









Content presented here represents the views of the presenter/author and do not necessarily represent the views of any other entity







Sponsoring Organizations









Opioid Response Network

- The SAMHSA-funded Opioid Response Network (ORN) assists states, organizations and individuals by providing the resources and technical assistance they need locally to address the opioid crisis and stimulant use.
- Technical assistance is available to support the evidence-based prevention, treatment and recovery of opioid use disorders and stimulant use disorders.

Funding for this initiative was made possible (in part) by grant no. 1H79TI083343 from SAMHSA. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.



Working With Communities

- The Opioid Response Network (ORN) provides local, experienced consultants in prevention, treatment and recovery to communities and organizations to help address this opioid crisis and stimulant use.
- ORN accepts requests for education and training.
- Each state/territory has a designated team, led by a regional Technology Transfer Specialist (TTS), who is an expert in implementing evidence-based practices.



Contact the Opioid Response Network

- To ask questions or submit a request for technical assistance:
 - Visit www.OpioidResponseNetwork.org
 - Email orn@aaap.org
 - o Call 401-270-5900





recoveryanswers.org

Recovery Research Institute





@recoveryanswers



Talk Objectives

- 1. Identify in-person service barriers that digital services might address
- Define digital recovery support services and introduce a classification system
- 3. Describe several digital recovery support services
 - a. Theory on how they can enhance recovery
 - b. Summarize what is known empirically
- 4. Recommend referral strategies that maximize potential benefits and mitigates potential risks



Research to improve individual outcomes and public health

Examining Identifying Testing benefit - how Describing Characterizing **Enhancing** reasons for participation services participation and for participation* participation effects whom?

*Dissemination/implementation



Research to improve individual outcomes and public health





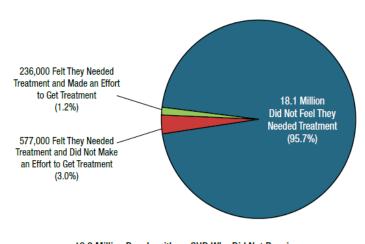
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Finite reach of existing services

- Impact = Reach x Effectiveness (Glasgow)
- 10% with substance use disorder (SUD) received one or more SUD services – including specialty treatment, mutual-help, ED, private physician, etc.



18.9 Million People with an SUD Who Did Not Receive Substance Use Treatment at a Specialty Facility

Note: People who had an SUD were classified as needing substance use treatment. Note: The percentages do not add to 100 percent due to rounding.

No Health Care Coverage and Could Not Afford Cost	20.9
Had Health Care Coverage But Did Not Cover Treatment or Did Not Cover Full Cost	4.6
No Transportation/Programs Too Far Away or Hours Inconvenient	7.3
Did Not Find Program That Offered Type of Treatment That Was Wanted	14.7
Not Ready to Stop Using	39.9
No Openings in a Program	5.2
Did Not Know Where to Go for Treatment	23.8
Might Cause Neighbors/Community to Have Negative Opinion	17.2
Might Have Negative Effect on Job	16.8
Did Not Feel Need for Treatment at the Time	6.4
Could Handle the Problem Without Treatment	11.7
Treatment Would Not Help	4.6
Did Not Have Time	8.5
Did Not Want Others to Find Out	7.6
Some Other Reason	4.2

Source: SAMHSA NSDUH 2019



Logistical Barriers



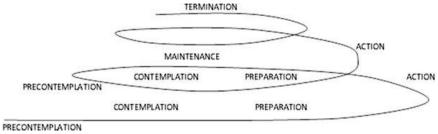


Psychosocial barriers





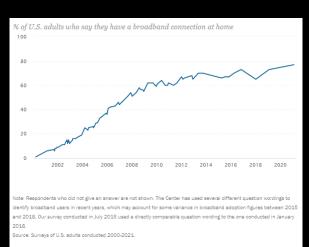


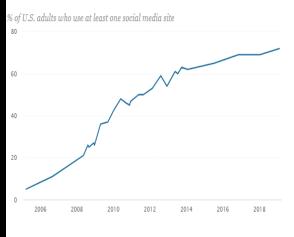


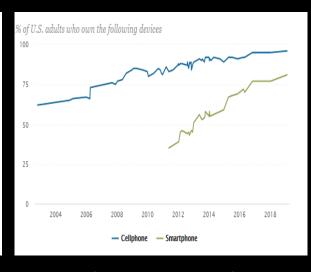
(Prochaska et al. 1992)



