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VI. Drug and Alcohol Testing

Drug and alcohol testing provides an accurate, timely, and comprehensive assessment of unauthorized substance use throughout participants' enrollment in the Treatment Court.

A. Frequent Testing

Drug and alcohol testing is performed frequently enough to ensure substance use is detected quickly and reliably. Urine testing is performed at least twice per week until participants are in the last phase of the program and preparing for graduation. Tests that measure substance use over extended periods of time, such as ankle monitors, are applied for at least ninety consecutive days followed by urine or other intermittent testing methods. Tests that have short detection windows, such as breathalyzers or oral fluid tests, are administered when recent substance use is suspected or when substance use is more likely to occur, such as during weekends or holidays.

B. Random Testing

The schedule of drug and alcohol testing is random and unpredictable. The probability of being tested on weekends and holidays is the same as on other days. Participants are required to deliver a test specimen as soon as practicable after being notified that a test has been scheduled. Urine specimens are delivered no more than eight hours after being notified that a urine test has been scheduled. For tests with short detection windows, such as oral fluid tests, specimens are delivered no more than four hours after being notified that a test was scheduled.

C. Duration of Testing

Drug and alcohol testing continues uninterrupted to determine whether relapse occurs as other treatment and supervision services are adjusted.

D. Breadth of Testing

Test specimens are examined for all unauthorized substances of abuse that are suspected to be used by Treatment Court participants. Randomly selected specimens are tested periodically for a broader range of substances to detect new substances of abuse that might be emerging in the Treatment Court population.

E. Witnessed Collection

Collection of test specimens is witnessed directly by a staff person who has been trained to prevent tampering and substitution of fraudulent specimens. Barring exigent circumstances, participants are not permitted to undergo independent drug or alcohol testing in lieu of being tested by trained personnel assigned to or authorized by the Treatment Court.

F. Valid Specimens

Test specimens are examined routinely for evidence of dilution and adulteration.

G. Accurate and Reliable Testing Procedures

The Treatment Court uses scientifically valid and reliable testing procedures and establishes a chain of custody for each specimen. If a participant denies substance use in response to a positive screening test, a portion of the same specimen is subjected to confirmatory analysis using an instrumented test, such as gas chromatography/mass spectrometry (GC/MS) or liquid chromatography/mass spectrometry (LC/MS). Barring staff expertise in toxicology,

pharmacology, or a related discipline, drug or metabolite concentrations falling below industry- or manufacturer-recommended cutoff levels are not interpreted as evidence of new substance use or changes in participants' substance use patterns.

H. Rapid Results

Test results, including the results of confirmation testing, are available to the Treatment Court within forty-eight hours of sample collection.

I. Participant Contract

Upon entering the Treatment Court, participants receive a clear and comprehensive explanation of their rights and responsibilities related to drug and alcohol testing. This information is described in a participant contract or handbook and reviewed periodically with participants to ensure they remain cognizant of their obligations.

COMMENTARY

Certainty is one of the most influential factors for success in a behavior modification program (Harrell & Roman, 2001; Marlowe & Kirby, 1999). Outcomes improve significantly when detection of substance use is likely (Kilmer et al., 2012; Marques et al., 2014; Schuler et al., 2014), and participants receive incentives for abstinence and sanctions or treatment adjustments for positive test results (Hawken & Kleiman, 2009; Marlowe et al., 2005). Therefore, the success of any Drug Court will depend, in part, on the reliable monitoring of substance use. If a Drug Court does not have accurate and timely information about whether participants are maintaining abstinence from alcohol and other drugs, the team has no way to apply incentives or sanctions correctly or to adjust treatment and supervision services accordingly. Drug and alcohol testing also serves other important therapeutic aims, such as helping to confirm clinicians' diagnostic impressions, providing objective feedback to participants about their progress or lack thereof in treatment, and assisting clinicians to challenge and resolve participant denial about the severity of their problems (American Society of Addiction Medicine (ASAM), 2010, 2013; DuPont & Selavka, 2008; DuPont et al., 2014; Srebnik et al., 2014).

Participants cannot be relied upon to self-disclose substance use accurately (Hunt et al., 2015). Studies consistently find that between 25% and 75% of participants in substance use disorder treatment deny recent substance use when biological testing reveals a positive result (Auerbach, 2007; Harris et al., 2008; Hindin et al., 1994; Magura & Kang, 1997; Morral et al., 2000; Peters et al., 2015; Tassiopoulos et al., 2004). The accuracy of self-reporting is particularly low among individuals involved in the criminal justice system, presumably because they are likely to receive sanctions for substance use (Harrison, 1997; Peters et al., 2015). Although some clinicians may assume that the accuracy of self-report increases during the course of treatment, contrary evidence suggests participants may be less likely to acknowledge substance use after they have been enrolled in treatment for a period of time or have completed treatment (Wish et al., 1997). The longer participants are in treatment, the more staff come to expect and insist upon abstinence. For this reason, participants find it increasingly difficult to admit to substance use after they have been enrolled in treatment for several months (Davis et al., 2014; Nirenberg et al., 2013).

Best practices for conducting drug and alcohol testing vary considerably depending on whether a test is administered intermittently as opposed to continually, the length of the test's detection window, and the range of substances the test is capable of detecting. Some tests, such as urine or oral fluid tests, must be administered repeatedly, whereas others, such as sweat patches or ankle monitors, can measure substance use over extended periods of time. Most drug metabolites are detectable in urine for approximately two to four days, but are detectable in oral fluid for an average of twenty-four hours and in breath or blood for less than twelve hours (Auerbach, 2007; Cary, 2011; DuPont et al., 2014). Some tests, such as breathalyzers, can only assess for alcohol use, whereas urine tests can assess for a wide range of substances. These factors influence how the tests must be used to obtain useful results.

Urine testing is, by far, the most common methodology used in Drug Courts and probation programs. This is because urine is typically available in copious amounts, is relatively simple to collect, does not require elaborate sample preparation procedures, is inexpensive to analyze, and can be examined for many substances (Cary, 2011). Most studies, to date, have examined best practices for conducting urine testing with offenders; however, recent studies have

begun to examine other testing methods in Drug Courts, including sweat patches and ankle monitors.

A. Frequent Testing

The more frequently Drug Courts and probation programs perform urine drug testing, the better their outcomes in terms of higher graduation rates and lower drug use and criminal recidivism (Banks & Gottfredson, 2003; Gottfredson et al., 2007; Griffith et al., 2000; Harrell et al., 1998; Hawken & Kleiman, 2009; Kinlock et al., 2013; National Institute on Drug Abuse, 2006). In focus groups, Drug Court participants consistently identified frequent drug and alcohol testing as being among the most influential factors for success in the program (Gallagher et al., 2015; Goldkamp et al., 2002; Saum et al., 2002; Turner et al., 1999; Wolfer, 2006).

The most effective Drug Courts perform urine drug testing at least twice per week for the first several months of the program (Carey et al., 2008). In a multisite study of approximately seventy Drug Courts, programs performing urine testing at least twice per week in the first phase produced 38% greater reductions in crime and were 61% more cost-effective than programs performing urine testing less frequently (Carey et al., 2012). Because the metabolites of most drugs of abuse are detectable in urine for approximately two to four days, testing less frequently leaves an unacceptable time gap during which participants can abuse substances and evade detection, thus leading to significantly poorer outcomes (Stitzer & Kellogg, 2008).

Recent studies have examined the impact of other testing methods in Drug Courts. The Secure Continuous Remote Alcohol Monitor (SCRAM) is an ankle device that can detect alcohol in sweat and transmits a wireless signal to a remote monitoring station. Preliminary evidence suggests the use of a SCRAM may deter alcohol consumption and alcohol-impaired driving among recidivist driving-while-impaired (DWI) offenders if it is worn for at least ninety consecutive days (Flango & Cheesman, 2009; Tison et al., 2015). Another study found that adding sweat patches to urine testing did not improve outcomes in a Drug Court (Kleinpeter et al., 2010). However, that study did not examine the influence of sweat patches alone or as compared against urine testing. The study merely found that the addition of sweat patches did not improve outcomes beyond what was already being achieved from frequent urine drug testing.

Ethyl glucuronide (EtG) and ethyl sulfate (EtS) are metabolites of alcohol that can be detected in urine for longer periods of time than ethanol. The use of EtG or EtS can extend the time window for detecting alcohol consumption from several hours to several days (Cary, 2011). A recent randomized, controlled trial reported that participants completed the first two phases of a Drug Court significantly sooner when they were subjected to weekly EtG and EtS testing (Gibbs & Wakefield, 2014). The EtG and EtS testing enabled the Drug Court to respond more rapidly and reliably to instances of alcohol use, thus producing more efficient results. Importantly, EtG and EtS testing was determined in the same study to be superior to standard ethanol testing for detecting alcohol use occurring over weekends. Because some Drug Courts may not perform drug or alcohol testing on weekends, weekday tests capable of detecting weekend substance use are crucial.

As was noted previously, some drug or alcohol tests have short detection windows of twelve to twenty-four hours. This makes them generally unsuitable for use as the primary testing method in Drug Courts. Such tests can be used effectively, however, for spot-testing when recent use is suspected or during high-risk times, such as weekends or holidays. Evidence also suggests these tests can deter substance use effectively if they are administered on a daily basis. A statewide study in South Dakota found that daily breathalyzer testing significantly reduced failures to appear and rearrest rates among DWI offenders released on bail (Kilmer et al., 2012). In that study, daily breathalyzer testing appears to have been sufficient to deter alcohol consumption in the majority of cases without the need for additional services.

B. Random Testing

Drug and alcohol testing is most effective when performed on a random basis (ASAM, 2013; ASAM, 2010; Auerbach, 2007; Carver, 2004; Cary, 2011; Harrell & Kleiman, 2002; McIntire et al., 2007). If participants know in advance when they will be tested, they can adjust the timing of their usage or take other countermeasures, such as excessive fluid consumption, to defraud the tests (McIntire & Lessenger, 2007). Random drug testing elicits significantly higher percentages of positive tests than prescheduled testing, suggesting that many participants can evade detection if they have advance notice about when testing will occur (Harrison,1997).

Random testing means the odds of being tested are the same on any given day of the week, including weekends and holidays. For example, if a participant is scheduled to be drug tested two times per week, then the odds of

being tested should be two in seven (28%) on every day of the week. For this reason, Drug Courts should not schedule their testing regimens in seven-day or weekly blocks, which is a common practice. Assume, for example, that a participant is randomly selected for drug testing on Monday and Wednesday of a given week. If testing is scheduled in weekly blocks, then the odds of that same participant being selected again for testing on Thursday will be zero. In behavioral terms, this is referred to as a respite from detection, which can lead to increased drug or alcohol use owing to the absence of negative consequences (Marlowe & Wong,2008).

The odds of being tested for drugs and alcohol should be the same on weekends and holidays as on any other day of the week (Marlowe, 2012). Weekends and holidays are high-risk times for drug and alcohol use (Kirby et al., 1995; Marlatt & Gordon, 1985). Providing a respite from detection during high-risk times reduces the randomness of testing and undermines the central aims of a drug-testing program (ASAM, 2013).

Limiting the time delay between notification of an impending drug or alcohol test and collection of the test specimen is essential (ASAM, 2013). If participants can delay provision of a specimen for even a day or two, they can rely on natural elimination processes to reduce drug and metabolite concentrations below cutoff levels. For participants who live in close proximity to the testing facility and do not have confirmed scheduling conflicts, Drug Courts can reasonably expect samples to be delivered within a few hours of notification that a test has been scheduled (Cary, 2011). Barring exigent circumstances, participants should be required to deliver a urine specimen no more than eight hours after being notified that a urine test has been scheduled (Auerbach, 2007). This practice should give most participants ample time to meet their daily obligations and travel to the sample collection site, while also reducing the likelihood that metabolite concentrations will fall below cutoff levels. For tests with short detection windows of less than twenty-four hours, such as oral fluid tests, participants should be required to deliver a specimen no more than four hours after being notified that a test has been scheduled.

C. Duration of Testing

A basic tenet of behavior modification provides that the effects of any intervention should be assessed continually until all components of the intervention are completed (Rusch & Kazdin, 1981). This is the only way to know whether a participant is likely to relapse or regress after the program ends.

Drug Courts commonly decrease the intensity of treatment and supervision as participants make progress in the program. For example, the frequency of court hearings or case management sessions is commonly reduced as participants advance through successive phases. With a reduction of services comes the ever-present risk of relapse or other behavioral setback; therefore, drug and alcohol testing should continue uninterrupted to reveal any relapse as other components of the participants' treatment regimens are adjusted (Cary, 2011; Marlowe, 2011, 2012). Although research has not addressed the issue, logic dictates maintaining the frequency of drug and alcohol testing until participants are engaged in what will ultimately be their continuing-care or aftercare plan. This practice provides the greatest assurance that participants are likely to remain abstinent after program graduation.

D. Breadth of Testing

Drug Courts must test for the full range of substances that are likely to be used by participants in the program. Participants can easily evade detection of their substance use on many standard test panels—such as the National Institute on Drug Abuse five-panel test (NIDA-5) or a standard eight-panel test—simply by switching to other drugs of abuse that have similar psychoactive effects but are not detected by the test (ASAM, 2013). For example, heroin users can avoid detection by many standard test panels if they switch to pharmaceutical opioids, such as oxycodone or buprenorphine (Wish et al., 2012). Similarly, marijuana users can avoid detection by using synthetic cannabinoids, such as K2 or Spice, which were developed for the specific purpose of avoiding detection (Cary, 2014; Castaneto et al., 2014). Studies confirm that some marijuana users do switch to synthetic cannabinoids to evade detection by drug tests and then return to marijuana use after the testing regimen has been discontinued (Perrone et al., 2013). Because new substances of abuse are constantly being sought out by offenders to cheat drug tests, Drug Courts should select test specimens randomly and frequently and examine them for a wide range of potential drugs of abuse that might be emerging in their population (ASAM, 2013).

