CENTER
FOR
COURT
INNOVATION

The Future is Now

Enhancing Drug Court Operations Through Technology

by Annie Schachar, Aaron Arnold and Precious Benally

BJA
Bureau of Justice Assistance
U.S. Department of Justice

This project was supported by Grant No. 2012-DC-BX-K006 awarded by the Bureau of Justice Assistance. The Bureau of Justice Assistance is a component of the Office of Justice Programs, which also includes the Bureau of Justice Statistics, the National Institute of Justice, the Office of Juvenile Justice and Delinquency Prevention, the Office for Victims of Crime, and the SMART Office. Points of view or opinions in this document are those of the author and do not necessarily represent the official position or policies of the U.S. Department of Justice.

Authors

Annie Schachar
Associate Director, Drug Court Programs
Center for Court Innovation

Aaron Arnold
Director, Drug Court Programs
Center for Court Innovation

Precious Benally
Senior Associate, Drug Court Programs
Center for Court Innovation

Acknowledgments

The authors would like to express gratitude to the teleservices advisory committee, who committed their time and expertise to this monograph, especially Caroline Cooper, Michael Chaple, Nancy Roget, Kimberly Johnson, Jeffery Kushner, Doug Hanshaw, Norma Jaeger, Sean Noland, Scott Carlson, Julie Scott, Amy Kingery, Jessica Binning, Michelle Bartley, Natasha Jackson, Nisha Wilson, Michele Worobiec, Paige Allen and Lorie Fourhman. We are grateful for their input, as well as their comments on an earlier draft. We also thank Robert V. Wolf for his editorial acumen in preparing the final manuscript.

2015

Overview

This is an exciting time for drug courts as technological innovations in health care, criminal justice and distance learning are starting to transform the way they work.

Research is confirming the effectiveness of a range of approaches that rely on both new and established technologies for enhancing drug court operations in three main categories:

— the delivery of treatment and other supportive services;
— compliance monitoring and supervision;
— training and professional development for practitioners.

In many instances, these innovative "teleservices" rely on familiar technology such as smartphones, computers, and video conferencing products. The goal for drug court practitioners is integrating these approaches—many of which have been tested in other fields—into their day-to-day practice.

This monograph reviews research regarding the effectiveness of these approaches and explores some of the ways that drug courts around the country are already experimenting with teleservices to enhance service delivery, client monitoring, and staff training. The monograph also highlights a number of issues that

warrant additional research or attention.

The final section outlines important steps that drug court planners should take before developing a teleservices initiative, specifically:

- Assess the need for teleservices in the three key areas
- Identify specific treatment interventions and other services that can be offered remotely
- Assess the technology needed to implement the project
- Calculate the cost of implementing the project
- Build necessary partnerships
- Identify the end users of the technology and assess their training needs
- Select locations where users will access the technology
- Explore and address any regulatory barriers

The field of teleservices is evolving rapidly and has the potential to help drug courts deliver better services to more people. Drug court practitioners and policymakers should continue to explore the unresolved issues raised in this monograph, even as they develop new teleservices initiatives and push technological boundaries.

What is teleservices?

There is a lack of consensus around terminology in this quickly evolving field. Even a cursory scan of the available literature reveals a wide array of terms, including telemedicine, telehealth, e-health, mHealth, technology-assisted care, distance learning, and many others. In this monograph, "teleservices" refers to the use of communications technology to enhance drug court operations in three main categories: 1) the delivery of treatment and other supportive services, 2) compliance monitoring and supervision, and 3) training and professional development for practitioners.

Introduction

Since their introduction more than 25 years ago, drug courts have become widely recognized as a successful and cost-effective alternative to the traditional prosecution of offenders with substance dependency issues. By combining treatment and supervision, drug courts hold offenders accountable while addressing their underlying addiction and reducing reoffending. Research suggests that if properly implemented, drug courts can repair lives, protect communities, and save money.

Today, many drug courts are beginning to explore the use of communications technology to enhance services and supervision. Technology is already revolutionizing other fields, including medicine, education, and law. By learning from these other fields and experimenting on their own, drug courts are using technology to overcome barriers created by distance. Technology can also open the door to a wider range of treatment modalities, as courts are no longer limited to working with providers in their community. Likewise, technology can expand the ways that drug courts hold participants accountable and can create new opportunities for drug court staff and partner agencies to access training and professional development resources.

This monograph examines three ways in which communications technology has the potential to significantly enhance drug courts: 1) the delivery of treatment and other supportive services, 2) client supervision and compliance monitoring, and 3) staff training and professional development opportunities. Implementing teleservices effectively in these areas can increase access to treatment and supportive services, improve compliance, promote long-term recovery and community reintegration, save money in transportation costs and staff time, and strengthen adherence to evidence-based practices.

In each of these areas, the discussion is informed by current research, examples from other fields, and existing drug court initiatives. This monograph concludes by offering practical considerations for drug court practitioners seeking to develop teleservices initiatives of their own.

Special Role of Rural Drug Courts

Technology has the potential to benefit drug courts throughout the country, and this monograph aims to provide useful guidance to courts in urban, suburban and rural communities. It should be emphasized, however, that the issues discussed here have special significance for rural drug courts. Rural communities often feature a patchwork of health care and social services and limited funding for prevention, treatment, and recovery services.

Geographic isolation and lack of transportation can pose insurmountable barriers for rural residents in need of addiction treatment and other health-related services.[1] These challenges can also make it difficult for some drug court participants to attend judicial compliance hearings, meet with their probation officers, or submit to drug testing. Moreover, drug court staff and partner agencies can be affected by geographic isolation too, as their access to training and opportunities to interact with colleagues in other drug courts is limited by distance and cost.

Early efforts to utilize teleservices in the drug court context have been led by rural jurisdictions, as the examples discussed in this monograph reflect. Drug courts in more urban settings would be wise to pay attention to their rural counterparts and learn from their experiences in delivering services, monitoring compliance, and training staff using teleservices.

Treatment and Supportive Services

Teleservices can expand the capacity of drug courts and partner agencies, improving assessment, diagnosis, treatment, and continuing care.[2]

Learning from Other Fields

The medical field has led the way in using technology to deliver services. "Telehealth" and "telemedicine" have been topics of exploration and research for decades. Broadly speaking, these terms refer to the use of communications technology—such as telephones, computers, interactive video, and specially-designed medical devices—to deliver health-related services and information. Telehealth initiatives include patient assessments, clinical treatment, preventative care, and public health outreach and education initiatives. Health care providers across the country, such as the Veterans Health Administration and many private health care organizations, are increasingly using telehealth strategies to address the physical and behavioral health needs of their patients.