Online and mobile technologies are integrated into day-to-day life







- -77% have home broadband
- *70% 18-29

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- *86% 30-49
- *79% 50-64
- *64% 65+

- -72% use social network sites
 - *90% 18-29
 - *82% 30-49
 - *69% 50-64
 - *40% 65+

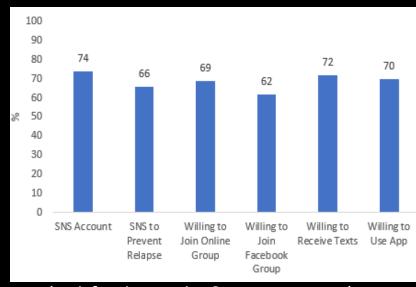
- -81% have a smartphone
 - *96% 18-29
 - *92% 30-49
 - *79% 50-64
 - *53% 65+

Source: Pew Research Center



Technology Access for those with SUD

Technology use		
Prior to treatment	Yes	No
Own a mobile phone ($n = 251$)	86.90%	13.10%
SMS capability ($n = 218$)	95.90%	4.10%
Use text messages ($n = 218$)	83.00%	17.00%
Own a smartphone ($n = 216$)	68.50%	31.50%
Download mobile apps ($n = 217$)	61.30%	38.70%
Use the phone to access the Internet $(n = 217)$	61.30%	38.70%
Contract type ($n = 209$)		
Pay-as-you-go	50.70%	
Annual contract	24.40%	
Government issued/Safelink	23.90%	
Other	1.00%	
Post treatment	Yes	No
Own a mobile phone ($n = 243$)	92.60%	7.40%
SMS capability ($n = 223$)	96.40%	3.60%
Use text messages ($n = 222$)	84.70%	15.30%
Own a smartphone ($n = 221$)	72.40%	27.60%
Download mobile apps ($n = 221$)	64.30%	35.70%
Use the phone to access the Internet $(n = 223)$	65.90%	34.10%
Contract type ($n = 213$)		
Pay-as-you-go	51.60%	
Annual contract	25.40%	
Government issued/Safelink	21.60%	
Other	1.40%	



(Dahne & Lejuez, 2015)

(Ashford, Lynch, & Curtis, 2018)

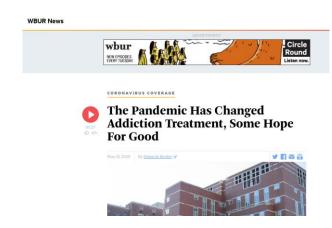


COVID-19 and SUD Recovery

- COVID highlights and exacerbates, rather than creates, context for enhanced SUD consequences
- Limitations to service access
- High stress
 - Disruptions to basic human needs: employment/purpose, housing, financial stability
- Isolation; reduced social connection



COVID-19 harms to individuals with SUD: Silver Lining



Wednesday, June 9, 2021

NIH-funded study tests "one-stop" mobile clinics to deliver HIV, substance use care



A clinical trial is underway in five U.S. cities to determine whether delivering integrated health services through mobile clinics can improve HIV and substance use outcomes among people with opioid use disorder who inject drugs. If effective, mobile clinics could serve as an innovative strategy for expanding access to care and providing uninterrupted treatment in this underserved population that addresses the linked public health crises of addiction and HIV.