E. Witnessed Collection

Drug Court participants and probationers acknowledge engaging in widespread efforts to defraud drug and alcohol tests. These efforts include, but are not limited to, consuming excessive water to dilute the sample

(dilution), adulterating the sample with chemicals intended to mask a positive result (adulteration), and substituting another person's urine or a look-alike sample that is not urine, such as apple juice (substitution) (Cary, 2011; McIntire & Lessenger, 2007). Collectively, these efforts are referred to as tampering. In focus groups, Drug Court participants reported being aware of several individuals in their program who tampered with drug tests on more than one occasion without being detected by staff (Goldkamp et al., 2002).

The most effective way to avoid tampering is to ensure that sample collection is witnessed directly by a trained and experienced staff person (ASAM, 2013; Cary, 2011). If substitution or adulteration is suspected, a new sample should be collected immediately under closely monitored conditions (McIntire et al., 2007). Staff members should be trained in how to implement countermeasures to avoid tampered test specimens. Examples of such countermeasures include searching participants' clothing for chemical adulterants or fraudulent samples, requiring participants to leave outerwear outside of the test-collection room, and putting colored dye in the sink and toilet to prevent water from being used to dilute test specimens (McIntire & Lessenger, 2007).

If substitution or other efforts at tampering are suspected for a urine specimen, it may be useful to obtain an oral fluid specimen immediately as a secondary measure of substance use. Generally speaking, observing the collection of oral fluid closely is easier than for the collection of urine, and oral fluid tests are less susceptible to dilution than urine tests (Heltsley et al., 2012; Sample et al., 2010). However, because oral fluid testing has a shorter detection window than urine testing, a negative oral fluid test would not necessarily rule out recent drug use or the possibility of a tampered urine test.

Because specialized training is required to minimize tampering of test specimens, under most circumstances participants should be precluded from undergoing drug and alcohol testing by independent sources. In exigent circumstances, such as when participants live a long distance from the test collection site, the Drug Court might designate independent professionals or laboratories to perform drug and alcohol testing. Asa condition of approval, these professionals should be required to complete formal training on the proper collection, handling, and analyses of drug and alcohol test samples among Drug Court participants or comparable criminal justice populations. Drug Courts are also required to follow generally accepted chain- of-custody procedures when handling test specimens (ASAM, 2013; Cary, 2011; Meyer, 2011). Therefore, if independent professionals or laboratories perform drug and alcohol testing, they must be trained carefully to follow proper chain-of-custody procedures.

F. Valid Specimens

Several low-cost analyses can be performed to detect adulterated or diluted test specimens (McIntire et al., 2007). The temperature of each urine specimen should be examined immediately upon collection to ensure it is consistent with an expected human body temperature. An unusual temperature might suggest the sample cooled down because it was collected at an earlier point in time, or was mixed with water that was too cold or too hot to be consistent with body temperature. Under normal conditions, urine specimens should be between 900 and 1000 F within four minutes of collection, and a lower or higher temperature likely indicates a deliberate effort at deception (ASAM, 2013; Tsai et al., 1998).

Urine specimens should also be tested for creatinine and specific gravity. Creatinine is a metabolic product of muscle contraction that is excreted in urine at a relatively constant rate. A creatinine level below 20 mg/dL is rare and is a reliable indicator of an intentional effort at dilution or excessive fluid consumption barring unusual medical or metabolic conditions (ASAM, 2013; Cary, 2011; Jones & Karlsson, 2005; Katz et al., 2007). Specific gravity reflects the amount of solid substances that are dissolved in urine. The greater the specific gravity, the more concentrated the urine; and the lower the specific gravity, the closer its consistency to water. The normal range of specific gravity for urine is 1.003 to 1.030, and a specific gravity of 1.000 is essentially water. Some experts believe a specific gravity below 1.003 reflects a diluted sample (Katz et al., 2007). Although this analysis, by itself, may not be sufficient to prove excessive fluid consumption, dilution is likely to have occurred if the specific gravity is low and accompanies other evidence of tampering or invalidity, such as a low creatinine level or temperature. Several commercially available test strips, such as Adultacheck and Intect, have also been shown to reliably detect dilution or adulteration of urine test samples (Dasgupta et al., 2004; Mikkelsen & Ash,1988).

G. Accurate and Reliable Testing Procedures

To be admissible as evidence in a legal proceeding, drug and alcohol test results must be derived from scientifically valid and reliable methods (Meyer, 2011). Appellate courts have recognized the scientific

validity of several commonly used methods for analyzing urine, including gas chromatography/mass spectrometry (GC/MS), liquid chromatography/tandem mass spectrometry (LC/MS/MS), the enzyme multiple immunoassay technique (EMIT), and some sweat, oral fluid, hair, and ankle-monitor tests (Meyer, 2011).

Tests such as GC/MS and LC/MS/MS are referred to as instrumented tests, laboratory-based tests, or confirmation tests. These tests have a higher degree of scientific precision than immunoassay tests, point of collection tests (POCT), or screening tests, such as on-site test cups or instant test strips. If a participant denies substance use in the face of a positive screening test, courts will typically require, and toxicology experts recommend performing confirmation testing using GC/MS or a similar instrumented technique (ASAM, 2013; Cary, 2011). Confirmation with an instrumented test virtually eliminates the odds of a false- positive result, assuming the sample was collected and stored properly (Auerbach, 2007; Peat, 1988). Drug Courts commonly require participants to pay the cost of confirmation tests if the initial screening result is confirmed (Cary, 2011; Meyer, 2011). Confirmation testing should be performed on a portion of the original test specimen. If confirmation testing is performed on a different specimen that was collected at a later point in time, a conflicting result might not reflect a failure to confirm but rather differences in the detection windows for the tests or the metabolic processes of the participant.

Drug Courts must follow generally accepted chain-of-custody procedures when handling test specimens (ASAM, 2013; Cary, 2011; Meyer, 2011). They need to establish a reliable paper trail identifying each professional who handled the specimen from collection through laboratory analysis to reporting of the results. Establishing a proper chain of custody requires sufficient labeling and security measures to provide confidence that the specimen belongs to the individual identified on the record and the specimen was transported and stored according to generally accepted laboratory procedures and manufacturer recommendations.

Some Drug Courts interpret changes in quantitative levels of drug metabolites as evidence that new substance use has occurred or a participant's substance use pattern has changed. Unless a Drug Court has access to an expert trained in toxicology, pharmacology, or a related discipline, such practices should be avoided. Quantitative metabolite levels can vary considerably based on a number of factors, including the total fluid content in urine or blood (Cary, 2004; Schwilke et al., 2010). Moderate changes in participants' fluid intake or fluid retention could lead Drug Courts to miscalculate substance use patterns. Most drug and alcohol tests used in Drug Courts were designed to be qualitative, meaning they were designed to determine whether a drug or drug metabolite is present at levels above a prespecified concentration level. The cutoff concentration level is calculated empirically to maximize the true-positive rate, true-negative rate, or classification rate. When Drug Courts engage in quantitative analyses, they are effectively altering the cut-off score and making the results less accurate.

Some Drug Courts have difficulty interpreting positive cannabinoid (marijuana) test results. Because cannabinoids are lipid-soluble (i.e., bind to fat molecules), they may be excreted more slowly than other substances of abuse. This has caused confusion about when a positive cannabinoid result may be interpreted as evidence of new use as opposed to residual use from an earlier episode. A participant is highly unlikely to produce a cannabinoid-positive urine result above 50 ng/mL after more than ten days following cessation of chronic usage or for more than three to four days following a single-use event (Cary, 2005). Therefore, a Drug Court would be justified in considering the first two weeks of enrollment to be a grace period during which there would be no sanctions for positive cannabinoid test results. However, subsequent positive tests may be interpreted as evidence of new cannabis use and dealt with accordingly. Moreover, once a participant has produced two consecutive cannabinoid-negative urine specimens (called an abstinence baseline), a subsequent cannabinoid-positive test may be interpreted as new use (Cary, 2005). Some Drug Courts or laboratories may employ a lower cutoff level of 20 ng/mL for cannabis metabolites. Using this lower cutoff, thirty days is sufficient to establish a presumptive abstinence baseline even for chronic users (Cary, 2005); in the majority of cases, twenty-one days should be sufficient.

Some participants may attempt to attribute a positive cannabinoid test to passive inhalation or second-hand smoke. This excuse should not be credited. The likelihood of passive inhalation triggering a positive cannabinoid test is negligible (Cone et al., 2014; Law et al., 1984; Katz et al., 2007; Niedbala et al., 2005). Moreover, because Drug Court participants are usually prohibited from associating with people who are engaged in substance use, passive inhalation may be viewed as a violation of this central prohibition, thus meriting an additional sanction (Marlowe, 2011).

H. Rapid Results

In addition to certainty, timing is one of the most influential factors for success in a behavior modification program (Harrell & Roman, 2001; Marlowe & Kirby, 1999). The sooner sanctions are delivered after an infraction and incentives delivered after an achievement, the better the results. Because sanctions and incentives are imposed routinely on the basis of drug and alcohol test results, the Drug Court team needs test results before participants appear for status hearings.

A study of approximately seventy Drug Courts reported significantly greater reductions in criminal recidivism and significantly greater cost benefits when the teams received drug and alcohol test results within forty-eight hours of sample collection (Carey et al., 2012). Drug Courts that received test results within forty-eight hours were 73% more effective at reducing crime and 68% more cost-effective than Drug Courts receiving test results after longer delays. Ordinarily, negative test results should take no longer than one business day to produce, and positive results should require no more than two days if confirmation testing is requested (Cary, 2011; Robinson & Jones, 2000).

I. Participant Contract

Outcomes are significantly better when Drug Courts specify their policies and procedures clearly in a participant manual or handbook (Carey et al., 2012). Criminal defendants are significantly more likely to react favorably to an adverse judgment if they were given advance notice about how such judgments would be made (Burke & Leben, 2007; Frazer, 2006; Tyler, 2007). Drug Courts can enhance participants' perceptions of fairness substantially and reduce avoidable delays from contested drug and alcohol tests by describing their testing procedures and requirements in a participant contract or handbook.

Below are examples of provisions that should be included in a participant contract to address many of the best practices discussed above. For participants with limited educational histories, the language may need to be simplified and the requirements explained orally. Repeat the information periodically to ensure participants understand their rights and obligations.

- Drug and alcohol testing will be performed frequently and on a random basis throughout your enrollment in the Drug Court.
- Drug and alcohol testing will be performed on weekends and holidays.
- Drug and alcohol testing will be performed by a laboratory or program approved by the Drug Court.
- Because cannabinoids (a byproduct of marijuana) may persist in the body for several days, marijuana users have a two-week grace period following enrollment during which no sanctions will be given for positive cannabinoid test results. However, after two weeks positive cannabinoid tests will be presumed to reflect new marijuana use. Participants bear the burden of establishing a convincing alternative explanation for such results. After you have had two consecutive cannabinoid-negative urine specimens, the Drug Court will presume that subsequent positive cannabinoid results reflect new use.
- You must arrive at the testing facility as soon as possible after being notified that a test has been scheduled. You will be sanctioned for an unexcused failure to arrive within eight hours of being notified that a urine test has been scheduled or within four hours for tests that have short detection windows, such as breath or oral fluid tests.
- A staff person will directly observe the collection of test specimens. The staff person will be the same gender as you unless you, your defense attorney or your therapist request otherwise.
- Failure to provide a test specimen or providing an insufficient volume of fluid for analysis is an infraction of the rules of the program and will be sanctioned accordingly. You will be given a sufficient time (up to one hour) to deliver a urine specimen and allowed to drink up to one cup of water in the presence of staff.
- You may not drink any fluid excessively before testing and must avoid environmental contaminants, over-the-counter medications, or foods that can reduce the accuracy of the tests. Potential contaminants that you need to avoid are [provide list of contaminants].
- You may be subjected to immediate spot testing if the Drug Court has reason to suspect recent use or during high-risk times such as weekends or holidays.
- You have the right to challenge the results of a screening test and to request proof that an adequate chain of custody was established for your specimen. The Drug Court will rely on the results of an instrumented or laboratory-based test in confirming whether substance use has occurred. You may be charged the cost of the confirmation test if a screening test is confirmed.

- You will be sanctioned for providing diluted, adulterated, or substituted test specimens. Urine specimens below 90○ F, above 100○ F, or that have a creatinine level below 20 mg/dL will be presumed to be diluted or fraudulent. Participants bear the burden of establishing a convincing alternative explanation for such results. Under such circumstances, you may receive two sanctions, one for the substance use and one for the effort at deception.
- You will be sanctioned for using synthetic substances such as K2 or Spice that are designed to avoid detection by standard drug tests. Switching to a new substance of abuse (for example, switching from heroin to an unauthorized prescription opioid) will be presumed to be an effort to defraud the drug test. You may receive two sanctions in such circumstances, one for the substance use and one for the effort at deception.
- You will be sanctioned for associating with other people who are engaged in substance use or for exposing yourself to passive inhalation or secondhand smoke.

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VII. Multidisciplinary Team

A dedicated multidisciplinary team of professionals manages the day-to-day operations of the Treatment Court, including reviewing participant progress during pre-court staff meetings and status hearings, contributing observations and recommendations within team members' respective areas of expertise, and delivering or overseeing the delivery of legal, treatment and supervision services.

A. Team Composition

The Treatment Court team comprises representatives from all partner agencies involved in the creation of the program, including but not limited to a judge or judicial officer, program coordinator, prosecutor, defense counsel representative, treatment representative, community supervision officer, and law enforcement officer.

B. Pre-Court Staff Meetings

Team members consistently attend pre-court staff meetings to review participant progress, determine appropriate actions to improve outcomes, and prepare for status hearings in court. Pre-court staff meetings are presumptively closed to participants and the public unless the court has a good reason for a participant to attend discussions related to that participant's case.

C. Sharing Information

Team members share information as necessary to appraise participants' progress in treatment and compliance with the conditions of the Treatment Court. Partner agencies execute memoranda of understanding (MOUs) specifying what information will be shared among team members. Participants provide voluntary and informed consent permitting team members to share specified data elements relating to participants' progress in treatment and compliance with program requirements. Defense attorneys make it clear to participants and other team members whether they will share communications from participants with the Treatment Court team.