Numerous studies have evaluated the efficacy of telehealth services, particularly in managing chronic illnesses.[3] Some studies caution that it is too early to make conclusive claims, and still others have found specific telehealth initiatives to have negative clinical and cost outcomes.[4] Despite these varied results, however, the research on telehealth—including studies of behavioral health and substance use treatment initiatives—is generally favorable.[5]

In 2014, the *American Journal of Psychiatry* published a series of studies evaluating the efficacy of a computer-based version of cognitive behavioral therapy, called Computer-Based Training for Cognitive Behavioral Therapy (CBT4CBT). The study examined a sample of individuals enrolled in a methadone maintenance program who were also cocaine-dependent—a highly challenging clinical population. The subjects

who received CBT4CBT in addition to methadone maintenance were significantly more likely that those receiving only standard methadone maintenance to attain three or more consecutive weeks of abstinence.[6] The results of a six-month follow-up study also indicated significant enduring benefits of CBT4CBT, including a statistically significant percentage of urine screens that were negative for all illicit drugs.[7] This study is noteworthy because it represents the first randomized clinical trial of a computer-assisted therapy for substance use disorders.[8]

A 2012 study by the New York State Psychiatric Institute and the National Institute on Drug Abuse, also published in the *American Journal of Psychiatry*, evaluated the effectiveness of the Therapeutic Education System, a web-based treatment for alcohol use disorders based on the community reinforcement approach.[9] The study found that the Therapeutic Education System doubled the odds of abstinence in clients who were using substances in the 30 days prior to baseline and performed as well as traditional treatment for clients who were already abstinent at baseline.[10] It also found that Therapeutic Education System recipients achieved more consecutive "clean time" and had better program retention rates. The findings suggest that this web-based intervention can be substituted for a portion of face-to-face counseling and produce better abstinence and retention outcomes.[11] The Therapeutic Education System has also been successful in a prison setting and is particularly well suited to treatment of inmates with mild to moderate substance use disorders, a group that often goes untreated.[12]

These examples, in addition to those described in the Additional Research section, suggest many potential uses for remotely-delivered treatment and other services in the drug court context. Telehealth is most appropriately viewed as a supplement to traditional treatment, rather than as a complete replacement for face-to-face interaction with trained health care

professionals.[13] A consistent theme in the research literature is that telehealth interventions are enhanced by human support, and that telehealth should be regarded as a "clinician extender"—a supplement—rather than a replacement. In the drug court setting, teleservices initiatives should be considered not only in situations where geographical, financial, and transportation restrictions make it impractical for participants to travel to meet with their treatment provider as often as clinically indicated, but also where there is limited access to a particular kind of specialist or treatment modality, or where caseloads are unmanageable. Technology, when used as a clinician extender, allows providers to expand client services while maintaining their therapeutic lead.

Current Drug Court Initiatives*

Several states are already utilizing telehealth strategies to supplement the delivery of treatment to their drug court participants. Oklahoma, for example, has an extensive telehealth network to support the provision of substance use and mental health services across the state. Oklahoma's drug court participants use teleservices to communicate with providers. This has been an important factor in ensuring access to appropriate treatment services, especially in rural areas, which are more likely to experience clinician shortages and less likely to have access to certain kinds of specialists. Services provided via telemedicine in Oklahoma are reimbursable by Medicaid and state treatment contracts.

Nebraska conducted a teleservices pilot project that stationed video conferencing kiosks at courthouses and law enforcement agencies throughout the state, allowing drug court participants to communicate with treatment providers, court staff, and probation officers. Kiosks were used for substance abuse assessments, outpatient treatment, and education and employment services, as well as for supervision appointments. These

kiosks also allow courts to conduct staffing meetings when team members are in different locations. Interestingly, the technology has also benefitted drug court participants in urban areas. In one city, there was no Moral Reconation Therapy (MRT) group available for Spanish-speaking drug court participants. These participants, however, were able to use the video conferencing kiosks to participate in a Spanish-language MRT group that was being held in a rural Nebraska community that had a large population of Spanish speakers.[14]

Today, through a partnership with the University of Nebraska Medical Center, the Nebraska state probation department is leading a transition to a statewide teleservices system. Using Vidyo teleconferencing products, the original kiosks are being outfitted with the latest conferencing technology and new access points are being created. In addition, the court system has upgraded the internet bandwidth in courthouses across the state and configured courtrooms with teleservices equipment. This will allow judges, who frequently travel to multiple counties, to conference into their home courtroom to conduct drug court staffings and hearings.

In Missouri, Preferred Family Healthcare, Inc., a non-profit behavioral health organization, initiated the Virtual World Counseling initiative in 2008 and began serving drug court participants on a pilot basis in 2011. Virtual World Counseling is a 3-D virtual world in which participants use animated "avatars" to correspond online in both group and individual settings. The project utilizes Skype video as a way to verify participants' identities. Federal funding enabled Preferred Family Healthcare to provide each participant with a laptop computer. Similar to a traditional, in-person treatment format, virtual counseling occurs at

* All descriptions of current drug court initiatives within this monograph are based on information received from drug court administrators and practitioners from their respective states.

regularly scheduled times and uses the same evidence-based treatment practices. During the pilot project, Virtual World Counseling was implemented in four judicial circuits. It may be expanded statewide in the future. In its evaluation of the program, the American University School of Public Affairs found that Virtual World Counseling had the same treatment retention rate as traditional face-to-face counseling.[15]

Montana is currently testing a teleservices version of the Matrix Model, an evidence-based outpatient treatment program, to supplement traditional treatment in its drug courts. Under this program, the Matrix Model is delivered to approximately 35 participants per week over videoconferencing technology manufactured by Polycom. The video technology is installed in every district courthouse in the state, and a central facilitator administers the intervention while a "therapeutic monitor"—such as the drug court coordinator, a treatment provider, or a probation officer—is present in the room with the participants. The biggest challenge to this initiative has been frequent technical difficulties. Court staff have sought to address this problem by maintaining close contact with the information technology support team, especially during live sessions.

Montana also offers CBT4CBT, an online version of cognitive behavioral therapy, to all drug court participants as a supplement to traditional outpatient treatment. The CBT4CBT program comprises eight online lessons, and participants can move through the curriculum at their own pace from their personal computer. Early results have been mixed, as participation in the program has been hindered by difficulties securing computer access for participants and the complexity of training some of the older users.

Franklin County, Ohio operates the Alcohol and Drug Addiction Program Specialized Docket (ADAP) for defendants who are dependent on alcohol or drugs (other than opiates) and have pled guilty to a

misdemeanor. ADAP uses the American Online Learning Center's web-based psycho-educational programs as a form of treatment and education for participants who live outside of Columbus and would therefore face barriers to participation if they were required to travel to the city for in-person classes. The American Online Learning Center offers specialized courses that can be completed at home. Topics include anger management, substance abuse and addiction, building family relationships, shoplifting, and driver improvement. Each course relates to specific offenses and is comprised of videos, slides, and interactive questions.[16]

In addition to using teleservices to deliver treatment, some courts in Ohio and West Virginia have utilized SMART Recovery (Self-Management and Recovery Training) in their problem-solving courts to support participants through their recovery. SMART Recovery offers a variety of online tools and techniques, such as worksheets and brainstorming materials, to support individuals who are working towards abstinence. Topics include building and maintaining motivation, coping with urges, managing thoughts, feelings and behaviors, and living a balanced life.

Client Supervision and Monitoring

Teleservices has the potential to enhance the way that drug courts monitor compliance and facilitate court-participant communication. Again, the field of medicine offers lessons. Health care providers frequently use technology to remotely collect, track, and transmit patient health data, which can improve the coordination of care, enhance patients' experiences, and reduce hospital admissions and costs.[17] These practices are known collectively as "remote patient monitoring."

Learning from Other Fields

Remote patient monitoring allows health care providers to track important patient data and detect changes in a patient's medical condition. Typically, wearable biometric devices transmit information to a provider remotely or video conferencing technology is used to connect patients and health care providers. Remote patient monitoring is frequently used to promote compliance with medication and treatment regimens and can even provide around the clock supervision when needed. It is particularly effective for managing chronic diseases that lend themselves to daily monitoring, such as asthma, diabetes, congestive heart failure, and chronic obstructive pulmonary disease.[18]

Remote drug testing is an emerging field with significant potential for drug courts, especially where traditional urinalysis is difficult because of geographical and transportation barriers. SCRAM Systems distributes wearable products for remotely monitoring alcohol use through transdermal testing.[19] Newer technologies analyze eye movements and pupil reactions, sleep pattern recognition, voice analysis, and handwriting analysis to detect substance use.[20] These technologies can not only supplement traditional urine testing, but also offer faster results and the potential for continuous or unsupervised testing.

