Technology-Assisted Care for Substance Use Disorders

WELCOME

SUDtech.org
Technology-Assisted Care for Substance Abuse Disorders

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Training Goals

• Improve awareness of and receptivity to using Technology-Assisted Care (TAC) for the treatment of Substance Use Disorders (SUDs)
• Identify effective TAC interventions for SUDs
• Demonstrate exemplary TAC interventions
• Identify strategies/approaches for adoption and integration of TAC into routine clinical practice
• Explore implementation and integration challenges (e.g., cost, reimbursement, security)
Contributing Factors towards Technology Adoption

(1) Optimisim - How beneficial will this new technology be once I start using it?

(2) Proficiency - How difficult will it be for me to learn to use it properly?

(Van Slyke et al., 2004; Corneille et al., 2014)
Inhibiting Factors towards Technology Adoption

(1) Dependence - How individuals might feel enslaved by technology

(2) Vulnerability - How technology may increase the chances of being victimized OR distrust of technology and its ability to work properly/function as intended

(Van Slyke et al., 2004; Corneille et al., 2014)
Any of these positive and negative factors may influence consumers' expectations of how much benefit (if any) they will gain from technology use, and thus their propensity to adopt new technologies.

(Van Slyke et al., 2004; Corneille et al., 2014)
This training is designed to introduce participants to two validated TAC interventions in order to help participants understand the benefits, ease of use and clinical application to enhance treatment services

AND to be aware of the positive and negative factors that impact adoption
Technology use has invaded our lives
87% of Americans use the Internet

(Fox & Rainie, Pew Report, 2014)
91% of American adults have cell phones

58% have smart phones

(Pew Report, 2014)
29% of Americans own a tablet

The average American owns four technology devices

(Digital Consumer Report, 2013)
The internet as diagnostic tool...

1. 59% of U.S. adults have looked online for health information in the past year.

2. 35% of U.S. adults say they have used the internet to try to figure out what medical condition they or another may have. We call them “online diagnosers.”

3. 53% of online diagnosers talked with a clinician about what they found online.

4. 41% of online diagnosers had their condition confirmed by a clinician.

Technology in the Workplace
Activity #1

Thinking of the technological innovations that you have used at work, please identify the ways in which these various tools have:

• Facilitated your work/introduced efficiencies?
• Impeded your work/created challenges?
PURPOSE: This blending product will introduce two Technology Assisted Care (TAC) interventions that have demonstrated utility as an adjunct to treatment services in specialty drug treatments programs. Historically, TACs have been used in general health care settings to treat other chronic medical conditions (e.g., diabetes, heart disease, asthma, etc.)
Blending Team Members

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In 2013, 22.7 million people aged 12 or older met the criteria for substance use disorders. Of these, 20.2 million people needed but did not receive treatment for illicit drug or alcohol use (NSDUH, 2011).
Client Barriers to Accessing Treatment

- Transportation
- Time away from home
- Child care
- Employment
- Lack of available services
- Stigma/confidentiality
- Other client barriers?
Program Barriers to Delivering Care

- Large caseloads
- Administration of EBPs with fidelity
- Lack of standardized practice in service delivery
- Limited resources (time/money)
- Limitations regarding clinical skill sets
- Burden of training/supervision
- Complex cases with multiple needs
- Other program barriers?
What do we know about the use of technology among our clients?

- Survey of 8 urban drug treatment clinics in Baltimore (266 patients)
- Clients had access to
  - Mobile Phone (91%)
  - Text Messaging (79%)
  - Internet/Email/Computer (39 - 45%)

(McClure et al., 2012)
Another study found that 95% of teens receiving treatment at emergency rooms had access to mobile phones and participated in text messaging.

Text message-based behavioral interventions were shown to be acceptable, valid and reliable with teens on a variety of sensitive topics.

(Ranney et al., 2012)
“Delivery of CBT could be subcontracted to the computer ...”
Technology Assisted Care

Use of technology devices to deliver some aspects of psychotherapy or behavioral treatment directly to patients via interaction with a web-based program.
To date, more than **100** different technology-assisted care programs have been developed for a range of mental disorders and behavioral health problems.

(Klein et al., 2012; Moore et al., 2011)
More Specifically... there are meta-analytic evaluations of technology assisted care programs for a range of Psychiatric Disorders

- Depression and Anxiety (Spek et al., 2007; Andrews et al., 2010)
- Illicit Drug Use (Tait, 2013)
- Smoking (Rooke, 2010)
- Alcohol Use (Khadjesari, 2011)
Technology-Assisted Care Interventions

- may consist of text, audio, video, animations, and/or other forms of multimedia
- use information from medical records, physiological data capture devices, or other sources
- may be interactively customized, or tailored, to an individual user’s needs

(Aronson, Marsch, & Acosta, 2013)
Technology-Assisted Care Interventions offer many advantages...
Technology-Assisted Care Interventions are flexible in their administration and their ability to provide automated and tailored information.