D. Team Communication and Decision Making

Team members contribute relevant insights, observations, and recommendations based on their professional knowledge, training, and experience. The judge considers the perspectives of all team members before making decisions that affect participants' welfare or liberty interests and explains the rationale for such decisions to team members and participants [see Standard II, Roles and Responsibilities of the Judge].

E. Status Hearings

Team members attend status hearings on a consistent basis. During the status hearings, team members contribute relevant information or recommendations when requested by the judge or as necessary to improve outcomes or protect participants' legal interests.

F. Team Training

Before starting a Treatment Court, team members attend a formal pre-implementation training to learn from expert faculty about best practices in Treatment Courts and develop fair and effective policies and procedures for the program. Subsequently, team members
attend continuing education workshops on at least an annual basis to gain up-to-date knowledge about best practices on topics including substance use disorder and mental health

treatment, complementary treatment and social services, behavior modification, community supervision, drug and alcohol testing, team decision making, and constitutional and legal issues in Treatment Courts. New staff hires receive a formal orientation training on the Treatment Court model and best practices in Treatment Courts as soon as practicable after assuming their position and attend annual continuing education workshops thereafter.

COMMENTARY

The Drug Court team is a multidisciplinary group of professionals responsible for administering the day-to-day operations of a Drug Court, including reviewing participant progress during pre-court staff meetings and status hearings, contributing observations and recommendations within team members' respective areas of expertise, and delivering or overseeing the delivery of legal, treatment, and supervision services (Hardin & Fox, 2011). Some Drug Courts may have additional governing bodies such as Steering Committees that are not involved in the daily operations of the program, but provide oversight on policies and procedures, negotiate MOUs between partner agencies, garner political and community support for the Drug Court, or engage in fundraising. Researchers have examined the influence of the multidisciplinary Drug Court team on participant outcomes but have not addressed the influence of other governing bodies.

A. Team Composition

Studies reveal the composition of the Drug Court team has a substantial influence on outcomes. Drug Courts produce significantly greater reductions in criminal recidivism and are significantly more cost- effective when the following professionals are dedicated members of the Drug Court team and participate regularly in pre-court staff meetings and status hearings (Carey et al., 2008, 2012; Cissner et al., 2013; Rossman etal., 2011; Shaffer, 2010):

- *Judge*—Typically a trial court judge leads the Drug Court team; however, in some jurisdictions a nonjudicial officer such as a magistrate or commissioner may preside over the Drug Court. Nonjudicial officers usually report directly to a judge and require judicial authorization for actions that affect participants' liberty interests such as jail sanctions or discharge from the program. No study has compared outcomes between judges and nonjudicial officers.
- *Program Coordinator*—Typically a court administrator or clerk serves as the coordinator for the Drug Court program; however, some Drug Courts may employ a senior probation officer, case manager, or clinician as the coordinator. Among many other duties, the coordinator is responsible for maintaining accurate and timely records and documentation for the program, overseeing fiscal and contractual obligations, facilitating communication between team members and partner agencies, ensuring policies and procedures are followed, overseeing collection of performance and outcome data, scheduling court sessions and staff meetings, and orienting new hires.
- *Prosecutor*—Typically an assistant district attorney serves on the team. Among other duties, the prosecutor advocates on behalf of public safety, victim interests, and holding participants accountable for meeting their obligations in the program. The prosecutor may also help to resolve other pending legal cases that impact participants' legal status or eligibility for Drug Court.
- *Defense Attorney*—Typically an assistant public defender or private defense attorney specializing in Drug Court cases serves on the team. Among other duties, the defense attorney ensures participants' constitutional rights are protected and advocates for participants' stated legal interests. Defendants are usually represented by a public defender or private defense attorney in proceedings leading up to their entry into Drug Court. After entry, participants may retain their previous defense counsel, provide informed consent to be represented by a defense representative serving on the Drug Court team, or consent to be represented jointly by private defense counsel and the defense representative. In cases of joint representation, the defense representative typically handles most day-to-day issues relating to Drug Court participation, but private counsel may step in if the participant faces a potential jail sanction or discharge from the program (Freeman-Wilson et al., 2003; Tobin, 2012).

  In postconviction Drug Courts, participation in the program is a condition of probation or part of a criminal sentence. Ordinarily, participants are not entitled to defense representation at the postconviction stage unless they face a potential jail sanction or revocation of probation (Meyer,

2011a). Nevertheless, postconviction Drug Courts should include a defense representative on their team because studies indicate defense involvement improves outcomes significantly (Carey et al., 2012; Cissner et al., 2013; National Association of Drug Court Professionals [NADCP], 2009). Evidence suggests participants may be more likely to perceive Drug Court procedures as fair when a dedicated defense attorney represents their interests in team meetings and status hearings (Frazer, 2006), and greater perceptions of fairness are consistently associated with better outcomes in Drug Courts and other problem-solving courts (Berman & Gold, 2012; Burke, 2010; Gottfredson et al., 2007; Rossman et al., 2011).

Some Drug Courts require participants to waive defense representation as a condition of entry. Although no case has addressed this issue squarely in the context of Drug Court, the weight of legal authority suggests defendants and probationers are entitled to withdraw such waivers and reassert their right to counsel at critical stages in the proceedings such as when they face a potential jail sanction or probation revocation (McKaskle v. Wiggins, 1984; Menefield v. Borg, 1989; Robinson v. Ignacio, 2004; State v. Pitts, 2014). Regardless of the legality of such waivers, defense representation should be encouraged rather than discouraged in Drug Courts because doing so is associated with significantly better outcomes and ensures participants' due process rights are protected (Hora & Stalcup, 2008; NADCP, 2009).

- *Community Supervision Officer*—Typically a probation officer or pretrial services officer serves on the team; however, some Drug Courts may rely on law enforcement or specially trained case managers or social service professionals to provide community supervision. Duties of the community supervision officer may include performing drug and alcohol testing, conducting home or employment visits, enforcing curfews and travel restrictions, and delivering cognitive-behavioral interventions designed to improve participants' problem-solving skills and alter dysfunctional criminal-thinking patterns (Harberts, 2011).

- *Treatment Representative*—Typically an addiction counselor, social worker, psychologist, or clinical case manager serves on the team. In many Drug Courts, participants can be referred to multiple treatment agencies or providers for substance use disorder treatment and other complementary services such as mental health counseling or vocational rehabilitation. Because it is unwieldy to have multiple providers attend pre-court staff meetings and status hearings, many Drug Courts will designate one or two treatment professionals to serve as treatment representatives on the Drug Court team (Carey et al., 2012). The treatment representatives receive clinical information from programs treating Drug Court participants, report that information to the Drug Court team, and contribute clinical knowledge and expertise during team deliberations.

- *Law Enforcement Officer*—Typically a police officer, deputy sheriff, highway patrol officer, or jail official serves on the team. Law enforcement is often the eyes and ears of Drug Court on the street, observing participant behavior and interacting with participants in the community. Law enforcement may also assist with home and employment visits, and serves as a liaison between the Drug Court and the police department, sheriff's office, jail, and correctional system.

Drug Courts may include other community representatives on their team as well, such as peer mentors, vocational advisors, or sponsors from the self-help recovery community. Studies have not examined the impact of including such persons on the Drug Court team; however, anecdotal reports suggest this practice can enhance team decision making and effectiveness (Taylor, 2014). As a condition of federal grant funding and funding from many states, Drug Courts may also be required to include an evaluator on their team beginning in the planning stages for the program and continuing during implementation. This practice helps to ensure Drug Courts collect reliable performance data to report to grant-making authorities and is generally advisable for all Drug Courts to ensure good-quality program monitoring and evaluation [see Standard IX, Monitoring and Evaluation]. Finally, Drug Courts may be advised to include a nurse or physician on their team if they treat substantial numbers of participants requiring medication-assisted treatment or suffering from co-occurring medical or mental health disorders.

B. Pre-Court Staff Meetings

The Drug Court model requires Drug Courts to hold pre-court staff meetings—commonly referred to as staffings or case reviews—to review participant progress, develop a plan to improve outcomes, and prepare

for status hearings in court (Hardin & Fox, 2011; NADCP, 1997; Roper & Lessenger, 2007). Not every participant is discussed in every meeting; however, staffings are held frequently enough (typically weekly or at the same frequency as status hearings) to ensure the team has an opportunity to consider the needs of each case.

Consistent attendance by all team members at staffings is associated with significantly better outcomes (Carey et al., 2012; Cissner et al., 2013; Rossman et al., 2011; Shaffer, 2010). A multisite study of approximately seventy Drug Courts found that programs were 50% more effective at reducing recidivism when all team members—the judge, prosecutor, defense representative, program coordinator, treatment representative, law-enforcement representative, and community supervision officer—attended staffings on a consistent basis (Carey et al., 2008, 2012). Drug Courts were nearly twice as cost-effective when defense counsel attended staffings consistently, and were more than twice as effective at reducing recidivism when the program coordinator, treatment representative, and law enforcement representative attended staffings consistently (Carey et al., 2012).

In most Drug Courts, staffings are presumptively closed. Discussions are not transcribed or recorded and the meeting is not open to the public or to participants unless the court has a good reason to allow a participant to attend discussions related to his or her case. Few appellate opinions have addressed the constitutionality or legality of closing staffings. In a recent opinion, the Washington State Supreme Court— which traditionally holds a very dim view of off-the-record proceedings—ruled that staffings may be presumptively closed at the discretion of the Drug Court judge (State of Washington v. Sykes, 2014). The Court analogized staffings to pre-court conferences in which attorneys commonly meet with the judge in chambers to clarify what legal issues are under contention, determine which facts are in dispute, and address other practical or collateral matters necessary to achieve a fair and efficient resolution of the case, such as scheduling witnesses or issuing discovery orders. In line with this reasoning, staffings may be closed so long as no final decisions are reached concerning disputed facts or legal issues in the case, and the judge recites in open court what decisions, if any, were made during the staffing. A closed staffing may not result in a binding order or factual conclusion related to a contested matter (Meyer, 2011a). Contested matters must be addressed and resolved in open court during status hearings or related due process hearings such as termination hearings or probation violation hearings.

Studies have not determined whether closed staffings produce more favorable outcomes than open staffings. The rationale for closing staffings derives largely from empirical studies and ethical analyses conducted in the context of psychotherapy progress notes and case conferences. For example, the Health Insurance Portability and Accountability Act (HIPAA) of 1996 grants broad access for patients to their health records, yet provides a lone exception for psychotherapy progress notes (45 C.F.R §§ 164.508(a)(2) & 164.524; U.S. Dept. of Health & Human Services [U.S. DHHS], 2003; Wooten v. Duane Reade, 2009). Psychotherapy notes receive heightened protection against patient access, in part, because they often contain sensitive information provided by collateral sources, such as family members and friends (U.S. DHHS, 2003). If participants could gain access to this information, collateral sources might not be forthright in providing sensitive information about matters which are critical for delivering effective treatment, such as providing accurate histories of participants' substance use patterns, criminality, or related conduct (Stasiewicz et al., 2008). Studies have also reported that patients can be harmed psychologically by receiving unfettered access to their therapists' diagnostic impressions and conclusions (Lajeunesse & Lussier, 2010; Ross & Lin, 2003; Sergeant, 1986; Short, 1986; Westin, 1977). Sensitive clinical information must be communicated to patients in a cautious, empathic, and understandable manner to avoid causing psychological distress, embarrassment, confusion, or other untoward reactions (McFarlane et al., 1980; Miller et al., 1987).

Participant attendance at staffings might also inhibit free flow of information among staff, which is necessary to achieve productive aims. Treatment representatives, for example, may be reluctant to discuss their concerns about a participant's prognosis in front of the participant. Probation officers might similarly be reticent to recommend sanctions for participants in response to infractions. It is one thing for sanctions to be imposed by the team as a whole, but quite another for an individual staff member to be identified as the person who first proposed the sanction. Closed staffings allow team members to freely consider alternative courses of action that may or may not be adopted ultimately by the team.

Although staffings are presumptively closed, the judge and team may conclude they have a good reason for a participant to attend discussions related to that participant's case. For example, the team might wish to discuss highly sensitive matters with a participant in private, such as a history of childhood sexual abuse or positive

HIV test result. Drug Courts are encouraged to include participants in staffings when clinically indicated or necessary to protect a participant from serious harm resulting from public disclosure of highly sensitive treatment information.

C. Sharing Information

Participants and staff rate communication among team members as one of the most important factors for success in Drug Courts (Frazer, 2006; Gallagher et al., 2015; Lloyd et al., 2014). Participants complain frequently that they are forced to repeat the same information to different professionals and to comply with excessive and inconsistent mandates stemming from different agencies (Goldkamp et al., 2002; Saum et al., 2002; Turner et al., 1999). Ongoing communication among staff ensures participants receive consistent messages, reduces unwarranted burdens on participants, and prevents participants from falling through the cracks or eluding responsibility for their actions by providing different information selectively to different team members.

Contrary to some misconceptions, the HIPAA and other applicable confidentiality statutes (e.g., Confidentiality of Substance Abuse Patient Records, 42 C.F.R. Part 2) do not prohibit treatment professionals or criminal justice professionals from sharing information related to substance use and mental health treatment (Matz, 2014; Meyer, 2011b). Rather, these statutes control how and under what circumstances such information may be disclosed (U.S. DHHS, 2003). Treatment professionals are generally permitted to share confidential treatment information with criminal justice professionals pursuant to a voluntary, informed, and competent waiver of a patient's confidentiality and privacy rights (45 C.F.R.§164.502(a)) or pursuant to a court order (45 C.F.R. §164.512(e)).