Outreach Smartphone Monitoring is a smartphone-based application that uses GPS and blood alcohol monitoring technology to track a defendant's location and blood alcohol content via smartphone. The app also sends notifications reminding the defendant of court appearances, drug testing, medications, and appointments, and it incorporates supportive services such as crisis alerts, automated positive reinforcement statements, and resource lists for housing, jobs, and counseling services.[21] This kind of technology could be useful for drug court teams that have trouble monitoring and drug testing clients consistently.

Current Drug Court Initiatives

Some drug courts are already using teleservices to address the challenges associated with monitoring participants, particularly in rural communities. For example, Nebraska uses videoconferencing kiosks to connect participants with probation and court staff.

In Montana, most county courthouses, as well as some jails, hospitals, and public defenders' offices, now have videoconferencing technology available for use by drug court participants to communicate with their lawyers and treatment providers. In addition, the videoconferencing devices allow judges to hold staffing meetings and conduct court dockets remotely. This capability is important in Montana, where drug court judges often carry several dockets and travel great distances between them. Using video technology to hold staffing meetings and court sessions also creates opportunities for team interaction and judge-client interaction. Currently, staffing limitations make it difficult for courts to maximize the use of the technology. Without sufficient staffing, it is not always possible to adjust camera angles and focus on the individual who is speaking. Instead, cameras are set to a wide view that captures the whole room. As a result, participants tend to appear small on the monitor, making it difficult to perceive facial expressions and

other nuances. To address this issue, judges rotate hearing locations so that they can have at least some face-to-face interaction with each participant. Videoconferencing is also used to allow judges to communicate with participants who are in residential treatment and unable to attend court.

In West Virginia, the Appalachian Technology Assisted Recovery Innovations (ATARI) program ran for a year and gave free phones to drug court participants on the condition that they installed and used an app called ACHESS. Participants interacted with the app by answering questions about their sobriety. If the client reported use or an urge to use, the app sent a message to the case manager. ACHESS also incorporated a message board monitored by staff where drug court participants could discuss recovery related issues with their peers.

Colorado is currently using video conferencing to connect drug courts with participants in residential treatment facilities and jails. For example, drug court participants in Colorado's 7th Judicial District, which covers more than 10,000 square miles, must travel outside of the district for residential treatment; teleconferencing has been critically important, helping the court maintain connections to these participants.

The 7th Judicial District has also used the Outreach Smartphone Monitoring app with probation clients, including one drug court participant. This smartphone app allows probation officers to monitor a client's blood alcohol content remotely and track the client's location. Alerts notify the probation officer when a client leaves or enters a prohibited area, turns off his phone, or ingests alcohol. The app also allows probation officers to send reminders of court appearances and other appointments to participants via text message. Using the app, subjects can provide breath samples from home instead of driving to a testing facility while under the influence. Although the Outreach Smartphone Monitoring project is in the pilot stage, it is likely to become staple of the district's new DUI court.

Staff Training and Professional Development

Ongoing professional development is critically important for drug court teams, helping practitioners stay up to date with best practices in areas such as risk and need assessment, treatment delivery, recovery-oriented systems of care, drug testing, compliance monitoring, incentives and sanctions, and more. For many drug court professionals, however, opportunities for advanced training and professional development are rare. This is particularly true for individuals who live and work far from urban centers. Attending conferences and training events may involve insurmountable costs, and staffing limitations can make it impractical for drug court staff to leave their positions for even a few days. Fortunately, technology has the potential to greatly increase access to training with minimal cost.

Learning from Other Fields

In 2011, the U.S. Department of Education published a report that reviewed over 1,000 empirical studies of online learning. The results indicated that students in this study performed better in online learning environments than those receiving face-to-face instruction.[22]

In recognition of the potential obstacles to timely and thorough professional development, many major professional organizations host online learning tools, in the form of webinars and live online events. The website of the American Medical Association, for example, hosts webinars on a variety of timely topics, and the American Bar Association website hosts both prerecorded and live webinars, as well as self-paced online courses. Taking a slightly different approach, the American Probation and Parole Association partners with a third party company to provide web-based training solutions that include scheduled and self-paced courses to meet specific training needs.

Current Drug Court Initiatives

There is a growing body of online resources dedicated to educating and training drug court practitioners. The Center for Court Innovation operates the National Drug Court Online Learning System, a free web-based platform that offers dozens of self-paced video lessons related to adult criminal drug courts, juvenile drug courts, and veterans treatment courts. Lessons cover such topics as understanding drug use and addiction, sanctions and incentives, trauma-informed care, and many others. In addition, the National Drug Court Online Learning System offers interviews with drug court practitioners and experts, virtual site visits to real drug courts around the country, interactive quizzes to help users test their own progress, and a resource library of documents and reference tools.

The National Drug Court Institute (NDCI) also offers online training resources, including free courses on understanding the essential elements of adult drug courts, treating and supervising methamphetamine addicts, and transitioning judges into drug court. NDCI also offers regular webinars on a variety of topics and archives old webinars on their website.

Webinars are currently one of the most widely used tools for professional development for justice system professionals. Although prerecorded webinars lack the element of interactivity, they offer access to a wide array of training materials presented by leading experts and can be recorded and stored for future viewing at the user's convenience. Live and archived webinars relating to drug courts can be found online through the Justice Programs Office at American University's School of Public Affairs; Tribal Law and Policy Institute's Tribal Court Clearinghouse; Children and Family Futures (for family drug courts); National Council of Juvenile and Family Court Judges (for juvenile drug courts); Substance Abuse and Mental Health Services Administration (SAMHSA); Center for Substance Abuse Treatment; Addiction Technology Transfer Center Network and

its affiliated National Frontier and Rural Addiction Technology Transfer Centers Telehealth Initiative; and individual state court drug associations' websites.[23]

Colorado was one of the first states to use teleservices to train drug court staff. Utilizing products such as WebEx and GoToMeeting, the state's seventh judicial district links drug court professionals with training materials and presentations from larger urban areas. Moreover, the state's Problem Solving Court Advisory Committee hosts a variety of educational materials for drug court professionals on its website.

In addition to online education for individual drug court professionals, some states are using teleservices to provide training to entire drug court teams or groups of drug courts. In Montana and Nebraska, for example, the state drug court administrator uses videoconferencing technology to hold monthly meetings with drug court coordinators. A portion of these monthly meetings is dedicated to practical training topics. This innovative use of technology for professional development purposes is a cost-effective alternative to live training and promotes adherence to best practices.

Areas for Further Attention

As drug courts explore the use of teleservices, however, there are several areas that merit further attention and that may present potential barriers to implementation.

Cost

Cost can be a major barrier to implementing teleservices initiatives, as equipment and infrastructure enhancements can carry a considerable price tag. Upfront expenses may include developing and licensing software, investing in a secure broadband connection, and acquiring advanced equipment. The court might also need to purchase personal equipment for participants, such as smartphones, laptops, computers, or wearable biometric devices. In some cases, there are ongoing costs associated with sustaining a teleservices initiative. These can include equipment maintenance, upgrades, licensing fees, and staff time to operate and maintain the technology. As the field of teleservices advances, more research is needed to identify the kinds of technologies that are most cost-effective for drug courts—and strategies for drug courts to underwrite the cost of such technologies.