According to the Centers for Disease Control and Prevention ...

approximately 1 in 10 new HIV diagnoses in the United States are attributed —in whole or in part—to injection drug use. Further, high rates of injection drug use in communities have been linked to HIV outbreaks. While injection drug use is not limited to injecting opioids—a drug class that includes heroin and fentanyl—these drugs have a high rate of use among key populations in



One of five mobile health clinics deployed for the NIHfunded INTEGRA study. Artwork for the clinic was designed by artist Shepard Fairey. LifelineMobile

The New Hork Times

A.A. to Zoom, Substance Abuse Treatment Goes Online

It began as a stopgap way to get through the pandemic, but both participants and providers say virtual sessions have some clear advantages and will likely become a permanent part of recovery.



Treatment Access

Aug. 23, 2021, 5:24 AM











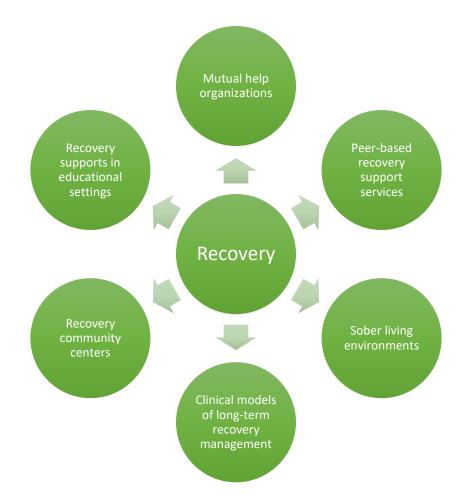
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Recovery Support Services (Revisited)

From ORN/AAAP Recovery Support Services Webinar (Kelly, April 2021)





Treatment vs. Recovery Support Services

	Treatment	Recovery Support Services
Goal	Reduce symptoms, substance use	Enhance recovery (process; White, 2006) *resolve substance use problems *foster health and well-being
Time- frame	Time-limited, short-term designed	Long-term
Location	Health care settings	Community (Ashford et al. 2019)
Providers	Professionals	Peers (can be credentialed, have expertise, etc.)



What are digital recovery support services?

- Digital technology in lieu of, or as adjunct to, in-person recovery support services
- Telehealth vs. vs. technology-based intervention vs. digital recovery support service (and "telerecovery")

	Technology-based Intervention	Digital Recovery Support Services
Goal	Reduce symptoms, substance use	*resolve substance use problems *foster health and well-being
Time-frame	Time-limited access	Long-term access
Access points*	Health care settings	Freely available online
Providers/Designers	Professionals	Peers (can be credentialed, have expertise, etc.)

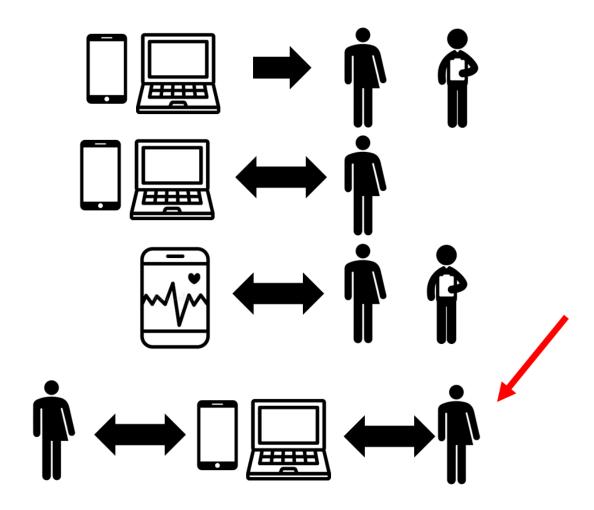


Focus on the behavior: Proposed typology to classify digital services

Dimension	Description
a) Type of service	The recovery support service or activity with which someone engages (e.g., online recovery support meeting). Can be synchronous – real-time interaction – or asynchronous – interaction without time constraints
b) Type of platform	How the recovery support service is delivered *remote video conferencing *discussion forum *recovery-specific social network site
c) Points of access	Communication technology through which individuals access the platform *website *smartphone app *telephone
d) Organization/individuals responsible	Organization and/or individuals that designed, developed, maintains, monitors, oversees the service *mutual-help organization *private company *peer volunteer monitors