The scope of the disclosure must be limited to the minimum information necessary to achieve the intended aims of the disclosure (45 C.F.R. §§164.502(b) & 164.514(d)). In Drug Courts, team members may ordinarily share information pursuant to a valid waiver to the degree necessary to ensure that participants are progressing adequately in treatment and complying with other conditions of the program (Meyer, 2011b). At a minimum, the following data elements are required by all Drug Court team members to appraise participant progress and compliance or noncompliance with the conditions of Drug Court:

- Assessment results pertaining to a participant's eligibility for Drug Court and treatment and supervision needs
- Attendance at scheduled appointments
- Drug and alcohol test results, including efforts to defraud or invalidate said tests
- Attainment of treatment plan goals, such as completion of a required counseling regimen
- Evidence of symptom resolution, such as reductions in drug cravings or withdrawal symptoms
- Evidence of treatment-related attitudinal improvements, such as increased insight or motivation for change
- Attainment of Drug Court phase requirements, such as obtaining and maintaining employment or enrolling in an educational program
- Compliance with electronic monitoring, home curfews, travel limitations, and geographic or association restrictions
- Adherence to legally prescribed and authorized medically assisted treatments
- Procurement of unauthorized prescriptions for addictive or intoxicating medications
- Commission of or arrests for new offenses
- Menacing, threatening, or disruptive behavior directed at staff members, participants or other persons

To be legally valid, an informed consent document must specify what data elements may be shared, with whom, and for what authorized period of time (Meyer, 2011b). Therefore, the above data elements and any other information that may be shared among team members should be listed in releases of information or confidentiality waivers executed by Drug Court participants (Meyer, 2011b). If the scope of the disclosure is not enumerated clearly, then the waiver may not be knowing or informed—and thus may be legally invalid. Consent documents must also indicate which professionals are authorized to receive the information, what steps participants must take to revoke consent, and when the consent expires. Expiration of consent maybe predicated upon a specific event, such as discharge from Drug Court, as opposed to a specific date or time frame (Meyer, 2011b). Finally, recipients of confidential information must be put on notice that they are only permitted to redisclose information to additional parties under carefully specified and approved conditions. MOUs between partner agencies—referred to as business associate contracts pursuant to HIPAA—must state

clearly that confidential information may not be redisclosed to additional parties outside of the Drug Court without the express written permission of the participant and may not be used to prosecute new charges against the participant.

Assuming a participant has executed a valid waiver of his or her privacy and confidentiality rights, Drug Court team members are permitted, and indeed may be required, to share covered information in the course of performing their professional duties. Confidentiality and privacy rights belong to the participant, not to staff, and may be waived freely and voluntarily in exchange for receiving anticipated benefits, such as gaining access to effective treatment or avoiding a criminal record or jail sentence (Melton et al., 2007).
Failing to abide by a valid confidentiality waiver could, under some circumstances, be a breach of a staff person's professional responsibilities to the participant.

Staff persons also have ethical obligations to other Drug Court team members. If a staff person knowingly withholds relevant information about a participant from other team members, this omission could inadvertently interfere with the participant's treatment goals, endanger public safety, or undermine the functioning of the Drug Court team. All agencies involved in the administration of a Drug Court should, therefore, execute MOUs specifying what data elements will be shared among team members (Harden & Fox, 2011). The data elements listed above might be included in such MOUs to clarify the obligations of each professional on the team. If a staff person questions the validity or legality of a consent waiver, that staff person should raise this concern with the Drug Court team and make it clear that he or she may withhold relevant progress information until the matter is resolved. This course of action puts the Drug Court team on notice that important information may not be forthcoming and reduces the likelihood that mistaken actions will be taken based on erroneous or incomplete information.

Controversy surrounds the question of whether defense representatives should report infractions by participants to the Drug Court team. In most instances, infractions come to the attention of the team from sources other than defense counsel, such as positive drug tests or progress reports from treatment providers or probation officers. In some instances, however, participants may self-disclose infractions to defense representatives which would otherwise go undetected by the program.

Some defense experts advise against disclosing such communications because doing so may violate the attorney's ethical duty to advocate for the participant's stated legal interests, which are to be distinguished from the participant's best interests (Boldt, 1998; National Association of Criminal Defense Lawyers [NACDL], 2009). Other defense experts take the contrary position that withholding such information may undermine the defense representative's trustworthiness and credibility with the team. If team members know or suspect that defense counsel is shielding important information from them, they may discount recommendations from that defense expert as one-sided or nonobjective or may withhold information of their own (Tobin, 2012). In the absence of empirical evidence or legal precedent to guide the decision, defense representatives should make clear their position and the rationale for that position to participants and team members from the outset of each case (Freeman-Wilson et al., 2003). Participants have a right to know whether some confidences shared with defense representatives may be disclosed to other staff members, and team members have a right to know whether some information may not be available to them for decision making.

D. Team Communication and Decision Making

Before the advent of Drug Courts, studies of courtroom workgroups raised concerns about relying on multidisciplinary teams to manage criminal and civil cases. In response to overwhelming court dockets in the 1980s, some jurisdictions appointed teams of professionals—commonly including a judge, defense attorney, prosecutor, court clerk, probation officer, and bailiff—to process certain types of cases more efficiently, such as drug possession cases and child maltreatment cases. Observational studies revealed these workgroups tended to routinize their procedures to speed case processing, often at the expense of applying evidence- based practices or adapting dispositions to the needs and risk levels of litigants (Haynes et al., 2010; Knepper & Barton, 1997; Lipetz, 1980). Teaming up as a group did not necessarily improve outcomes and in some cases may have undermined litigants' due process rights. Drug Courts must not, in the interest of expediency, allow assembly-line procedures or groupthink mindsets to interfere with their adherence to due process and best practices.

Drug Courts are properly characterized as nonadversarial programs, meaning participants waive some, but not all, adversarial trial rights as a condition of entry, including the right to a speedy trial and to refuse to provide

self-incriminating information (Hora & Stalcup, 2008; NADCP, 1997). Moreover, unlike traditional adversarial proceedings, the Drug Court judge speaks directly to participants rather than through legal counsel and takes an active role in supervising cases. The term nonadversarial does not, however, imply that team members relinquish their professional roles or responsibilities (Holland, 2010; Hora & Stalcup, 2008). Prosecutors continue to advocate on behalf of public safety, victim interests, and participant accountability; defense counsel continue to advocate for participants' legal rights; and treatment providers continue to advocate for effective and humane treatment (Freeman- Wilson et al., 2003; Holland, 2010; Tobin, 2012). In other words, the term nonadversarial does not have the same meaning as nonadvocacy. The principal distinction in Drug Courts is that advocacy occurs primarily in staffings as opposed to court hearings, reserving the greater share of court time for intervening with participants rather than arbitrating uncontested facts or legal issues (Christie, 2014; Portillo et al., 2013).

How Drug Court teams make decisions in this nonadversarial climate has constitutional implications. Due process and judicial ethics require Drug Court judges to exercise independent discretion when resolving factual controversies, ordering conditions of treatment and supervision, and administering sanctions and incentives that affect participants' liberty interests (Hora & Stalcup, 2008; Meyer, 2011c; Meyer & Tauber, 2011). The judge may not delegate these decisions to the Drug Court team or acquiesce to majority rule [see Standard II, Roles and Responsibilities of the Judge]. The judge must, however, consider arguments from all sides of a controversy (typically from the defense and prosecution) before rendering a decision and must hear evidence from scientific experts if the subject matter of the controversy is beyond the common knowledge of laypersons (Hora & Stalcup, 2008; Meyer, 2011a). Information relating to addiction science and substance use disorder treatment is typically beyond the knowledge of laypersons; therefore, this information must usually be introduced or explained by a qualified expert (e.g., Federal Rule of Evidence 702, 2015).

In Drug Courts, the multidisciplinary team serves essentially as a panel of "expert witnesses" providing legal and scientific expertise for the judge (Bean, 2002; Hora & Stalcup, 2008). Team members have an obligation to contribute relevant observations and insights and to offer suitable recommendations based on their professional knowledge, experience, and training. A team member who remains silent in staffings or defers habitually to group consensus is violating his or her professional obligations to participants and to the administration of justice (Freeman-Wilson et al., 2003; Holland, 2010; NACDL, 2009; Tobin, 2012). The judge may ultimately overrule a team member's assertions, but this fact does not absolve the team member from articulating and justifying an informed opinion.

Studies have identified effective communication strategies that can enhance team decision making in Drug Courts. For example, researchers have improved team decision-making skills in several Drug Courts using the NIATx (Network for the Improvement of Addiction Treatment) Organizational Improvement Model (Melnick et al., 2014a, 2014b; Wexler et al., 2012). The NIATx model seeks to create a climate of psychological safety by teaching team members to articulate divergent views in a manner that is likely to be heeded by fellow team members. Examples of NIATx techniques include the following (Melnick et al., 2014b):

- *Avoid Ego-Centered Communications*—Focus statements on the substantive issue at hand rather than attempting to be "right" or win an argument.
- *Avoid Downward Communication*—Ensure that all team members, regardless of status or authority, have an equal opportunity to speak.
- *Practice Attentive Listening*—Hear all aspects of a team member's statements before thinking about or forming a response.
- *Reinforce Others' Statements*—Express appreciation for a team member's input before making counterarguments or changing the subject.
- *Find Common Ground*—Acknowledge areas of agreement among team members before making counterarguments.
- *Reframe Statements Neutrally*—Restate a position in a manner that minimizes counterproductive affect such as anger or frustration.
- *Ensure Inclusiveness*—Ensure that all team members weigh in on subjects within their area of expertise or experience.
- *Show Understanding*—Restate others' positions to demonstrate accurate understanding.
- *Engage in Empathic Listening*—Imagine oneself in other team members' positions to understand issues from their perspective.
- *Sum Up*—The judge should recap the various arguments and positions, assure the team that all

positions were considered carefully, and explain his or her rationale for reaching a conclusion or tabling the matter pending further information.

Preliminary studies in more than ten Drug Courts found that training Drug Court teams on the NIATx model enhanced team communication skills (Melnick et al., 2014b), increased staff job satisfaction (Melnick et al., 2014a), and improved program efficiency, leading to higher admission rates, shorter wait times for treatment, and reduced no-show rates at scheduled appointments (Wexler et al., 2012).

E. Status Hearings

Status hearings are critical components of Drug Courts (NADCP, 1997). In status hearings, participants interact with all team members in the same proceeding, the judge speaks personally with each participant, and incentives, sanctions and treatment adjustments are administered in accordance with participants' progress or lack thereof in treatment (Roper & Lessenger, 2007). A substantial body of research establishes convincingly that better outcomes are achieved when status hearings are held biweekly (every two weeks) or more frequently at least during the first phase of Drug Court (Carey et al., 2012; Cissner et al., 2013; Festinger et al., 2002; Jones, 2013; Marlowe et al., 2006, 2007; Mitchell et al., 2012; Rossman et al., 2011).

Studies further reveal that consistent attendance by all team members at status hearings is associated with significantly better outcomes. A study of approximately seventy Drug Courts found that programs were 35% more cost-effective and 35% more effective at reducing crime when all team members—the judge, program coordinator, defense representative, prosecutor, probation officer, treatment representative, and law enforcement representative—attended status hearings regularly (Carey et al., 2012). When a treatment representative attended status hearings regularly, Drug Courts were nearly twice as effective at reducing crime and 80% more cost-effective, and when a representative from law enforcement attended hearings regularly, Drug Courts were over 80% more effective at reducing crime and 60% more cost-effective (Carey et al., 2008, 2012).

Although the judge typically controls most of the interactions during status hearings, observational studies reveal that other team members play an important role as well. Team members may report on participant progress, share their observations of participants, fill in missing information for the judge, offer praise and encouragement to participants, challenge inaccurate statements by participants, or make recommendations for suitable consequences to impose (Baker, 2013; Christie, 2014; Mackinem & Higgins, 2008; McPherson & Sauder, 2013; Portillo et al., 2013; Roper & Lessenger, 2007). Colloquially referred to as courtroom as theater, these interactions are often planned in advance during staffings to illustrate treatment-relevant concepts, prevent participants from fomenting disagreement among staff members, and demonstrate unity of purpose for the team as a whole (Satel, 1998; Tauber, 2011). In focus groups, participants rated interactions among staff during court sessions as informative and helpful to improving their performance (Goldkamp et al., 2002).

F. Team Training

Drug Courts represent a fundamentally new way of treating persons charged with drug-related offenses (Roper & Lessenger, 2007). Specialized knowledge and skills are required to implement these multifaceted programs effectively (Carey et al., 2012; Shaffer, 2010; Van Wormer, 2010). To be successful in their new roles, staff members require at least a journeyman's knowledge of best practices in a wide range of areas, including substance use disorder and mental health treatment, complementary treatment and social services, behavior modification, community supervision, and drug and alcohol testing. Staff must also learn to perform their duties in a multidisciplinary environment, consistent with constitutional due process and the ethical mandates of their respective professions. These skills and knowledge sets are not taught in traditional law school, graduate school, or most continuing education programs (Berman & Feinblatt, 2005; Holland, 2010). Ongoing specialized training and supervision are needed for staff to achieve the goals of Drug Court and conduct themselves in an ethical, professional, and effective manner.

Preimplementation Trainings—In preimplementation trainings, staff meet for several days as a team to, among other things, develop a mission statement and goals and objectives for their program, learn from expert faculty about best practices in Drug Courts, and develop effective policies and procedures to govern their day-to-day operations (Hardin & Fox, 2011). A multisite study found that Drug Courts were nearly two and a half times more cost-effective and over 50% more effective at reducing recidivism when the teams participated in formal training prior to implementation (Carey et al., 2008, 2012). Drug Courts that did not receive preimplementation training produced outcomes that were negligibly different from traditional criminal justice

approaches (Carey et al., 2008).

Continuing Education Workshops—Continuing education workshops are commonly delivered as part of national, regional, or state Drug Court training conferences or in stand-alone seminars. These workshops provide experienced Drug Court professionals with up-to-date knowledge about new research findings on best practices in Drug Courts. Studies consistently find that annual attendance by staff at training workshops is associated with significantly better outcomes. A multisite study involving more than sixty Drug Courts found that annual attendance at training conferences was the greatest predictor of program effectiveness (Shaffer, 2006, 2010). Another large-scale study found that regular participation in continuing education workshops was the greatest predictor of a program's adherence to the Drug Court model (Van Wormer, 2010). After taking continuing education into account, no other variable was independently or incrementally associated with adherence to the Drug Court model. This finding suggests that adherence to best practices may be mediated primarily through staff participation in continuing education workshops. The same study determined that regular attendance in continuing education workshops was also associated with better collaboration among Drug Court team members, increased job satisfaction by staff, greater perceived benefits of Drug Court, greater optimism about the effects of substance use disorder treatment, and better perceived coordination between the criminal justice system and other social service and treatment systems (Van Wormer, 2010).