Access to technology

Inadequate access to the internet can also hamper telehealth initiatives. Some communities, particularly in rural areas, still do not have access to broadband, while others have undependable access. A slow or unreliable internet connection might be sufficient for communicating with a treatment provider via email, but it generally will not allow a drug court participant to connect to the courtroom via live video link.

Regulatory issues

Technology is attractive to drug courts largely because it enables people to communicate across distances. Drug court participants in a rural area in one state

may suddenly find that they can access treatment services or medical specialists in a city that happens to be in a neighboring state. This ability to bridge large distances, however, raises important issues for treatment professionals and others who are licensed to provide services. Regulatory restrictions may limit the ability to deliver services across state lines, as some regulations require providers to be licensed in the state where the patient is located. In addition, professional practice standards may also pose barriers, as many state medical boards require an in-person consultation before initiation of any telemedicine services.[24] The legal and regulatory framework around teleservices is shifting—some states are already taking steps to amend regulations to facilitate greater use of teleservices.[25] In the next few years, this landscape is likely to change considerably.

Insurance coverage

While the Affordable Care Act expanded patient access to mental health and substance use treatment, coverage for the remote delivery of such treatment is less clear. As of 2013, 39 states had some form of Medicaid coverage for mental health care provided by video conferencing, and as of 2012, 15 states had laws mandating private insurers to cover telehealth services.[26] Unfortunately, for a variety of reasons, not all providers are ready to embrace telehealth. Some barriers to the coverage of telehealth include the fear of medical malpractice suits, fear of fraud and abuse, and a lack of financial incentive.[27]

Both Medicare and Medicaid impose licensure and credentialing requirements that limit the types of providers that can deliver telehealth services. Both programs also restrict the allowable originating sites and the eligible services.[28] For example, in most states, Medicaid reimburses for "real-time" telehealth, whereby the patient and provider communicate with each other simultaneously, as through video conferencing. Fewer

states, however, offer Medicaid reimbursement for "store-and-forward" services, in which communication is not simultaneous, as with email.

User comfort and experience with technology

For a teleservices initiative to be successful, both participants and providers must be comfortable with the technology being used and the services being delivered.[29] Jurisdictions should be mindful when designing teleservices programs to ensure that the user interface is easy and that all users receive adequate training.[30] Court staff and service providers may resist utilizing a teleservices program if they feel that the program is too difficult to implement. Drug court participants, too, will need training to reap the full benefits of a teleservices program. Often, individuals with substance use disorders also have lower incomes, are less proficient with computers, and have more limited access to the internet. Training and ongoing support are important to ensure that both participants and providers utilize teleservices effectively and consistently.

Quality control

The use of teleservices in drug courts is in its infancy—the jurisdictions using teleservices today are generally experimenting with them on a pilot basis. As these programs spread, however, quality control will become an important issue. In the coming years, special attention must be paid to emerging issues like data security, user confidentiality, and participant accountability.

Fidelity to evidence-based practices

Some drug courts are already experimenting with the delivery of evidence-based practices using teleservices. It is not clear, however, whether the remote delivery of these programs impacts their effectiveness and whether they should still be considered evidence-based programs in the absence of additional validation studies.

Legal and privacy issues

Federal and local privacy laws and regulations, as well as professional practice standards and ethical guidelines, may impact the use of communications technology to deliver health care or other services. In addition, it is possible that future litigants may challenge the legality of remote court hearings or question how such hearings impact the constitutional right to counsel, the right to confront one's accuser, or the right to challenge the results of a drug test. Other possible issues include the legal consequences of a defendant "failing to appear" in court as a result of technical difficulties at a teleservices site.

The experience of the Massachusetts Department of Public Health is instructive. Since implementing its Sexual Assault Forensic Exam Pilot Project, the Department of Public Health has been addressing the legal complications presented when a nurse is called to testify in a criminal case in a state other than the one in which he or she conducted the examination. In the drug court context, similar legal issues could arise for treatment providers or others who provide services to drug court participants remotely.

Privacy considerations will also play a role as electronic communication of personal health care records presents new challenges for providers, especially with the anticipated growth in mobile health apps.[31]

Availability of telehealth options

Although there is an ever growing field of research about technology-based interventions for the drug dependent population, very few of these options are readily available to providers who are interested in implementing them. Many programs were developed for scientific study but are not commercially available at this time. Thus, no "menu of options" currently exists, and providers who are interested in telehealth often struggle to identify potential solutions that are available for purchase and implementation.

Planning Considerations for Drug Court Practitioners

The early experiences of drug courts in Colorado, Montana, Nebraska, Ohio, Oklahoma, West Virginia, and elsewhere suggest that teleservices can be used to enhance service delivery, compliance monitoring, and staff training. The following set of considerations may assist drug court planners as they set out to replicate these early projects and develop teleservices initiatives of their own.

Assess the need for teleservices in your drug court...

...to expand the delivery of treatment and other services. Consider the treatment needs of your drug court clients and the range of supportive services they need to achieve sustained recovery and community reintegration. To help identify your clients' needs, it may help to look at the results of any risk-need assessments or clinical assessments that your court or your partner agencies are conducting with clients. Is your court currently providing all needed services, or are there gaps? Examples might include a lack of qualified trauma counseling or cognitive therapies to address criminal thinking, or culturally relevant services. Perhaps there are services that your court is offering that need to be improved? Be sure to consider the complete continuum of care from initial screening and assessment to treatment and aftercare.

...to enhance compliance monitoring. Compliance monitoring and frequent drug testing are both essential elements of a successful drug court. Research suggests, for example, that staffing meetings and drug court dockets should be held at least every other week and that drug testing should be conducted at least twice weekly on random and non-consecutive days.[32] Distance, transportation, and other factors can make it difficult for courts to drug test participants frequently, hold

regular status hearings, or address noncompliance in a timely manner. Courts should evaluate how well they currently meet these and other recommended guidelines and consider whether technology would significantly enhance the court's ability to monitor participants effectively.

...to facilitate staff training and professional development. Consider whether your drug court team currently has adequate training and professional development opportunities. Team members should receive ongoing training regarding emerging drug court research as well as "refresher" trainings regarding recommended practices. In addition, drug courts should set aside time at least once each year, and ideally more often, when team members can step away from their day-to-day roles to access professional development opportunities, whether onsite or off. If your drug court team does not currently have sufficient in-person training opportunities, consider whether technology would help by providing access to interactive webinars, pre-recorded video presentations, online courses, and other professional development resources. When possible, real-time online training is preferable to pre-recorded presentations, as it allows for participants to ask questions and otherwise interact with the presenters and their colleagues.

Identify specific treatment interventions and other services that can be offered remotely.

As Montana and other states have discovered, several evidence-based practices have been adapted for remote delivery, including the Matrix Model, cognitive behavioral therapy (CBT4CBT), and SMART Recovery. Other programs, like the Therapeutic Education System, have been developed specifically for remote delivery. Moreover, technologies like videoconferencing and Virtual World Counseling can link drug court clients with forms of individual and group counseling that may not be available locally. These programs represent only a

sampling of the innovative approaches that are available today, and new approaches are emerging rapidly. By exploring the range of available technologies, drug courts can identify treatment interventions and other services that can be incorporated into their programs and offer additional support to their clients.

When exploring telehealth services, drug court practitioners should again keep in mind that remote treatment is best used to supplement face-to-face treatment and should not be used as a substitute unless absolutely necessary. For example, participants embarking on the road to recovery are often encouraged to change their social networks, which can lead to feelings of isolation. If teleservices is used in lieu of face-to-face interaction, participants may not have adequate opportunities to develop sober social networks. Moreover, research shows that human support increases adherence to treatment.[33] For these reasons drug courts should seek to combine in-person treatment modalities with teleservices whenever possible.