(Moyer & Finney, 2004/2005; Fotheringham et al., 2000)
Allow for on-demand access to therapeutic support outside of formal care settings anytime/anywhere

(Marsch, 2012)
Transcend Geographical Boundaries

(Marsch, 2012)
TAC Interventions could increase receptivity to care by serving as a proverbial “foot in the door” for clients who are uneasy about seeking SUD treatment.

(Rummel & Joyce, 2010)
TAC Interventions can improve organizational capacity to provide evidence-based practices and thereby enhance the **reach** of EBPs.
EBPs Administered via Technology-Assisted Care Interventions

• Cognitive Behavioral Therapy
• Community Reinforcement Approach
• Contingency Management
• Motivational Enhancement
• Motivational Interviewing
• Screening
• Brief Intervention
• Relapse Prevention
Encouraging evidence suggests positive treatment outcomes

(Bickel et al., 2008; Carroll & Rounsaville, 2010)
Clinician turnover - 31%
Clinical Supervisor turnover - 19%

(Gardner et al, 2012)
not THIS ...

... or THIS
But this...

Clinician Extenders

(Bickel et al., 2008; Carroll & Rounsaville, 2010; Des Jarlais et al., 1999; Marsch, 2011)
Technology-Assisted Care Interventions have been developed to target Addictive Disorders including:

- Alcohol Use
- Tobacco Cessation
- Gambling
- Illicit Drug Use
In general, technology-based behavioral health interventions have been shown to be well accepted, efficacious, and cost effective, especially when compared to standard care.

(Aronson, Marsch, & Acosta, 2013)
Technology-Assisted Care Interventions have been validated recently through NIDA research. TES and CBT4CBT
Therapeutic Education System (TES)

An interactive, web-based psychosocial intervention for SUDs, grounded in:

Community Reinforcement Approach (CRA) + Contingency Management (CM)
Features of TES

• Consists of **65** interactive, multimedia modules

• Self-directed, evidence-based program with skills training, interactive exercises, and homework

• Audio component accompanies all module content

• Electronic reports of patient activity available

• Contingency Management Component tracks earnings of incentives dependent on some defined outcome (e.g., urine results confirming abstinence)
TES modules can be broadly classified as:

- **Substance Use/Abuse**
  (e.g., drug refusal skills, coping with thoughts about using, identifying/managing triggers)

- **Risk Reduction for HIV, AIDS & STIs**
  (e.g., drug use, HIV and hepatitis, identifying/managing triggers for risky sexual behaviors)

- **Cognitive and Emotional Regulation**
  (e.g., managing negative thinking, anger management)

- **Psychosocial Functioning**
  (e.g., effective problem solving, communication skills)

Optional modules provide more advanced information on risk reduction and psychosocial functioning
CBT4CBT is a computer-based version of cognitive behavioral therapy (CBT) used in conjunction with clinical care for current substance users. Six modules and follow up assignments focus on key concepts in substance use, including cravings, problem solving and decision making skills. The multimedia presentation, based on elementary level computer learning games, requires no previous computer experience.
CBT4CBT Study Design

Randomized Controlled Trial: 77 Individuals Seeking Treatment in an Outpatient Setting

- Standard Treatment
- Standard Tx plus bi-weekly access to CBT4CBT
CBT4CBT Outcomes

- Participants assigned to the CBT4CBT condition submitted significantly more urine specimens that were negative for any type of drugs, especially cocaine and tended to have longer continuous periods of abstinence during treatment.

- The number of days abstinent was not significantly different between groups, nor was the retention rate between conditions.

(Carroll et al., 2014)
CBT4CBT was more positively evaluated by participants

(Carroll et al., 2014)
Completion of homework assignments in CBT4CBT was significantly correlated with outcome and a significant predictor of Tx involvement.

(Carroll et al., 2014)
Conclusion

CBT4CBT plus clinical practice is more effective in reducing drug use during treatment than standard therapy alone.

(Carroll et al., 2014)
Summary of TAC Interventions

- Promising TAC Interventions exist to treat alcohol, tobacco, gambling, & illicit drug use
- TES & CBT4CBT are two interventions that are currently leading the way
- Clinicians & administrators need to think through how they can use these new technologies in clinical treatment
I’m interested in using TAC interventions to enhance our services, but how would I go about integrating this type of intervention into the flow of clinical services?
“Models” of Integration for TAC Interventions

- **Brief Intervention** - particularly in settings where SUD treatment services are limited (e.g., primary care settings [FQHCs], mental health, etc.)
  
  Hasin et al., 2013; Ranney et al., 2014; Rose et al., 2010;

- **Stand alone treatment** - comprehensive service (up to 65 modules available) delivered over a structured period of time (e.g., 12 weeks)
  
  Chaple et al., 2014, Chaple et al; in press

- **Clinician extender** - administered as an adjunct to treatment whereby clinicians “prescribe” TBIs (or portions of) to enhance therapeutic intervention.
  