Tutorials for New Staff—Within five years, 30% to 60% of Drug Courts experience substantial turnover in key staff positions (Van Wormer, 2010). The highest turnover rates, commonly exceeding 50%, are among substance use disorder and mental health treatment providers (Lutze & Van Wormer, 2007; McLellan et al., 2003; Taxman & Bouffard, 2003; Van Wormer, 2010). Evidence further reveals that staff turnover correlates significantly with downward drift in the quality of the services provided, meaning that services diverge increasingly from the Drug Court model as more staff positions turn over (Van Wormer, 2010).

Research has determined that Drug Courts are more effective when they provide introductory tutorials for new hires. A multisite study of approximately seventy Drug Courts found that programs were over 50% more effective at reducing recidivism when they routinely provided formal orientation training for new staff (Carey et al., 2012). Typically, the tutorials provide a "Reader's Digest" orientation to the Ten Key Components of Drug Courts (NADCP, 1997) and a synopsis of best practices associated with each component. The tutorials are not intended to take the place of formal continuing education workshops, but serve rather as a stopgap measure to prevent acute disruption in services and degradation of outcomes. To maintain effective outcomes over time, recent hires should attend formal training workshops as soon as practicable after assuming their new positions. Given the powerful influence of staff training on Drug Court outcomes (Carey et al., 2012; Shaffer, 2006, 2010; Van Wormer, 2010), a firm commitment to ongoing professional education is key to maintaining the success and integrity of Drug Courts.

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VIII. Census and Caseloads

The Treatment Court serves as many eligible individuals as practicable while maintaining continuous fidelity to best practice standards.

A. Treatment Court Census

The Treatment Court does not impose arbitrary restrictions on the number of participants it serves. The Treatment Court census is predicated on local need, obtainable resources, and the program's ability to apply best practices. When the census reaches 125 active participants, program operations are monitored carefully to ensure they remain consistent with best practice standards. If evidence suggests some operations are drifting away from best practices, the team develops a remedial action plan and timetable to rectify the deficiencies and evaluates the success of the remedial actions.

B. Supervision Caseloads

Caseloads for probation officers or other professionals responsible for community supervision of participants must permit sufficient opportunities to monitor participant performance, apply effective behavioral consequences, and report pertinent compliance information during pre-court staff meetings and status hearings. When supervision caseloads exceed thirty active participants per supervision officer, program operations are monitored carefully to ensure supervision officers can evaluate participant performance accurately, share significant observations with team members, and complete other supervisory duties as assigned. Supervision caseloads do not exceed fifty active participants per supervision officer.

C. Clinician Caseloads

Caseloads for clinicians must permit sufficient opportunities to assess participant needs and deliver adequate and effective dosages of substance use disorder treatment and indicated complementary services. Program operations are monitored carefully to ensure adequate services are delivered when caseloads exceed the following thresholds:

- 50 active participants for clinicians providing clinical case management
- 40 active participants for clinicians providing individual therapy or counseling
- 30 active participants for clinicians providing both clinical case management and individual therapy or counseling

COMMENTARY

A. Drug Court Census

Drug Courts serve fewer than 10% of adults in the criminal justice system in need of their services (Bhati et al., 2008; Huddleston & Marlowe, 2011). An important goal for the Drug Court field is to take Drug Courts to scale and serve every drug-addicted person in the criminal justice system who meets evidence-based eligibility criteria for the programs (Fox & Berman, 2002). Putting arbitrary restrictions on the size of the Drug Court census unnecessarily reduces the program's impact on public health and public safety.

Not all Drug Courts, however, may have adequate resources to increase capacity while maintaining fidelity to best practices. Surveys of judges and other criminal justice professionals consistently identify insufficient personnel and other resources as the principal barrier preventing Drug Courts from expanding to serve more people (Center for Court Innovation, n.d.; Farole, 2006, 2009; Farole et al., 2005; Huddleston & Marlowe, 2011). Resource limitations may put some Drug Courts in the challenging position of needing to choose between diluting their services to treat more people or turning away deserving individuals.

Evidence suggests expanding Drug Court capacity without sufficient resources can interfere with adherence to best practices. A multisite study of approximately seventy Drug Courts found a significant inverse correlation between the size of the Drug Court census and effects on criminal recidivism (Carey et al., 2008, 2012a). On average, programs evidenced a steep decline in effectiveness when the census exceeded approximately 125 participants. Drug Courts with fewer than 125 participants were over five times more effective at reducing recidivism than Drug Courts with more than 125 participants (Carey et al., 2012a).

Further analyses uncovered a likely explanation for this finding: Drug Courts with more than 125 participants were less likely to follow best practices than Drug Courts with fewer participants. Specifically, when the census exceeded 125 participants, the following was observed (Carey et al., 2012b):

- Judges spent approximately half as much time interacting with participants in court.
- Team members were less likely to attend pre-court staff meetings.
- Treatment and law enforcement representatives were less likely to attend status hearings.
- Drug and alcohol testing occurred less frequently.
- Treatment agencies were less likely to communicate with the court about participant performance via email or other electronic means.
- Participants were treated by a large number of treatment agencies with divergent practices and expectations.
- Team members were less likely to receive training on Drug Court best practices.

These findings are merely correlations and do not prove that a large census produces poor outcomes. Most Drug Courts in the study were staffed by a single judge and a small team of roughly four to five other professionals overseeing a single court docket. Drug Courts can serve far more than 125 participants with effective results if the programs have sufficient personnel and resources to accommodate larger numbers of individuals. In fact, studies have reported positive outcomes for well-resourced Drug Courts serving more than 400 participants (Carey et al., 2012a; Cissner et al., 2013; Marlowe et al., 2008; Shaffer, 2010).

Nevertheless, the above results raise a red flag that as the census increases, Drug Courts may have greater difficulty delivering the quantity and quality of services required to achieve effective results. Therefore, when the Drug Court census reaches 125 active participants, this milestone should trigger a careful reexamination of the program's adherence to best practices. For example, staff should monitor Drug Court operations to ensure the judge is spending at least three minutes interacting with each participant in court [see Standard II, Roles and Responsibilities of the Judge], drug and alcohol testing is being performed randomly at least twice per week [see Standard VI, Drug and Alcohol Testing], team members are attending pre- court staff meetings and status hearings on a consistent basis [see Standard II and Standard VII, Multidisciplinary Team], and team members are receiving up-to-date training on best practices [see Standards II and VII]. If the results of this reexamination suggest some operations are drifting away from best practices, the team should develop a remedial action plan and timetable to rectify the deficiencies and evaluate the success of the remedial actions. For example, the Drug Court might need to hire additional staff to ensure it has manageable participant-to-staff caseloads, schedule status hearings on more days of the week, purchase more drug and alcohol tests, or schedule more continuing-education workshops for staff.

Studies have not determined whether censuses greater than 125 participants should trigger additional reexaminations of adherence to best practices. Until research addresses this question, at a minimum Drug Courts are advised to reexamine adherence to best practices when the census increases by successive increments of 125 participants.

B. Supervision Caseloads

In most Drug Courts, probation officers or pretrial services officers are responsible for supervising participants in the community; however, some Drug Courts may rely on law enforcement or specially trained court case managers to provide community supervision. Duties of the supervision officer may include performing drug and alcohol testing, conducting home and employment visits, enforcing curfews and geographic restrictions, and delivering cognitive-behavioral interventions designed to improve participants' problem-solving skills or alter dysfunctional criminal-thinking patterns (Harberts, 2011).

No study has examined the influence of supervision caseloads in Drug Courts. However, many studies have examined supervision caseloads in the context of adult probation. Early studies found that small probation

caseloads were paradoxically associated with increased rates of technical violations and arrests for new offenses (Gendreau et al., 2000a; Petersilia, 1999; Turner et al., 1992). This counterintuitive finding was attributable to increased surveillance of the probationers coupled with a failure to apply evidence-based practices. Smaller caseloads led to greater detection of infractions, but most infractions received excessively punitive responses, such as probation revocations, rather than evidence-based treatment or gradually escalating incentives and sanctions (Andrews et al., 1990; Gendreau et al., 2000b; Hollin, 1999).

Recent studies have reported improved outcomes when reduced probation caseloads were combined with evidence-based cognitive-behavioral counseling, motivational interviewing, or gradually escalating incentives and sanctions (Jalbert & Rhodes, 2012; Jalbert et al., 2010, 2011; Paparozzi & Gendreau, 2005; Pearson & Harper, 1990; Worrall et al., 2004). Results of these newer studies confirm that detecting infractions alone is insufficient to improve outcomes. To achieve positive results, probation officers must respond to infractions and achievements by delivering effective behavioral contingencies (incentives and sanctions) and ensuring probationers receive effective and adequate evidence-based treatment and social services (Center for Effective Public Policy, 2014; Paparozzi & Hinzman, 2005; Skeem & Manchak, 2008).

Identifying optimal probation caseloads has been a challenging task. In 1990, the American Probation and Parole Association (APPA, 1991) issued caseload guidelines derived from expert consensus. The 1990 guidelines recommended caseloads of 30:1 for high-risk probationers who have a substantial likelihood of failing on probation or committing a new offense (Table 2). In 2006, the APPA guidelines were amended, in part, to add a new category for intensive supervised probation (ISP). ISP was designed for probationers who are both high risk and high need, meaning they pose a substantial risk of failing on probation and also have serious treatment or social-service needs (Petersilia, 1999). Because ISP and Drug Courts are both intended for high-risk and high-need individuals, recommendations for ISP may be particularly instructive for Drug Court best practices. Based on expert consensus, the 2006 APPA amendments recommended caseloads of 20:1 for high-risk and high-need probationers on ISP, and increased the recommended caseloads to 50:1 for moderate- and high-risk probationers who do not have serious treatment or social- service needs (Byrne, 2012; DeMichele, 2007).

Table 2. APPA* Recommended Caseloads.

Probationer Risk and Need Level	1990 Guidelines	2006 Guidelines
ISP†: high risk and high need	NR§	20:1
High risk	30:1	50:1
Moderate risk	60:1	50:1
Low risk	120:1	200:1

*American Probation and Parole Association
†Intensive supervised probation
§Not reported

Sources: APPA (1991); Byrne (2012); DeMichele (2007)

Recent studies examined the effects of adhering to the 2006 APPA guidelines. A randomized experiment compared the services received and outcomes achieved when probation officers had reduced caseloads of approximately 50:1 for moderate and high-risk probationers as compared to typical probation caseloads of approximately 100:1 (Jalbert & Rhodes, 2012). Results confirmed that probationers on 50:1 caseloads received significantly more probation office sessions, field visits, employer contacts, telephone check-ins, and substance use disorder and mental health treatment (Jalbert & Rhodes, 2012). As a consequence of receiving more services, they also had significantly better probation outcomes, including fewer positive drug tests and other technical violations (Jalbert & Rhodes, 2012). Probation officers with caseloads substantially above 50:1 had considerable difficulty accomplishing their core missions of monitoring probationers closely and reducing technical violations.

Another quasi-experimental study examined the effects of reducing caseloads from 50:1 to 30:1 for high- risk and high-need probationers on ISP (Jalbert et al., 2010). A 30:1 caseload is greater than the APPA recommended guideline of 20:1 for ISP, but is considerably smaller than typical probation caseloads of 100:1 (Bonta et al., 2008; Paparozzi & Hinzman, 2005) and recommended caseloads of 50:1 for most high- risk probationers (Byrne, 2012). Results confirmed that probationers on 30:1 caseloads had more frequent and longer contacts with their probation officers, and received more specialized services designed to reduce their

risk to public safety, including behavior therapy, domestic-violence counseling, spousal-batterer interventions, and sex-offender treatment (Jalbert et al., 2010). Most striking, probationers on 30:1 caseloads had significantly lower recidivism rates lasting for at least two and a half years, including fewer new arrests for drug, property, and violent crimes (Jalbert et al., 2010).

Taken together, the weight of scientific evidence (Jalbert & Rhodes, 2012; Jalbert et al., 2011) and expert consensus (APPA, 1991; Byrne, 2012; DeMichele, 2007) suggests supervision officers are unlikely to manage high-risk cases effectively and reduce technical violations when their caseloads exceed 50:1.
Supervision officers in Drug Courts are unlikely to accomplish their core functions of monitoring participants accurately, applying effective behavioral consequences, and sharing important compliance information with Drug Court team members if their caseloads exceed this critical threshold.

Research in ISP programs suggests long-term reductions in criminal recidivism are most likely to be achieved for high-risk and high-need participants when caseloads stay at or below 30:1 (Jalbert et al., 2010). Whether 30:1 caseloads are required similarly for Drug Courts is an open question. Drug Courts include several components not encompassed by ISP, which may enhance the influence of supervision officers. For example, Drug Court participants are supervised and treated by a multidisciplinary team of professionals and attend status hearings in court on a frequent basis. Larger caseloads may be manageable for supervision officers in light of these additional service elements. Until research resolves the issue, Drug Courts are advised to monitor their operations carefully when caseloads for supervision officers exceed 30:1; caseloads should never exceed a 50:1 ratio. Assurance is needed that supervision officers can monitor participant performance effectively, contribute critical observations and information during pre-court staff meetings and status hearings, and complete other assigned duties such as performing drug and alcohol testing, conducting field visits, and delivering cognitive-behavioral criminal-thinking interventions.

Bear in mind these caseload guidelines assume the supervision officer is assigned principally to Drug Court and is not burdened substantially with other professional obligations. Smaller caseloads may be required if supervision officers are also managing caseloads outside of Drug Court or if they have supplementary administrative or managerial duties in addition to supervising Drug Court participants.

C. Clinician Caseloads

In Drug Courts, addiction counselors, social workers, psychologists, or clinical case managers are typically responsible for assessing participant needs, delivering or overseeing the delivery of treatment services, charting treatment progress, and reporting progress information to the Drug Court team (Lutze & Van Wormer, 2007; Shaffer, 2010; Van Wormer, 2010). Outcomes are significantly better in Drug Courts when participants meet individually with one of these clinicians on a weekly basis for at least the first phase of the program [see Standard IV, Substance Use Disorder Treatment and Standard V, Complementary Treatment and Social Services].

