, depending on program census and frequency of testing. For medium to large programs, it's often a no-brainer. While no problem-solving court has an unlimited budget, automated solutions can provide better testing and more flexibility within your current program budget.

The savings of moving to an automated lab may enable your program to do more within your existing budget and reinvest savings into evidence-based treatment and supervision practices. For example, an Ohio court that screens for multiple criminal justice programs yielded substantial savings per month by moving to an automated solution provided by Thermo Fisher Scientific. With the savings created they were able to reinvest into expanding the program to support the community.
Two additional full-time screeners were hired which allowed probation staff to do less specimen collection and more supervising of offenders toward better outcomes. It also allowed the court to enroll more offenders into diversion programs and saved additional money by cutting jail costs. In the words of the coordinator, “The previous approach cost more, was less effective, and cut face-to-face time with offenders.”

Typically, there are no upfront costs to get started as there are multiple options for purchase and billing, such as leasing or reagent rental based on the number of tests processed per month.

You can work with a Thermo Fisher Scientific representative about your automation options, compare costs with your current method and assess the value you receive with each option.

Drug testing is a critical program component for problem-solving courts. In fact, it is the very foundation of a successful program. If drug testing is not performed accurately, it weakens the effectiveness of every other evidence-based and best practice that your program provides, from the courtroom to your curricula. While POC may appear to be the cheaper option on the front end, there are hidden costs in lost information and flexibility that can affect outcomes. An automated lab can help safeguard your program, provide better results, save money and generate revenue in the process.

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