In selecting a telehealth intervention, planners must consider how clinicians will be using the intervention, how they will document its use, and how they will use participant's progress with the telehealth intervention to inform their overall treatment approach.

Assess the technology needed to implement the project.

When planning a teleservices initiative—whether to enhance treatment, supervision, or training—drug court teams should conduct a careful assessment of the technology before making any purchases. This assessment should consider hardware, software, and broadband or cell service. Consideration should be given to whether existing infrastructure is sufficient or whether new equipment such as computers, cameras, or high resolution monitors, need to be purchased.

It is imperative that planners identify all technological specifications for computers, cell phones,

applications, mobile blood alcohol content monitoring devices, and any other elements of technology that will be used for the program. Planners must also assess equipment and software compatibility issues at all sites that will be involved in the program. Consideration should also be given to a drug court's existing case management system to assess whether it is capable of working in conjunction with the proposed teleservices initiative, for example by tracking a participant's completion of online services. All planning for new technology should include arrangements for ongoing technical support during the startup phase and throughout the duration of the program.

Assess the cost of implementing the project.

Teleservices projects have the potential to result in cost savings in the long run, but careful budgeting is imperative during the implementation phase. In addition to acquisition costs of the teleservices system, cost estimates should take into account facilities modifications needed to accommodate new equipment and to provide private spaces for participants to use the equipment. Other potential costs may include the expansion of broadband connection, training, maintenance and technical support, and fees for health care services that may not be reimbursable by insurance. To reduce initial spending, planners should conduct a careful inventory of available resources and consider tailoring teleservices initiatives to the current infrastructure.

Identify required partnerships.

Nearly all teleservices initiatives require collaboration. Some initiatives will involve installing technology at another agency's offices. Others will involve building new relationships with treatment providers in other towns or states or expanding the ways that partner agencies monitor participants. Drug courts should engage key partners as early as possible in the planning

process to ensure that their concerns and needs are met. In addition, planners might consider forging a partnership with their local SAMHSA Addiction Technology Transfer Center, a nationwide resource network for professionals in the addiction treatment and recovery services field. The Addiction Technology Transfer Center network facilitates information sharing and promotes the use of teleservices through resources such as "Telehealth Tuesdays," a monthly online professional development seminar.[34]

Identify the end users of the technology and address their comfort with technology.

End users will likely include a combination of drug court participants, court staff, partner agencies, and other stakeholders. Planners should be sure to include all of these constituents in the development of a new teleservices initiative and give careful consideration to end users' training needs. In addition, planners should recognize that drug court teams might resist new technologies if they are perceived as difficult to learn or use. Involving stakeholders early in the process can help to generate buy-in.

Planners should also consider the "digital divide" when designing teleservices programs. Marginalized populations—including those experiencing poverty, lack of education, and geographic isolation—often have less access to and familiarity with technology. Although the digital divide appears to be narrowing with respect to mobile phones, it is still a major concern for computer, internet, and e-mail access. Teleservices initiatives should be designed with these limitations in mind. In addition, planners should not overlook the fact that many drug court clients face day-to-day challenges, like frequent phone number and address changes, that may further limit their access to technology.[35]

Ideally, to help establish trust and foster a therapeutic relationship, the first contact with a telehealth program should be conducted via face-to-

face interaction between the patient and the provider.[36] The American Telemedicine Association publishes a guide outlining fundamental requirements for health care providers using technology to communicate with patients, practitioners, and other providers.[37]

Identify locations where users will access remote services.

Many teleservices initiatives will require courts to install technology, such as computer kiosks or video terminals, in places where participants can access it. Possible locations include courthouses, jails, police stations, probation departments, treatment offices, recovery residences, and even libraries and other public spaces. During the planning phase, drug courts should identify locations that are convenient for clients, typically places that are centrally located or accessible by public transportation. In addition, planners should consider factors such as privacy requirements, supervision needs, and existing technology capacity at each potential site.

Identify regulatory barriers.

Teleservices initiatives are subject to a complex array of federal, state, and local regulations as well as professional practice standards and health care reimbursement systems. Moreover, this landscape varies by state and locality and is subject to constant change. Unfortunately, there is no single resource for planners to consult when considering these issues. Instead, planners should work with knowledgeable partners—such as local bar associations, state medical boards, treatment providers, and others—to become familiar with local regulations. The Center for Connected Health Policy, which serves as the federally designated National Telehealth Policy Resource Center, has a useful feature on their website for researching state policies on health care reimbursement.[38]

Conclusion

Drug courts must continue to adapt to and meet the needs of their participants and practitioners. As technology progresses, drug courts should be poised to take advantage of these developments in order to deliver a wider range of services, increase the efficacy of compliance monitoring, and facilitate more robust professional development opportunities for practitioners. Some courts have already begun to embrace technology in their programs; these courts are paving the way for the field. The future is now.

Additional Research

For those interested in further reading, the following resources represent some of the available research and case studies related to teleservices.

Treatment and Supportive Services

The Veterans Health Administration (VHA) is a pioneer in the field of telehealth. Among other initiatives, the VHA relies on technology to provide care to veterans living in rural communities. Using interactive video technology, veterans are able to communicate with medical specialists at larger urban medical centers from a Department of Veterans Affairs clinic near their community. In addition, the VHA's home telehealth program allows veterans to communicate with doctors by phone from the comfort of their homes and utilizes advanced technologies to remotely check symptoms and measure vital signs. These approaches enable the VHA to provide veterans in rural communities with access to quality health care, including cardiology, neurology, mental health, trauma therapy and other specialties that may not be available locally.

Early telehealth programs focused largely on meeting patients' physical health needs while reducing the costs and burdens of transportation to distant health care providers. Today, many successful telehealth programs continue this focus on physical health. In Montana, St. Vincent Healthcare operates a pediatric "tele-neurosurgery" consultation project that allows patients with head injuries to stay in Montana without traveling 500 miles or more to an urban medical center. These patients receive CT scans at their local hospital, and the results are transmitted remotely to a pediatric neurosurgeon at a major hospital, who reviews the scans and then conducts a video assessment of the child.[39] In South Dakota, Avera Health provides rural clinicians with immediate access to emergency medicine physicians and nurses via video technology to aid in the

diagnosis and treatment of stroke, heart attack, trauma, and other critical conditions.[40] Many more examples can be found online about the role of telehealth in developing strategies for treating physical health conditions.[41]

The *Journal of Substance Abuse* has published several studies looking at computer-based addiction treatment initiatives. An evaluation of a computer-based brief motivational intervention for alcohol use disorder, called the Drinker's Check-Up, found that participants using the program substantially reduced their alcohol use and other alcohol-related problems over a 12-month follow-up period.[42] Another study looked at a web-based disease management program that combined a number of evidence-based practices to provide continuing recovery support for patients who were discharged from residential care for alcohol or drug dependence. The study found a significant relationship between the number of learning modules accessed by the participants and favorable substance use outcomes in the year following treatment.[43]

Another tool for problem drinking is the smartphone app Step Away. Step Away allows users to interact with the app to enhance their awareness of their own drinking, monitor progress toward a drinking goal, manage triggers, and connect with other types of support. Results from early pilot tests of this system were favorable, with significant reductions in the percentage of heavy drinking days among users.[44]

These studies demonstrate that telemedicine has the potential to produce positive outcomes in the field of behavioral health and substance use treatment. A 2004 meta-analysis in the Journal of Medical Internet Research found an improvement in outcomes for individuals using web-based interventions to achieve specified knowledge or behavior change.[45] A 2009 paper by the National Association of State Alcohol and Drug Abuse Directors found that substance use telehealth projects yielded high patient satisfaction

ratings and equivalent results to traditional treatment.[46] Conclusions such as these are promising for the use of telemedicine to treat addiction, as they demonstrate that the internet can be a powerful tool in affecting a person's behavior remotely.