National studies of outpatient individual substance use disorder treatment consistently find that the size of clinician caseloads is inversely correlated with patient outcomes and clinician job performance (Hser et al., 2001; McCaughrin & Price, 1992; Stewart et al., 2004; Vocisano et al., 2004; Woodward et al., 2006). As caseloads increase, patients receive fewer services, patients are more likely to abuse illicit substances, clinicians are more likely to behave punitively toward patients, and clinicians are more likely to report significant job burnout and dissatisfaction (King et al., 2004; Stewart et al., 2004). Comparable studies are lacking for residential substance use disorder treatment and for group clinicians who deliver services to several participants simultaneously.

Determining appropriate caseloads for clinicians in Drug Courts depends largely on their role and the scope of their responsibilities:

- *Clinical Case Management Role*—Some clinicians in Drug Courts serve principally as clinical case managers, assessing participant needs, brokering referrals for services, and reporting progress information to the Drug Court team (Monchick et al., 2006). They may also represent treatment concerns during pre- court staff meetings and status hearings.

- *Treatment Provider Role*—Some clinicians serve principally as treatment providers, administering individual therapy or counseling and perhaps facilitating or cofacilitating group interventions

(Cissner et al., 2013; Zweig et al., 2012). They may also provide or refer participants for indicated complementary services, such as mental health treatment or vocational counseling.

- *Combined Clinical Case Management and Treatment Provider Roles*—Some clinicians serve both clinical case management and treatment provider functions. In addition to providing individual therapy or counseling, they are responsible for assessing participant needs, referring participants for complementary services, coordinating care between multiple service providers, reporting progress to the Drug Court team, and representing treatment concerns during pre-court staff meetings and status hearings (Braude, 2005; Monchick et al., 2006).

National practitioner organizations have published broad caseload guidelines based in part on these professional roles and responsibilities (Case Management Society of America & National Association of Social Workers, 2008; North Carolina Administrative Office of the Courts, 2010; Rodriguez, 2011). These guidelines have not been validated empirically in terms of their effects on outcomes. Rather, they are derived from expert consensus about heavy caseloads that are likely too large to deliver adequate services or that contribute to staff burnout and job dissatisfaction. The guidelines focus exclusively on individual counseling and clinical case management. Comparable guidelines for group counselors have not been published. Table 3 summarizes the consensus conclusions.

Table 3. Caseload Guidelines Derived from Expert Consensus.

Principal Role and Responsibilities	Caseload	Reference
Clinical case management	50:1 to 75:1	Rodriguez (2011)
Individual therapy or counseling	40:1 to 50:1	CMSA* & NASW† (2008) Hromco et al. (2003)
Combination of clinical case management and individual therapy or counseling	30:1	CMSA & NASW (2008) NCAOC§ (2010)

*Case Management Society of America
†National Association of Social Workers
§North Carolina Administrative Office of the Courts

To reiterate, these guidelines are derived from expert consensus and have not been validated against outcomes. Moreover, professional roles and responsibilities are rarely so clearly delineated in day-to-day Drug Court operations. Clinicians in Drug Courts may provide clinical case management for some participants and therapy or counseling for others, may have a mixture of individual and group treatment responsibilities, and may have other nonclinical duties, such as drug and alcohol testing, that reduce the time they have available for clinical assessment, treatment, or case management. Caseload expectations need to be adjusted in light of actual job responsibilities.

Nevertheless, these guidelines should serve as broad milestones to alert Drug Courts to the possibility of clinician overload and the need to audit their operations to ensure adequate services are being delivered. Because Drug Courts serve high-risk and high-need individuals, programs are advised to reexamine adherence to best practices when clinician caseloads reach the lowest ratios reported in Table 3. For example, when clinical case management caseloads exceed 50:1, individual counseling caseloads exceed 40:1, or combined caseloads exceed 30:1, staff should monitor Drug Court operations to ensure participants are being assessed appropriately for risk and need [see Standard I, Target Population], participants are meeting individually with a clinician on a weekly basis for at least the first phase of treatment [see Standard IV, Substance Use Disorder Treatment and Standard V, Complementary Treatment and Social Services], participants are receiving at least 200 hours of cognitive-behavioral treatment [see Standard IV], and clinicians are providing reliable and timely progress information to the Drug Court team [see Standard VII, Multidisciplinary Team]. Drug Courts are unlikely to achieve the goals of rehabilitating participants and reducing crime if clinicians are spread too thin to assess and meet participants' service needs.

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IX. Monitoring and Evaluation

The Treatment Court routinely monitors its adherence to best practice standards and employs scientifically valid and reliable procedures to evaluate its effectiveness.

A. Adherence to Best Practices

The Treatment Court monitors its adherence to best practice standards on at least an annual basis, develops a remedial action plan and timetable to rectify deficiencies, and examines the success of the remedial actions. Outcome evaluations describe the effectiveness of the Treatment Court in the context of its adherence to best practices in accordance with 19- 5605.

B. In-Program Outcomes

The Treatment Court continually monitors participant outcomes during enrollment in the program, including attendance at scheduled appointments, drug and alcohol test results, graduation rates, lengths of stay, and in-program technical violations and new arrests.

C. Criminal Recidivism

Where such information is available, new arrests, new convictions, and new incarcerations are monitored for at least three years following each participant's entry into the Treatment Court. Offenses are categorized according to the level (felony, misdemeanor, or summary offense) and nature (e.g., person, property, drug, or traffic offense) of the crime involved.

D. Independent Evaluations

A skilled and independent evaluator examines the Treatment Court's adherence to best practices and participant outcomes no less frequently than every five years. The Treatment Court develops a remedial action plan and timetable to implement recommendations from the evaluator to improve the program's adherence to best practices.

E. Electronic Database

Information relating to the services provided and participants' in-program performance is entered into an electronic database. Statistical summaries from the database provide staff with real-time information concerning the Treatment Court's adherence to best practices and in-program outcomes.

F. Timely and Reliable Data Entry

Staff members are required to record information concerning the provision of services, minimum data elements, and in-program outcomes within forty-eight hours of the respective events. Timely and reliable data entry is required of each staff member and is a basis for evaluating staff job performance.

G. Intent-to-Treat Analyses

Outcomes are examined for all eligible participants who entered the Treatment Court regardless of whether they graduated, withdrew, or were terminated from the program.

H. Comparison Groups

Outcomes for Treatment Court participants are compared to those of an unbiased and equivalent comparison group. Individuals in the comparison group satisfy legal and clinical eligibility criteria for participation in the Treatment Court, but did not enter the Treatment

Court for reasons having no relationship to their outcomes. Comparison groups do not include individuals who refused to enter the Treatment Court, withdrew or were terminated from the Treatment Court, or were denied entry to the Treatment Court because of their legal charges, criminal history, or clinical assessment results.

I. Time at Risk

Participants in the Treatment Court and comparison groups have an equivalent opportunity to engage in conduct of interest to the evaluation, such as substance use and criminal recidivism. Outcomes for both groups are examined over an equivalent time period beginning from a comparable start date. If participants in either group were incarcerated or detained in a residential facility for a significantly longer period of time than participants in the other group, the length of time participants were detained or incarcerated is accounted for statistically in outcome comparisons.

J. Collected Data and Reporting

Initial treatment court intake information must be obtained for each participant assessed for entry into treatment court. Complete intake information must be obtained for all participants who enter treatment court. This data must be entered into the electronic treatment court module. This information is essential to evaluate the effectiveness of the Idaho Treatment Courts. An annual report, The Effectiveness of Idaho Treatment Courts will be presented to the Governor and the Legislature by the Idaho Treatment Court Coordinating Committee, no later than the first day of the Legislative session.

COMMENTARY

A. Adherence to Best Practices

Adherence to best practices is generally poor in most sectors of the criminal justice and substance use disorder treatment systems (Friedmann et al., 2007; Henderson et al., 2007; McLellan et al., 2003; Taxman et al., 2007). Programs infrequently deliver services that are proven to be effective and commonly deliver services which have not been subjected to careful scientific scrutiny. Over time, the quality and quantity of the services provided may decline precipitously (Etheridge et al., 1995; Van Wormer, 2010). The best way for a Drug Court to guard against these prevailing destructive pressures is to monitor its operations routinely, compare its performance to established benchmarks, and seek to align itself continually with best practices. Not knowing whether one's Drug Court is in compliance with best practices makes it highly unlikely that needed improvements will be recognized and implemented; therefore, evaluating a Drug Court's adherence to best practice standards is, itself, a best practice.

Studies reveal that Drug Courts are significantly more likely to deliver effective services and produce positive outcomes when they hold themselves accountable for meeting empirically validated benchmarks for success. A multisite study involving approximately seventy Drug Courts found that programs had more than twice the impact on crime and were more than twice as cost-effective when they monitored their operations on a consistent basis, reviewed the findings as a team, and modified their policies and procedures accordingly (Carey et al., 2008, 2012).

Like many complex service organizations, Drug Courts are highly susceptible to drift, in which the quality of their services may decline appreciably over time (Van Wormer, 2010). Management strategies such as continuous performance improvement (CPI), continuous quality improvement (CQI), and managing for results (MFR) are designed to avoid drift and enhance a program's adoption of best practices. Each of these management strategies emphasizes continual self-monitoring and rapid-cycle testing. This process involves collecting real-time information about a program's operations and outcomes, feeding that information back to key staff members and decision makers on a routine basis, and implementing and evaluating remedial action plans where indicated. Research consistently shows that continual self-monitoring and rapid-cycle testing are

critical elements for improving outcomes and increasing adoption of best practices in the health care and criminal justice systems (Damschroder et al., 2009; Rudes et al., 2013; Taxman & Belenko, 2013). These strategies are essential for programs that require cross collaboration and interdisciplinary communication among multiple service agencies, including Drug Courts (Bryson et al., 2006; Wexler et al., 2012).

Studies have not determined how frequently programs should review performance information and implement and evaluate self-corrective measures. Common practice among successful organizations is to collect performance data continually and meet at least annually as a team to review the information and take self-corrective measures (Carey et al., 2012; Rudes et al., 2013; Taxman & Belenko, 2013).

Reporting outcomes from Drug Courts without placing those findings into context by describing the quality of the programs is no longer enough. Meta-analyses (Aos et al., 2006; Latimer et al., 2006; Lowenkamp et al., 2005; Mitchell et al., 2012; Shaffer, 2010; Wilson et al., 2006) and large-scale multisite studies (Rossman et al., 2011) have already clearly established that Drug Courts reduce crime by approximately 8% to 14% on average. These averages, derived from evaluations of more than 100 Drug Courts, mask a great deal of variability between programs. Some Drug Courts reduce crime by more than 50%, others have no impact on crime, and still others increase crime rates in their communities (Carey et al., 2012; Carey & Waller, 2011; Cissner et al., 2013; Downey & Roman, 2010; Government Accountability Office, 2011; Mitchell et al., 2012; Shaffer, 2010). The important question is no longer whether Drug Courts can work, but rather how they work and what services contribute to better outcomes (Marlowe et al., 2006). Understanding what distinguishes effective Drug Courts from ineffective and harmful Drug Courts is now an essential goal for the field. Unless evaluators describe each Drug Court's adherence to best practices, there is no way to place that program's outcomes in context or interpret the significance of the findings.

B. In-Program Outcomes

One of the primary aims of a Drug Court is to rehabilitate seriously addicted individuals, which means that retaining participants in treatment, reducing drug and alcohol use, and helping participants to complete treatment successfully are important indicators of short-term progress. However, policymakers, the public, and other stakeholders are likely to judge the merits of a Drug Court by how well it reduces crime, incarceration rates, and taxpayer expenditures. Therefore, Drug Courts need to measure in-program outcomes that not only reflect clinical progress, but are also significant predictors of post-program criminal recidivism and other long-term outcomes.

At minimal cost and effort, Drug Courts can evaluate short-term outcomes while participants are enrolled in the program. These short-term outcomes provide significant information about participants' clinical progress and the likely long-term impacts of the Drug Court on public health and public safety. Studies have consistently determined that post-program recidivism is reduced significantly when participants attend more frequent treatment and probation sessions, provide fewer drug-positive urine tests, remain in the program for longer periods of time, have fewer in-program technical violations and arrests for new crimes, and satisfy other conditions for graduation (Gifford et al., 2014; Gottfredson et al., 2007, 2008; Huebner & Cobbina, 2007; Jones & Kemp, 2011; Peters et al., 2002). Drug Courts should, therefore, monitor and report on these in-program outcomes routinely during the course of their operations.

Several resources are available to help Drug Courts define and calculate performance measures of in- program outcomes (Berman et al., 2007; Heck, 2006; Marlowe, in press; Peters, 1996; Rubio et al., 2008a). In 2006, NADCP convened leading Drug Court researchers and evaluators to form the National Research Advisory Committee (NRAC). One goal of this committee was to define a core data set of in-program performance measures for adult Drug Courts (Heck, 2006). NRAC selected measures that are simple and inexpensive to track and evaluate and proven to predict long-term outcomes. These performance measures include the following:

- *Retention*—the number of participants who completed the Drug Court divided by the number who entered the program
- *Sobriety*—the number of negative drug and alcohol tests divided by the total number of tests performed
- *Recidivism*—the number of participants arrested for a new crime divided by the number who entered the program, and the number of participants adjudicated officially for a technical violation divided by the number who entered the program

- *Units of Service*—the numbers of treatment sessions, probation sessions, and court hearings attended
- *Length of Stay*—the number of days from entry to discharge or the participant's last in-person contact with staff

Longer lists of performance measures addressing a wide range of outcomes in Drug Courts and other problem-solving courts have been published by expert organizations including the National Center for State Courts (Rubio et al., 2008a; Waters et al., 2010), the Center for Court Innovation (Rempel, 2006, 2007), American University (Peters, 1996), the Organization of American States (Marlowe, in press), the National Center for DWI Courts (Marlowe, 2010), and the National Institute of Justice (NIJ, 2010). Drug Courts are advised to consult these and other resources for further information on how to calculate and interpret additional performance measures for their evaluations.