  Marsch et al., 2014; Campbell et al., 2014
**TAC interventions** may replace a portion of a clinician’s typical interaction with clients, which may allow a treatment provider:

- to provide more treatment and treat more clients with the same number of clinicians
- to free up clinicians to spend time with those with the greatest need for more intensive care
- to more effectively manage high patient caseloads

Marsch et al., 2014; Campbell et al, 2014
Clinical Considerations for TAC

• Integrating into the treatment plan
  – Use in individual therapy
  – Use in group therapy
  – Select relevant order and content of modules
  – Use for homework assignments
• Orienting client to system, its purpose and use
• Processing experience with clients
• Documentation in progress notes
• Tracking participation
Consider These Questions

• How is the content clinically relevant to support the work you do?
• How could this intervention be used to enhance what you do in clinical practice?
• How could this intervention be used to offset some of the work that you do?
• How might clients enjoy this technology?
Administrative Considerations

- Reimbursement
- Return on Technology Investments
- Staff Turnover
- Budgeting Considerations
- Start-Up Costs
- Ongoing Maintenance Costs
- Privacy and Security
- Implementation Strategies
While **TAC Interventions** are not currently reimbursable, they could provide a return by:

- **Reducing**
  - the cost of service per unit
  - the cost of service per case

- **Improving**
  - payer preference
  - consumer preference
  - operating performance
  - consumer outcome or functioning

- **Facilitating**
  - a new consumer service
  - a new payer relationship

(Adler, 2013)
Although reimbursement structures for technology-mediated services under both private and public health insurance plans are emerging, depending on State licensing and reimbursement policies providers may try to recapture their costs in other ways.

(McGinty et al., 2006)
Budgeting Considerations

- The costs associated with various types of technology-mediated interventions vary widely
- Need to project for infrastructure development (startup) along with cost of ongoing maintenance
- Investment in the initial infrastructure is costly and not typically reimbursable
- As the use of technology to deliver health services explodes, States and payers are scrambling to establish regulations to keep pace

(McGinty et al., 2006)
Start-Up Costs
Equipment
including computers, tablets, and servers
Allocating and configuring space, cabling and other communications lines, building reconfiguration, equipment, and cooling systems
Internet Provider Fees
Legal and Liability Consultation
(e.g., sufficient and explicit insurance coverage)
What does the TAC vendor provide?

- **Software**
  - encryption systems, virus protection, applications, storage, and security systems

- **Consultation in technology**

- **Content development**
  - clinical materials, protocols, procedures that will support and guide implementation
  - informed consent forms and privacy disclosures

- **Initial staff training, including staff time, expert trainer time**
Costs of Ongoing Maintenance

- Equipment maintenance, insurance, and replacement costs
- Ongoing internet provider fees
- Annual licensing or hosting fees
- Expert consultation and/or troubleshooting
- Training for new staff and refresher training
- Content refinement and updating of materials
- Legal and accounting consultation
- Inclusion of extra client data and client privacy/consent management information
Privacy, Security, & Confidentiality
Unique Considerations for TAC

• Self-directed therapeutic websites/applications typically hosted by third-party vendors (HIPAA business agreement may be required)

• Organizations will typically purchase a license for a group of clients, and the clients are each provided with a unique user ID and password (HIPAA compliant portal ask that question)

• Applications vary in terms of data security and the amount of personal information entered (typically, personal information is not required) (Personal health information collected or not)
TES: An Example

- Password protected for each participant
- Self-directed via computer (no therapist)
- Clinical information is not stored, participation is tracked (i.e., specific modules completed)
- No personal information is collected
- Transfer of information is not required
- Clinician would merely document the use of TAC in the record (Tx plan, progress notes)
Adoption/Implementation Process

• Some organizations struggle with the implementation of EBPs. Diffusion of an innovation is a slow process (up to 17 years) and success varies (Balas & Boren, 2000).

• Lack of understanding of organizational context – effective interventions are not necessarily generalizable to other settings.

• Need to carefully examine & account for interacting contextual variables (e.g., work setting, organizational culture) that could potentially impact implementation efforts.

• Theoretical models have been developed to help guide and evaluate implementation efforts.
Comprehensive Framework

- Intervention Characteristics (evidence strength and quality, relative advantage, adaptability, complexity, cost)
- Outer Setting (patient needs and resources, peer pressure, external policy and incentives)
- Inner Setting (organizational structure, culture and climate; compatibility, relative priority, and organizational incentives)
- Characteristics of Individuals (self-efficacy, individual stages of change, identification with organization, personal attributes)
- Processes (planning, staff engagement, execution, evaluation)

(CFIR; Damschroder et al., 2009)
TAC Resources
2012 – 2017
ATTC Network
Coordinating Office

10 Regional Centers
4 ATTC National Focus Centers

- National American Indian & Alaska Native ATTC
- National SBIRT ATTC
- National Frontier & Rural ATTC
- National Hispanic & Latino ATTC
Telehealth Technologies
For Addiction Treatment & Recovery Services

www.nfarattc.org