Some studies look specifically at the offender population. For example, a 2014 study published in the *Journal of Substance Abuse Treatment* tested the efficacy of MAPIT (Motivational Assessment Program to Initiate Treatment), a web-based intervention that aims to increase motivation for substance use treatment among justice involved participants. MAPIT integrates a number of evidence-based practices and uses emails and text messages to remind clients of their goals and to deliver customized feedback and suggestions. An initial test of MAPIT yielded positive participant feedback; it is currently being tested in a randomized trial in two large probation agencies.[47]

A further subset of studies looks at the juvenile justice-involved population. A 2012 study examined the development of a computer-based intervention called Rise Above Your Situation (RAYS), which is built on the transtheoretical model of behavior change. Evaluations of RAYS were favorable: over 90 percent of justice-involved youths agreed that the program could help them make positive changes.[48] A 2007 study looking at a similar population explored whether a computerized intervention would be effective in reducing sexual risk behaviors in justice involved juveniles. Adolescents who received the computerized intervention were significantly less likely to engage in sexual activity than those participating in a traditional small-group intervention and reported significantly fewer sexual partners.[49] Another intervention known as "eCHECKUP TO GO" is a commercially available web-based intervention, designed to reduce alcohol consumption among college freshmen. Its modules are personalized, evidence-based, online prevention tools. Several studies have demonstrated its effectiveness both as a standalone

intervention, and also as part of a judicial mandate.[50] Results such as these are encouraging for drug courts as they support the premise that technology can be used to deliver information to some young adults and effect positive behavior changes.

In addition to supporting substance use treatment, telehealth strategies may enhance drug courts at other points along the continuum of care. For example, the Massachusetts Department of Public Health is planning a telemedicine demonstration project that will incorporate telecommunications at the assessment phase. The Sexual Assault Forensic Exam Pilot Project aims to use telehealth to expand access to sexual assault nurse practitioners for victims living in rural areas, where a lack of resources can make it difficult to implement sexual assault response team programs. The pilot project will link local clinicians and sexual assault nurse examiners (or other forensic medical examiners) through a web-based video connection. Ultimately, the state seeks to create a national telemedicine center in Boston that will serve jurisdictions across the country.

At the other end of the continuum of care, telehealth has the potential to enhance aftercare services. Online self-help, for example, is available through many Alcoholics Anonymous chapters as a tool for supplementing face-to-face peer support.[51] In addition, SMART Recovery also offers addiction recovery support groups in a variety of formats, including message boards, a 24/7 chat room, and approximately 40 online meetings per week, with email verification of attendance upon request.[52] Courage Beyond provides support services for veterans— including online counseling, support groups, and classes—and offers a special focus on post-traumatic stress disorder and other "invisible wounds of military service."[53]

Client Supervision and Monitoring

Humana, a health insurance company, uses biometric monitoring to provide support and customized coaching

for older adults with chronic illnesses like congestive heart failure. Daily weight and blood pressure measurements are automatically sent to a nurse, who can assess the health status of patients and identify any causes for concern. The nurse can then set up a videoconference with the patient and discuss any issues. Humana found that interventions like these are extremely effective in producing long-term behavioral change. Because nurses intervene at the first sign of abnormality, patients gain a personal understanding of how their habits can exacerbate their symptoms and how they can overcome these obstacles.[54] Overall, Humana's biometric monitoring program seeks to reduce hospital readmission rates, avoid catastrophic events, and improve patient outcomes.

Several studies have shown that telehealth can also benefit those suffering from chronic respiratory disorders.[55] In one 2009 study published by the European Respiratory Journal, a group of chronic respiratory failure patients on oxygen or home mechanical ventilation received telephone care and monitoring from nurses in lieu of outpatient check-ups.[56] Some high-risk patients received a modem and a medical device to monitor the oxygen saturation of their blood and transmit vital statistics through the patient's home telephone line. When necessary, the information was sent to a receiving station where a nurse was available to provide a real-time consultation. Patients receiving telephone-based assistance experienced significantly fewer hospitalizations, fewer urgent calls to their doctor, and fewer acute exacerbations. The study also examined the cost savings resulting from the program and found that, after deducting technology costs, the average overall cost for each patient was 33 percent less than that for traditional care.

A 2013 study published in the Methodist DeBakey Cardiovascular Journal looked at remote patient monitoring as an element of preventative care for patients with heart disease. The study concluded

that remote monitoring is becoming a key disease management strategy and that it is cost-effective compared to traditional approaches. The study also found that the effectiveness of remote monitoring varies based on the technology involved and the system in place for handling the patient information.[57]

Examples of technology being used to monitor behavior can also be found outside the medical field. The American Probation and Parole Association (APPA) encourages its affiliates to use social media to monitor subjects' behavior.[58] For instance, APPA advises supervisors to use Facebook to detect whether offenders are engaging in prohibited activities or associating with restricted individuals. Although there are many challenges to using social media in this way, such as technological restrictions, privacy and legal concerns, it could be a useful tool for drug courts that do not have enough staff to effectively monitor their participants.

Some courts, especially ones in rural locations and courts with scarce resources, struggle with randomization of drug screening procedures. Web- and phone-based products like i-samson.net and Call2Test can facilitate drug testing by providing a fully-automated randomization system that notifies participants when they are required to test.[59] These systems can be tailored to each individual participant and can track offenders by monitoring their compliance with the randomization system. This kind of service could be particularly useful for courts where participants are separated from testing facilities by great distances.

Staff Training and Professional Development

Some studies have looked specifically at distance learning as a tool for training subjects in the administration of evidence-based practices. The Journal of Autism and Developmental Disorders published a study in 2009 on the efficacy of distance learning in training therapists to use a particular intervention for

treating children with autism spectrum disorder. The findings demonstrated that teaching through distance learning technology was as effective as teaching using traditional live interaction.[60]

Endnotes

1. "The 2007 Report to the Secretary: Rural Health and Human Service Issues." The National Advisory Committee on Rural Health and Human Services. January 2007. Accessed July 2015. (http://www.hrsa.gov/advisorycommittees/rural/2007secreport.pdf)
2. Erika Taylor, Erika Symonette, and Edward Singleton, "Considerations for the Provision of E-Therapy," U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Treatment (2009).
3. "Research Outcomes - Telemedicine's Impact on Healthcare Cost and Quality." American Telemedicine Association. April, 2015. Accessed July 2015. (http://www.americantelemed.org/docs/default-source/policy/examples-of-research-outcomes—telemedicine's-impact-on-healthcare-cost-and-quality.pdf)
4. David C. Klonoff, "Using Telemedicine to Improve Outcomes in Diabetes—An Emerging Technology," Journal of Diabetes Science and Technology, no. 3 (July, 2009). Janet E. McDowell and others, "A Randomised Clinical Trial of the Effectiveness of Home-Based Health Care with Telemonitoring in Patients with COPD," Journal of Telemedicine and Telecare, no. 2 (March 2015). Julie Polisena and others, "Home Telehealth for Chronic Obstructive Pulmonary Disease: a Systematic Review and Meta-Analysis," Journal of Telemedicine & Telecare, 16, no. 3 (2010). Sarwat I. Chaudhry and others, "Telemonitoring for Patients with Chronic Heart Failure: A Systematic Review, "National Center for Biotechnology Information, U.S. National Library of Medicine, 13, no. 1 (February, 2007).
5. "Research Outcomes - Telemedicine's Impact on Healthcare Cost and Quality." American Telemedicine Association. April, 2015. Accessed July 2015. (http://www.americantelemed.org/docs/default-source/policy/examples-of-research-outcomes—telemedicine's-impact-on-healthcare-cost-and-quality.pdf)
6. "Randomized Controlled Trial: 77 Individuals Seeking