C. Criminal Recidivism

For many policymakers and members of the public, reducing criminal recidivism is one of the primary aims of a Drug Court. Recidivism is defined as any return to criminal activity after the participant entered the Drug Court. Recidivism does not include crimes that occurred before the participant entered Drug Court even if those crimes are charged or prosecuted after entry.

Recidivism is measured most commonly by new arrests, new convictions, or new incarcerations occurring over a two- or three-year period (Carey et al., 2012; King & Elderbroom, 2014; Rempel, 2006). For example, the Bureau of Justice Statistics (BJS) tracks new arrests, convictions, and incarcerations occurring within three years of the date that state and federal inmates are released from jail or prison (Durose et al., 2014).

Based on scientific considerations, evaluators should follow participants for at least three years, and ideally up to five years, from the date of entry into the Drug Court or from the date of the arrest or technical violation that made the individual eligible for Drug Court. The date of entry should be the latest start date for the evaluation because that is when the Drug Court becomes capable of influencing participant behavior directly.

Starting from the date of arrest or technical violation takes into account the potential impact of delays in admitting participants to Drug Court. The sooner participants enter Drug Court after an arrest or probation violation, the better the results (Carey et al., 2008, 2012); therefore, evaluators may wish to examine how delayed entry affects outcomes. However, because Drug Courts cannot always control what transpires before participants enter the Drug Court program, attributing to the Drug Court any recidivism occurring before entry may not fairly represent the Drug Courts' effects on recidivism. Starting from the date of entry ensures recidivism may be attributed fairly to the effects of the Drug Court. No one answer fully addresses the issues surrounding selection of a start date for evaluation; therefore; evaluators should state clearly what start date was selected and the rationale for choosing that start date.

Rates of criminal recidivism among drug-involved offenders become relatively stable after approximately three to five years (King & Elderbroom, 2014). After three years, statistically significant between-group differences in recidivism are likely to remain significant going forward (e.g., Knight et al., 1999; Martin et al., 1999; Wexler et al., 1999). For example, if Drug Court participants have significantly lower rearrest rates than comparison group subjects after three years, this difference is likely (although not guaranteed) to remain significant after an additional two years (DeVall et al., 2015). After five years, recidivism rates tend to reach a plateau, meaning that most (but not all) participants who will recidivate have likely done so by then (e.g., Gossop et al., 2005; Inciardi et al., 2004; Olson & Lurigio, 2014).

Importantly, these findings do not suggest Drug Courts must wait three to five years before reporting recidivism outcomes. Recidivism occurring during enrollment and shortly after discharge from Drug Court may be of considerable interest to practitioners, policymakers, and other stakeholders. However, implying that recidivism rates occurring within the first two years are likely to reflect the long-term effects of a Drug Court is inappropriate. Evaluators should state clearly that such recidivism rates are preliminary and likely to increase over time.

No one basis exists for deciding whether new arrests, new convictions, or new incarcerations are likely to be the most valid or informative indicator of recidivism. As discussed below, each measure has advantages and disadvantages that the evaluator must take into account. Because no one measure is clearly superior to another, whenever possible evaluators are advised to report all three measures of recidivism, discuss the implications

and limitations of each, or indicate why a particular measure is not being reported.

Analyzing new arrests as a measure of criminal recidivism provides at least two advantages. First, arrests are often substantially closer in time to the alleged offense than convictions. Resolving a criminal case and determining guilt or innocence may take months or years. Evaluators can usually report arrest outcomes in much less time than waiting for lengthy legal proceedings to resolve. Second, criminal cases are often dismissed or pled down to a lesser charge for reasons having little to do with factual guilt, such as insufficient evidence or plea bargains. As a result, the absence of a conviction or conviction on a lesser charge may not reflect the offense that occurred.

However, some individuals are arrested for crimes they did not commit. This fact may lead to an overestimation of the true level of criminal recidivism. Relying on conviction data rather than arrest data may provide greater assurances that the crimes did, in fact, occur.

Incarceration has substantial cost impacts that may far exceed those of arrests and convictions. A day in jail or prison can cost between five and twenty times more than a day on probation or in community-based treatment (Belenko et al., 2005; Zarkin et al., 2012). Evaluators typically distinguish between incarceration that occurred while participants were enrolled in the Drug Court and incarceration that occurred after discharge. In-program incarceration often reflects brief jail sanctions that may be imposed for misconduct in the program, whereas post-program incarceration typically reflects pretrial detention for new charges, sentences for new charges, or (for terminated participants) sentencing on the original charge that led to participation in Drug Court. In cost evaluations, in-program jail sanctions are typically counted as an investment cost for the Drug Court whereas post-program detention is typically counted as an outcome cost (Carey et al., 2012).

Evaluators must also consider the timeliness and accuracy of information contained in criminal justice databases. In some jurisdictions, arrest data may be recorded in a more timely and faithful manner than conviction or incarceration data. Evaluators must familiarize themselves with how and when information is entered into national, state, and local criminal justice records and should describe clearly in their evaluation reports any limitations that may relate to the accuracy or timeliness of the data.

Self-report information could potentially provide the most accurate assessment of criminal recidivism because it does not require detection or prosecution by law enforcement. Because many crimes are unreported by victims and undetected by the authorities (Truman & Langton, 2014), arrest and conviction data may underestimate true levels of criminal activity. For obvious reasons, however, individuals cannot be relied upon to acknowledge their crimes unless they receive strict assurances that the information will be kept confidential and will not be used against them in a criminal proceeding. Drug Courts will typically be required to hire an independent evaluator who has no connection to the court or criminal justice system to confidentially survey participants. This method is likely to be prohibitively costly for many Drug Courts, which explains why it has rarely been employed with the notable exception of one highly funded national study (Rossman et al., 2011).

Whether measured by arrests, convictions, or incarcerations, categorizing recidivism according to the level (i.e., felony, misdemeanor, or summary offense) and nature (e.g., drug offenses, property and theft offenses, violent offenses, technical violations, prostitution, and traffic offenses) of the crimes involved is highly informative and necessary. Different categories of crime can have very different implications for public safety and cost. For example, violent offenses may have serious victimization costs and may result in substantial jail or prison sentences, whereas drug possession may not involve an identifiable victim and is more likely to receive a less costly probation sentence (Zarkin et al., 2012).

As a final note, not all Drug Courts have reasonable access to data on new arrests, convictions, or incarcerations occurring after participants have been discharged from the program. In some jurisdictions, these records may be in the possession of other executive agencies, such as the police department or department of corrections, and the Drug Court may not be entitled to the information. Under such circumstances, Drug Courts should make every effort to negotiate access to the data, but of course, Drug Courts cannot be held accountable for reporting information beyond their reach.

D. Independent Evaluations

In addition to monitoring their own performance, Drug Courts benefit greatly from having an independent

evaluator examine their program and issue recommendations to improve their adherence to best practices. Drug Courts that engaged an independent evaluator and implemented at least some of the evaluator's recommendations were determined in one multisite study to be twice as cost-effective and nearly twice as effective at reducing crime as Drug Courts that did not engage an independent evaluator (Carey et al., 2008, 2012).

Drug Courts benefit from an independent evaluation for several reasons. Every program has blind spots that prevent staff from recognizing their own shortcomings. Some team members, such as the judge, may have more social influence or power than others, making it difficult for some team members to call attention to problems in court or during team meetings. Drug Courts also operate in a political environment and staff may be hesitant to criticize local practices for fear of reprisal. An independent evaluator from another jurisdiction can usually offer frank criticisms of current practices with less fear of repercussions (Heck & Thanner, 2006).

Although most Drug Courts are capable of keeping descriptive statistics about their program, considerably more expertise is required to perform inferential analyses, which compare Drug Court outcomes to those of a comparison group. Controlling statistically for preexisting group differences that could bias one's results is often necessary. For example, if Drug Court participants had fewer previous convictions than comparison subjects before entering the study, better outcomes for the Drug Court might simply reflect the fact that it treated a less severe population. Evaluators must take numerous scientific matters into consideration and may need to apply several levels of statistical corrections to produce valid and reliable results.

Studies also reveal that participant perceptions are often highly predictive of outcomes in Drug Courts. For example, perceptions concerning the procedural fairness of the program (Burke, 2010; McIvor, 2009), the manner in which incentives and sanctions are delivered (Goldkamp et al., 2002; Harrell & Roman, 2001; Marlowe et al., 2005), and the quality of the treatment services provided (Turner et al., 1999) are often predictive of recidivism and correlate significantly with adherence to best practices. Needless to say, participants are more likely to be forthright with an independent evaluator about their perceptions of the Drug Court than with staff members who control their fate in the criminal justice system.

Studies have not determined how frequently Drug Courts should be evaluated by an independent investigator. Generally speaking, a new evaluation should be performed whenever a program or the environment within which it operates changes substantially. Staff turnover and evidence of drift from the intended model are critical events that call for a new evaluation (Yeaton & Camberg, 1997). Evidence suggests that staff turnover and model drift occur within five-year intervals in Drug Courts. Within five years, between roughly 30% and 60% of Drug Courts experience substantial turnover in key staff positions (Van Wormer, 2010). The highest turnover rates, commonly exceeding 50%, are among substance use disorder and mental health treatment providers (Lutze & Van Wormer, 2007; McLellan et al., 2003; Taxman & Bouffard, 2003; Van Wormer, 2010). Evidence further reveals that staff turnover correlates significantly with drift in the quality of the services provided (Van Wormer, 2010). Therefore, five years is a reasonable outside estimate of how frequently Drug Courts should be evaluated independently. If resources allow, Drug Courts should engage independent evaluators at more frequent intervals to detect drift readily and prevent services from worsening with time.

Drug Courts need to select competent evaluators. The first step in selecting a competent evaluator is to request recommendations from other Drug Courts and national organizations that are familiar with Drug Court operations and research. Senior staff at NADCP and NDCI are familiar with the evaluation literature and the skill sets of dozens of evaluators nationally. When selecting an evaluator, review prior evaluation reports, especially those involving Drug Courts or other problem-solving courts. If prior evaluations failed to follow the practices described herein, consider selecting another evaluator who has demonstrated expertise in applying best practices related to Drug Court program evaluations. One of the most important questions to consider when reviewing prior evaluations is whether the report recommended concrete actions the Drug Court could take to enhance its adherence to best practices and improve its outcomes. The most effective evaluators are aware of the literature on best practices, measure Drug Court practices against established performance benchmarks, and promote useful strategies to improve each program's operations and results.

Many Drug Courts do not have sufficient resources to hire independent evaluators. One way to address this problem is to contact local colleges or universities to determine whether graduate or undergraduate students may be interested in evaluating the Drug Court as part of a thesis, dissertation, or capstone project. Because

such projects require close supervision from senior academic faculty, the Drug Court can receive high-level research expertise at minimal or no cost. Moreover, students are likely to be highly motivated to complete the evaluation successfully because their academic degree and standing depends on it.

E. Electronic Database

Paper files have minimal value for conducting program evaluations. Evaluators are typically required to extract information from handwritten notes and progress reports that are difficult to read, contain contradictory information, and have numerous missing entries. As a consequence, many evaluations are completed months or years after the fact when the results may no longer reflect what is occurring in the program. Such evaluations often contain so many gaps or caveats in the data that the conclusions which may be drawn are tentative at best.

Drug Courts are approximately 65% more cost-effective when they enter standardized information concerning their services and outcomes into an electronic management information system (MIS), which is capable of generating automated summary reports (Carey et al., 2008, 2012). The cost of purchasing an MIS is offset many times over by providing greater efficiencies in operations and yielding the type of performance feedback that is necessary to continually improve and fine-tune one's Drug Court program.

Appendix E provides examples of MISs that have been developed for use in Drug Court evaluations. Some of the older and less sophisticated systems can be obtained free of charge. For example, the Buffalo System (so named because it was developed in a Drug Court in Buffalo, New York) is a Microsoft Access database that can be obtained at no cost by contacting NADCP. Newer systems must be purchased or licensed, but are more likely to be web-based and can be accessed simultaneously by multiple users and agencies. Allowing multiple agencies to use the same MIS, each with its own secured and encrypted access, can spread the cost of the system across several budgets. Newer systems are also more likely to have preprogrammed analytic reports that provide important summary information for staff at the push of a button. Finally, newer systems are more likely to include a data-extraction tool. A data-extraction tool allows information to be imported readily into a statistical program, such as SAS or SPSS, which skilled evaluators then can use to conduct sophisticated statistical analyses.

F. Timely and Reliable Data Entry

The biggest threat to a valid program evaluation is poor data entry by staff. The adage "garbage in/garbage out" is particularly apt in this regard. If staff members do not accurately record what occurred, no amount of scientific expertise or sophisticated statistical adjustments can produce valid findings.

The best time to record information about services and events is when they occur. For example, staff members should enter attendance information into an MIS or written log during court hearings and treatment sessions. This is referred to as real-time recording. The typical staff person in a Drug Court is responsible for dozens of participants and each participant has multiple obligations in the program, such as appearing at court hearings, attending treatment sessions, and delivering urine specimens. Only the rare staff person can recall accurately what events transpired or should have transpired days or weeks in the past. Attempting to reconstruct events from memory is likely to introduce unacceptable error into a program evaluation.

Data should ordinarily be recorded within no more than forty-eight hours of the respective events. Medicare, for instance, requires physicians to document services within a "reasonable time frame," defined as twenty-four to forty-eight hours (Pelaia, n.d.). After forty-eight hours, errors in data entry have been shown to increase significantly. After one week, information is so likely to be inaccurate that it may be better to leave the data as missing than attempt to fill in gaps from faulty memory (Marlowe, 2010).

Staff members who are persistently tardy when entering data pose a serious threat to the integrity of a Drug Court. Not only are evaluation results unlikely to be accurate, but those same staff persons are unlikely to be delivering appropriate services. Good-quality treatment and supervision require staff to monitor participant behavior vigilantly, record performance information in a timely and actionable fashion, and adjust services and consequences accordingly. Failing to record performance information in a timely and reliable manner undermines the quality and effectiveness of a Drug Court and seriously jeopardizes participant care.

G. Intent-to-Treat Analyses

A serious error in some Drug Court evaluations is to examine outcomes only for participants who graduated

successfully from the program. The logic for performing such an analysis is understandable. Evaluators are often interested in learning what happens to individuals who received all of the services the program has to offer. If individuals who dropped out or were terminated prematurely from the Drug Court are included in the analyses, the results will be influenced by persons who did not receive all of the intended services.

Although this reasoning might seem logical, it is scientifically flawed (Heck, 2006; Heck & Roussell,2007; Marlowe, 2010, in press; Peters, 1996; Rempel, 2006, 2007). Outcomes must be examined for all eligible individuals who participated in the Drug Court regardless of whether they graduated, were terminated, or withdrew from the program. This is referred to as an intent-to-treat analysis because it examines outcomes for all individuals whom the program initially set out to treat. Reporting outcomes for graduates alone is not appropriate because such an analysis unfairly and falsely inflates the apparent success of the program. For example, individuals who graduated from the Drug Court are more likely than terminated participants to have entered the program with less severe drug or alcohol problems, less severe criminal propensities, higher motivation for change, or better social supports. As a result, they might have been less likely to commit future offenses or relapse to substance use regardless of the services they received in Drug Court.

This issue is particularly important when outcomes are contrasted against those of a comparison sample, such as probationers. Selecting the most successful Drug Court cases and comparing their outcomes to all of the probationers unfairly skews the results in favor of the Drug Court. It is akin to selecting the A+ students from one classroom, comparing their scores on a test to those of all of the students in a second classroom, and then concluding the first class had a better teacher. Such a comparison would clearly be slanted unfairly in favor of the first teacher.

This is not to suggest that outcomes for graduates are of no interest. Drug Courts may, indeed, want to know what happens to individuals who receive all of the services in the program. This, however, should be a secondary analysis that is performed after the intent-to-treat analysis has shown positive results. If it is first determined that the Drug Court achieved significantly improved outcomes on an intent-to-treat basis, it may then be appropriate to proceed further and determine whether outcomes were even better for the graduates. If the intent-to-treat analysis is not significant, then it is not acceptable to move on to evaluate outcomes for graduates alone.

Importantly, if secondary analyses are performed on Drug Court graduates, then the comparison sample should also comprise successful completers. For example, outcomes for Drug Court graduates should be compared to those of probationers who satisfied the conditions of probation. Comparing outcomes for Drug Court graduates to all probationers, including probation failures, would unfairly favor the Drug Court.

The only exception to an intent-to-treat analysis is for what are sometimes referred to as neutral discharges. Some Drug Courts assign a neutral discharge to participants who are withdrawn from the program for reasons beyond the control of the participant and the program. A neutral discharge is assigned most commonly when the Drug Court discovers a participant was admitted to the program erroneously. For example, a participant might need to be withdrawn from Drug Court if he or she had a prior conviction that precluded eligibility for the Drug Court or resided in a judicial district that was not within the jurisdictional boundaries of the Drug Court. A neutral discharge may also be assigned to participants who are withdrawn from the program because they enlisted in the military or moved out of the jurisdiction with the court's permission. A neutral discharge should never be assigned to cases in which termination was related to a participant's performance in Drug Court.

H. Comparison Groups

The mere fact that individuals perform well after participating in Drug Court does not prove the Drug Court was responsible for their favorable outcomes. Those same individuals might have functioned just as well if they had never entered Drug Court. To examine the important question of causality, the performance of Drug Court participants must be compared against that of an equivalent and unbiased comparison group. Comparing what happened in the Drug Court to what would most likely have happened if the Drug Court did not exist is referred to as testing the *counterfactual hypothesis*, or the possibility that the Drug Court was ineffective (Popper, 1959).

Some comparison groups are reasonably unbiased and can yield a fair and accurate assessment of what would most likely have occurred without the Drug Court. Others, however, may be systematically biased in such a

manner as to make the Drug Court look better or worse than it deserves. This may lead to the unwarranted conclusion that the Drug Court was effective or ineffective when, in fact, the reverse could be true.

Random Assignment—The strongest inference of causality may be reached when eligible individuals are randomly assigned either to the Drug Court or to a comparison group. Random assignment provides the greatest assurance that the groups started out with an equal chance of success; therefore, better outcomes for one group can be confidently attributed to the effects of the program (Campbell & Stanley, 1963; Farrington, 2003; Farrington & Welsh, 2005; National Research Council, 2001; Telep et al., 2015). Even when an evaluator employs random assignment, there is still the possibility (albeit a greatly diminished possibility) that the groups differed on important dimensions from the outset. This possibility requires the evaluator to perform a confirmation of the randomization procedure. The evaluator will need to check for preexisting differences between the groups that could have affected the results. If the groups differed significantly on variables that are correlated with outcomes (such as the severity of participants' criminal histories or drug problems), the evaluator might employ statistical procedures to adjust for those differences and obtain defensible results.

As a practical matter, conducting random assignment is often very difficult in Drug Courts. Some staff members may have ethical objections against denying potentially effective services to eligible individuals. Moreover, some Drug Courts may have difficulty filling their slots and may not wish to turn away eligible individuals. The evaluator will also need to gain approval and buy-in for random assignment from numerous professionals and agencies, including the court, prosecution, and defense counsel. Finally, random assignment usually requires implementation of ethical safeguards (National Research Council, 2001). For example, participants may need to provide informed consent to random assignment, and an independent ethics review board may need to oversee the safety and fairness of the study. Local colleges and universities often have institutional review boards (IRBs) or data and safety monitoring boards (DSMBs) which have the authority and expertise to provide ethical oversight for randomized studies.

Random assignment poses far fewer challenges if a Drug Court has insufficient capacity to treat many individuals who would otherwise be eligible for its services. If many eligible people must be turned away, then it would arguably be fairest to select participants randomly rather than allow staff members to pick and choose who gets into the program. Under such circumstances, random assignment may provide the best protection against unfair discrimination and unconscious bias (National Research Council, 2001). In fact, a number of Drug Court studies have used random assignment successfully in light of insufficient program capacity (e.g., Gottfredson et al., 2003; Jones, 2011; Turner et al., 1999).

Quasi-Experimental Comparison Group—In many Drug Courts, engaging in random assignment is simply impractical. The next best approach is to use a quasi-experimental comparison group (Campbell & Stanley, 1963). This refers to individuals who were eligible for the Drug Court but did not enter for reasons that are unlikely to have influenced their outcomes. Perhaps the best example is individuals who were eligible for and willing to enter the Drug Court, but were denied access because there were no empty slots available. This is referred to as a wait-list comparison group. The mere happenstance that the Drug Court was full is unlikely to have led to the systematic exclusion of individuals who had more severe problems or poorer prognoses to begin with, and therefore is unlikely to bias the results.

Less optimal, but still potentially acceptable, quasi-experimental comparison groups include individuals who would have been eligible for the Drug Court but were arrested in the year or so before the Drug Court was established, or were arrested in an immediately adjacent county that does not have a Drug Court(Heck, 2006; Heck & Roussell, 2007; Marlowe, 2010, in press; Peters, 1996). Because these individuals were arrested at an earlier point in time or in a different geographic region than the Drug Court participants, such comparison groups might still be different enough from the Drug Court group to bias the results. For example, socioeconomic conditions might differ significantly between neighboring communities, or law enforcement practices might change from year to year. The likelihood of this occurring, however, is usually not substantial and these may be the only practical comparison conditions that can be used for many Drug Court evaluations.

When using a quasi-experimental comparison group, the evaluator must check for preexisting differences between the groups that could have affected the results (Campbell & Stanley, 1963). For example, the comparison individuals may have had more serious criminal histories than the Drug Court participants to begin with. This, in turn, might have put them at greater risk for criminal recidivism. If so, then superior outcomes for the Drug Court participants might not have been due to the effects of the Drug Court, but rather to the fact

that it treated a less severe population. A skilled evaluator can use a number of statistical procedures to adjust for such differences and potentially obtain scientifically defensible results.

Matched Comparison Group—Evaluators do not always have a quasi-experimental comparison group at their disposal. Under such circumstances, they may be required to construct a comparison group out of a large and heterogeneous pool of offenders. For example, an evaluator might need to select comparison subjects from a statewide probation database. Many of those probationers would not have been eligible for Drug Court, or are dissimilar to Drug Court participants on characteristics that are likely to have influenced their outcomes. For example, some of the probationers might not have had serious drug problems, or might have been charged with offenses that would have excluded them from participation in Drug Court. The evaluator must, therefore, select a subset of individuals from the entire probation pool that are similar to the Drug Court participants on characteristics that are known to affect outcomes. For example, the evaluator might pair each Drug Court participant with a probationer who has the same or similar criminal history, demographic characteristics, and substance use diagnosis (Heck, 2006; Marlowe, 2010, in press). Because the evaluator will choose only those probationers who are similar to the Drug Court participants on multiple characteristics, it is necessary to start out with a large sample of potential candidates from which to select comparable individuals.

The success of any matching strategy will depend largely on whether the evaluator has adequate information about the comparison candidates to make valid matches (Campbell & Stanley, 1963). If data are not available on such important variables as the probationers' criminal histories or substance use problems, evaluators and Drug Courts will not be able to place confidence in the validity of the matches. Simply matching the groups on variables that are easy to measure and readily available, such as gender or race, is not sufficient because the groups might differ on other important dimensions that were not taken into account.

Propensity Score Analysis—An evaluator may also use an advanced statistical procedure called a propensity score analysis to mathematically adjust for differences between the Drug Court and comparison groups. This procedure calculates the statistical probability that an individual with a given set of characteristics would be in the Drug Court group as opposed to the comparison group - in other words, the relative similarity of that individual to one group as opposed to the other (Dehejia & Wahba, 2002). The analysis then mathematically adjusts for this relative similarity when comparing outcomes. Advanced statistical expertise is required to implement and interpret this complicated procedure.

As with any statistical adjustment, the success of a propensity score analysis will depend on whether the evaluator has adequate information about the comparison subjects to make valid adjustments. If data are not available on such important variables as the comparison subjects' criminal histories or substance use problems, evaluators and Drug Courts will not be able to place confidence in the adjustments (Peikes et al., 2008). Again, merely adjusting the scores based on easily measured variables, such as gender or race, is not sufficient because the groups might differ on other important dimensions that were never taken into account.

Invalid Comparison Groups—Several comparison groups have been used in Drug Court evaluations that quite likely produced seriously biased results. Comparing outcomes from a Drug Court to those of individuals who refused to enter the Drug Court, were denied access to the Drug Court because of their clinical or criminal histories, dropped out of the Drug Court, or were terminated prematurely from the Drug Court is rarely, if ever, justified (Heck, 2006; Heck & Thanner, 2006; Marlowe, 2010, in press; Peters, 1996). The probability is unacceptably high that such persons had poorer prognoses or more severe problems to begin with. For example, they very likely had more serious criminal or substance use histories, lower motivation for change, or lesser social supports. Given the high likelihood that these individuals were seriously disadvantaged from the outset, statistical adjustments cannot be relied upon to overcome the differences (Campbell & Stanley,1963).

I. Time at Risk

For an evaluation to be valid, Drug Court and comparison participants must have the same time at risk, meaning the same opportunity to engage in substance use, crime, and other behaviors of interest to the evaluation. If, for example, an evaluator measured criminal recidivism over a period of twelve months for Drug Court participants, but over a period of twenty-four months for the comparison group, this would give an unfair advantage to the Drug Court participants. The comparison group participants would have twelve additional months in which to commit new crimes or other infractions.

Ensuring an equivalent time at risk requires the evaluator to begin the analyses from a comparable start date for both groups. As was mentioned earlier, Drug Court evaluations typically use the date of entry into Drug Court or the date of the arrest or technical violation that made the individual eligible for Drug Court as the start date for analyses. If the comparison group is comprised of probationers, comparable start dates might be the date the individual was placed on probation or the date of the arrest that led to a probation sentence.

If the time at risk differs significantly between groups, the evaluator might be able to compensate for this problem by adjusting statistically for time at risk in outcome comparisons. For example, the evaluator might enter time at risk as a covariate in the statistical analyses. A covariate is a variable that is entered first into a statistical model. The independent effect of the variable of interest (in this case, being treated in a Drug Court) is then examined after first taking the effect of the covariate into account. This procedure would indicate whether Drug Court participants had better outcomes after first taking into account the influence of their shorter time at risk. The use of covariates is not always successful, however, and the best course of action is to ensure the groups have equivalent follow-up windows.

A related issue is referred to as time at liberty. Time at liberty and time at risk are similar in that both affect a participant's opportunity to reoffend or engage in other behaviors of interest to the evaluation. The difference is that time at liberty relates to whether restrictive conditions were placed on the participant. The most obvious restrictive conditions involve physical barriers to freedom, such as incarceration or placement in a residential treatment facility. These physical barriers severely restrict a participant's ability to use drugs, commit new offenses, obtain a job, or engage in other behaviors of interest to evaluators.

A potential error in Drug Court evaluations is to neglect time at liberty when performing outcome comparisons. In some jurisdictions, for example, individuals who do not enter Drug Court may be more likely to receive a jail sentence. If they are jailed for a portion of the follow-up period, they might have fewer opportunities to reoffend or use drugs than Drug Court participants who are treated in the community. The evaluator might conclude, erroneously, that Drug Court caused participants to reoffend or use drugs more often, when in fact they simply had more time at liberty to do so. Under such circumstances, the evaluator would need to adjust statistically for participants' time at liberty in the outcome analyses. For example, the evaluator might need to enter time at liberty as a covariate in the statistical models. This would indicate whether Drug Court participants had better outcomes after first taking into account their longer time at liberty. As was noted earlier, such adjustments are not always successful and Drug Courts will require expert consultation to ensure the analyses are carried out appropriately.

Note that evaluators are not always advised to adjust for time at liberty. In cost analyses, for example, the time participants spend in jail or a residential treatment facility is an important outcome in its own right and should be valued accordingly from a fiscal standpoint. Deciding whether to adjust for time at liberty, like many evaluation-related decisions, requires scientific expertise and careful consideration of the aims of the study. For such analyses, Drug Courts are strongly advised to obtain expert statistical and scientific consultation.

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