Treatment in an Outpatient Setting." CBT4CBT Research. 2008. Accessed July 2015. (http://sudtech.org/cbt4cbt-research/)

7. Ibid.
8. Kathleen M. Carroll and others, "Computer-Assisted Delivery of Cognitive-Behavioral Therapy: Efficacy and Durability of CBT4CBT Among Cocaine-Dependent Individuals Maintained on Methadone," The American Journal of Psychiatry, 171, no. 4 (April, 2014).
9. "Web-delivery of Evidence-based, Psychosocial Treatment for Substance Use Disorders (CTN-0044)." ClinicalTrials.gov. 2012. Accessed July 2015. (https://www.clinicaltrials.gov/ct/show/NCT01104805?order=1)
10. Aimee N.C. Campbell and others, Novel Telemedicine System for Monitoring Congestive Heart Failure Patients "Internet-Delivered Treatment for Substance Abuse: A Multisite Randomized Controlled Trial," The American Journal of Psychiatry, 171, no. 6 (June, 2014).
11. "Technology-Assisted Care for Substance Use Disorders." Addiction Technology Transfer Center. 2013. Accessed July 2015. (http://www.attcnetwork.org/find/news/attcnews/epubs/addmsg/July2014article.asp)
12. Michael Chaple and others, "Feasibility of a Computerized Intervention for Offenders with Substance Use Disorders: A Research Note," Journal of Experimental Criminology, 10, no. 1 (October, 2013).
13. David C. Mohr, Pim Cuijpers, and Kenneth Lehman, "Supportive Accountability: A Model for Providing Human Support to Enhance Adherence to eHealth Interventions," Journal of Medical Internet Research, 13, no. 1 (October, 2011).
14. "Resource Guide for State Drug Court Administrators: Teleservices." (webinar) Center for Court Innovation. November 6, 2013. Accessed July 2015. (http://www.drugcourtta.org/Video/Webinar_15.html)
15. "Rural Drug Courts: Challenges and Solutions." School of Public Affairs – American University. January 29, 2014. Accessed July 2015. (http://www.american.edu/spa/jpo/videos/rural-drug-courts-january-2014.cfm)

16. "American Online Learning Center." Accessed July 2015. (https://www.americanolc.com/)
17. Andrew Broderick and David Lindeman. "Scaling Telehealth Programs: Lessons from Early Adopters." The Commonwealth Fund. January, 2013. Accessed July 2015. (http://www.commonwealthfund.org/~/media/files/publications/case-study/2013/jan/1654_broderick_telehealth_adoption_synthesis.pdf)
18. Gustafson D. and others, "The Effects of Combining Web-Based eHealth With Telephone Nurse Case Management for Pediatric Asthma Control: A Randomized Controlled Trial," Journal of Medical Internet Research, 14, no. 4 (July, 2012). S. Shea and others, "A Randomized Trial Comparing Telemedicine Case Management with Usual Care in Older, Ethnically Diverse, Medically Underserved Patients with Diabetes Mellitus," Journal of Medical Internet Research, 13, no. 1 (January, 2006). M. Domingo and others, "Evaluation of a Telemedicine System for Heart Failure Patients: Feasibility, Acceptance Rate, Satisfaction and Changes in Patient Behavior: Results from the CARME (Catalan Remote Management Evaluation) Study," European Journal of Cardiovascular Nursing, 11, no. 4 (December, 2012). M.M. Radai, "A Novel Telemedicine System for Monitoring Congestive Heart Failure Patients," Congestive Heart Failure, 14, no. 5 (September, 2008). Janet E. McDowell and others, "A Randomised Clinical Trial of the Effectiveness of Home-Based Health Care with Telemonitoring in Patients with COPD," Journal of Telemedicine and Telecare, no. 2 (March 2015).
19. SCRAM Systems. 2015. Accessed July 2015.(http://www.scramsystems.com/)
20. "Substance of Abuse Detection Technology: Alternatives to Utilizing Blood, Breath or Urine Samples." American Probation and Parole Association. 2005. Accessed July 2015. (https://www.appa-net.org/eweb/Dynamicpage.aspx?site=APPA_2&webcode=IB_IssuePaper&wps_key=5d243770-0e8a-4229-a09b-400652f602b9). ERAM-Electronic Remote Accountability Monitoring. Accessed July 2015.(http://eramnow.com/)

21. Smartphone Monitoring. Accessed July 2015. (http://www.osmnow.com/)
22. "Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies." U.S. Department of Education. 2009. Accessed July 2015. (https://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf)
23. School of Public Affairs, American University. Accessed July 2015. (http://www.american.edu/spa/jpo/). Tribal Law and Policy Tribal Court Clearing House. Accessed July 2015. (http://www.tribal-institute.org/). Children and Family Futures. Accessed July 2015. (http://www.cffutures.org/projects/family-drug-courts-tta). Substance Abuse and Mental Health Services Administration. Accessed July 2015. (http://www.samhsa.gov/). Center for Substance Abuse Treatment. Accessed July 2015. (http://www.samhsa.gov/about-us/who-we-are/offices-centers/csat). Addiction Technology Transfer Center. Accessed July 2015. (http://www.nattc.org/home/). National Frontier and Rural Addiction Technology Transfer Center. Accessed July 2015. (http://www.nattc.org/national-focus-areas/?rc=frontierrural).
24. Tracy A. Lustig. "The Role of Telehealth in an Evolving Health Care Environment: Workshop Summary 2012." Institute of Medicine of the National Academies. 2012. Accessed July 2015. (http://iom.nationalacademies.org/Reports/2012/The-Role-of-Telehealth-in-an-Evolving-Health-Care-Environment.aspx)
25. Latoya Thomas and Gary Capistrant. "State Telemedicine Gaps Analysis – Physician Practice Standards & Licensure." American Telemedicine Association. July 2015. Accessed July 2015. (http://www.americantelemed.org/docs/default-source/policy/50-state-telemedicine-gaps-analysis–physician-practice-standards-licensure.pdf?sfvrsn=14)
26. "State Medicaid Practice: Telemental and Behavioral Health." American Telemedicine Association. August, 2013. Accessed July 2015. (http://www.americantelemed.org/docs/default-source/policy/ata-best-practice—telemental-and-behavioral-health.pdf?sfvrsn=10)
27. Tracy A. Lustig. "The Role of Telehealth in an Evolving

Health Care Environment: Workshop Summary 2012." Institute of Medicine of the National Academies. 2012. Accessed July 2015. (http://iom.nationalacademies.org/Reports/2012/The-Role-of-Telehealth-in-an-Evolving-Health-Care-Environment.aspx)

28. Ibid.
29. J.C. Fortney and others, "A Re-Conceptualization of Access for the 21st Century Health Care," Journal of General Internal Medicine, no. 26 (November, 2011).
30. Susannah McLean, Denis Protti, and Aziz Sheikh, "Telehealthcare for Long Term Conditions," The BMJ, (February, 2011).
31. Tobias Dehling and others, "Exploring the Far Side of Mobile Health: Information Security and Privacy of Mobile Health Apps on iOS and Android," Journal of Medical Internet Research, 3, no. 1 (January, 2015).
32. "Adult Drug Court Best Practice Standards, Volume 2." National Association for Drug Court Professionals. 2015. "Rural Drug Courts: Challenges and Solutions." School of Public Affairs – American University. January 29, 2014. Accessed July 2015. (http://www.american.edu/spa/jpo/videos/rural-drug-courts-january-2014.cfm)
33. David C. Mohr, Pim Cuijpers, and Kenneth Lehman, "Supportive Accountability: A Model for Providing Human Support to Enhance Adherence to eHealth Interventions," Journal of Medical Internet Research, 13, no. 1 (October, 2011).
34. Addiction Technology Transfer Center Network. 2014. Accessed July 2015. (http://www.nattc.org/home/)
35. E. McClure and others, "Utilization of Communication Technology by Patients Enrolled in Substance Abuse Treatment," Drug and Alcohol Dependence, (2012).
36. Susannah McLean, Denis Protti, and Aziz Sheikh, "Telehealthcare for Long Term Conditions," The BMJ, (February, 2011).
37. "Core Operational Guidelines for Telehealth Services Involving Provider-Patient Interactions." American Telemedicine Association. May, 2014. Accessed July 2015. (http://www.americantelemed.org/docs/default-source/

standards/core-operational-guidelines-for-telehealth-services.pdf?sfvrsn=6)

38. "State Telehealth Laws and Reimbursement Policies Report." Center for Connected Health Policy. 2014. Accessed July 2015. (http://cchpca.org/state-telehealth-laws-and-reimbursement-policies-report)
39. "Telemedicine Brings Travel Relief to Pediatric Patients in Montana with Head Injuries," American Telemedicine Association. 2012. Accessed July 2015. (http://www.americantelemed.org/about-telemedicine/telemedicine-case-studies/case-study-full-page/telemedicine-brings-travel-relief-to-pediatric-patients-in-montana-with-head-injuries#.VZ2LwE3bKUk)
40. "Avera eCARE Supports 675 Rural Clinicians in the Delivery of Highest-Quality Care," American Telemedicine Association. 2012. Accessed July 2015. (http://www.americantelemed.org/about-telemedicine/telemedicine-case-studies/case-study-full-page/avera-ecare-supports-675-rural-clinicians-in-the-delivery-of-highest-quality-care#.VZ2L6U3bKUk).
41. "Telemedicine Case Studies," American Telemedicine Association. 2012. Accessed July 2015 (http://www.americantelemed.org/about-telemedicine/telemedicine-case-studies#.VZ2Lrk3bKUk). "Positive Outcomes," Great Plains Telehealth Resource & Assistance Center. 2015. Accessed July 2015. (http://www.gptrac.org/evidence/positive-outcomes/). "AHRQ-Funded Projects," U.S. Department of Health & Human Services Agency for Healthcare Research and Quality. 2015. Accessed July 2015. (http://www.ahrq.gov/)
42. Reid K. Hester, Daniel D. Squires, and Harold D. Delaney, "The Drinker's Check-up: 12-Month Outcomes of a Controlled Clinical Trial of a Stand-Alone Software Program for Problem Drinkers," Journal of Substance Abuse Treatment, 28, no. 2 (March, 2005).
43. Audrey A. Klein and others, "Computerized Continuing Care Support for Alcohol and Drug Dependence: A Preliminary Analysis of Usage and Outcomes," Journal of Substance Abuse Treatment, 42, no. 1 (January, 2012).
44. Patrick L. Dulin, Vivian M. Gonzalez, and Kendra Campbell,

"Results of a Pilot Test of a Self-Administered Smartphone-Based Treatment System for Alcohol Use Disorders: Usability and Early Outcomes," National Center for Biotechnology Information, 35, no. 2 (2014).

45. Dean J. Wantland and others, "The Effectiveness of Web-Based vs. Non-Web-Based Interventions: A Meta-Analysis of Behavioral Change Outcomes," Journal of Medical Internet Research, 6, no. 4 (November, 2004).
46. "Telehealth in State Substance Use Disorder (SUD) Services." The National Association of State Alcohol and Drug Abuse Directors, Inc. June, 2009. Accessed July 2015. (http://www.tnpcaeducation.org/resourcelibrary/clinical/Telehealth%20in%20Substance%20Use%20Disorder%20Services %20Report%2009.pdf).
47. S.T. Walters and others, "MAPIT: Development of a Web-Based Intervention Targeting Substance Abuse Treatment in the Criminal Justice System," Journal of Substance Abuse Treatment, 46, no. 1 (January, 2014).
48. Deborah A. Levesque and others, "Computer-Tailored Intervention for Juvenile Offenders," Journal of Social Work Practice in the Addictions, 12, no 4 (January, 2012).
49. Marguerita Lightfoot, W. Scott Comulada, and Gabriel Stover, "Computerized HIV Preventive Intervention for Adolescents: Indications of Efficacy," American Journal of Public Health, 97, no. 6 (June, 2007).
50. eCHECKUP TO GO, San Diego State University Research Foundation. 2015. Accessed July 2015. (http://www.echeckuptogo.com/usa/).
51. Online Intergroup: Alcoholics Anonymous. Accessed July 2015. (http://www.aa-intergroup.org/).
52. SMART Recovery – Self-Management and Recovery Training. 2015. Accessed July 2015. (http://www.smartrecovery.org/).
53. Courage Beyond – A Program of Centerstone. 2014. Accessed July 2015. (http://couragebeyond.org/).
54. "Creating Change through Remote Patient Care Management Addressing Cost-Quality-Access with Innovative Telehealth Technology." American Telemedicine Association. 2012. Accessed July 2015. (http://www.americantelemed.org/about-telemedicine/telemedicine-case-

studies/case-study-full-page/creating-change-through-remote-patient-care-management-addressing-cost-quality-access-with-innovative-telehealth-technology#.VZ2MiE3bKUk)

55. J. Bourbeau and others, "Reduction of Hospital Utilization in Patients with Chronic Obstructive Pulmonary Disease: a Disease-Specific Self-Management Intervention," JAMA Internal Medicine (March, 2003).
56. M. Vitacca and others, "Tele-Assistance in Chronic Respiratory Failure Patients: a Randomised Clinical Trial," European Respiratory Journal, 33, no. 2 (February, 2009).
57. Arvind Bhimaraj, "Remote Monitoring of Heart Failure Patients," Methodist DeBakey Cardiovascular Journal, 9, no. 1 (January, 2013).
58. "The Use of Social Media in Community Corrections." American Probation and Parole Association. August, 2014. Accessed July 2015. (https://www.appa-net.org/eweb/docs/APPA/stances/ip_USMCC.pdf)
59. American Court Services. 2014. Accessed July 2015. (http://www.americancourtservices.com/views/home.php). Call2Test- Randomized Testing Automation. 2013. Accessed July 2015. (http://call2test.com/).
60. Laurie A. Vismara and others, "Dissemination of Evidence-Based Practice: Can We Train Therapists from a Distance?" Journal of Autism and Developmental Disorders, 39, no. 12 (December, 2009).

About the Center for Court Innovation

The Center for Court Innovation is a non-profit organization that seeks to help create a more effective and humane justice system by designing and implementing operating programs, performing original research, and providing reformers around the world with the tools they need to improve public safety, reduce incarceration, and enhance public trust in justice.

Center for Court Innovation
520 Eighth Avenue, 18th Floor
New York, New York 10018
P. 646.386.3100
F. 212.397.0985

courtinnovation.org