Ways to leverage technology for individuals with substance use disorder





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Recovery-related use of online technology



Addictive Behaviors

journal homepage: www.elsevier.com/locate/addictbeh



Expanding the reach of alcohol and other drug services: Prevalence and correlates of US adult engagement with online technology to address substance problems



Brandon G. Bergman^{a,*}, M. Claire Greene^b, Bettina B. Hoeppner^a, John F. Kelly^a

HIGHLIGHTS

- . 11% with a former substance problem report recovery-related use of online technology (ROOT)
- · Controlling for demographics, clinical severity indicators were ROOT correlates
- Controlling for demographics and ROOT correlates, ROOT was associated with "internet addiction".

ARTICLE INFO

Keywords Recovery Technology mHealth Social network sites Smartphone applications

ABSTRACT

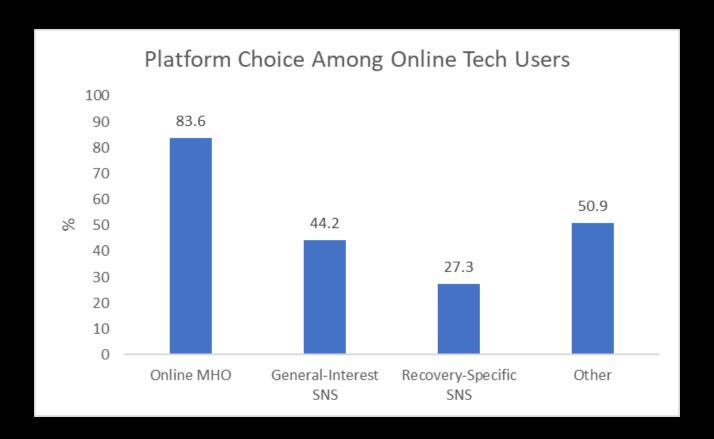
Online technologies are well integrated into the day-to-day lives of individuals with alcohol and other drug (i.e., substance use) problems. Interventions that leverage online technologies have been shown to enhance outcomes for these individuals. To date, however, little is known about how those with substance use problems naturally engage with such platforms. In addition, the scientific literatures on health behavior change facilitated by technology and harms driven by technology engagement have developed largely independent of one another. In this secondary analysis of the National Recovery Study (NRS), which provides a geo-demographically representative sample of US adults who resolved a substance use problem, we examined a) the weighted prevalence estimate of individuals who engaged with online technologies to "cut down on substance use, abstain from substances, or strengthen one's recovery" (i.e., recovery-related use of online technology, or ROOT), b) clinical/recovery correlates of ROOT, controlling for demographic covariates, and c) the unique association between ROOT and self-reported history of internet addiction. Results showed one in ten (11%) NRS participants reported ROOT. Significant correlates included greater current psychological distress, younger age of first substance use, as well as history of anti-craving/anti-relapse medication, recovery support services, and drug court participation. Odds of lifetime internet addiction were 4 times greater for those with ROOT (vs. no ROOT). These data build on studies of technology-based interventions, highlighting the reach of ROOT, and therefore, the potential for a large, positive impact on substance-related harms in the US.

a Recovery Research Institute, Massachusetts General Hospital and Harvard Medical School, 151 Merrimac Street, Boston, MA 02114, United States.

b Johns Hopkins Bloomberg School of Public Health, 624 North Broadway, Baltimore, MD 21205, United States

Prevalence

11.0% Overall





Predictors of recovery-related use of online technology

Univariate/Unadjusted

Multivariate/Adjusted

Age Education

Race/Ethnicity

Income

SUD Medication

Recovery Support Services

Criminal Justice Involvement

Age First Use of Any Substance

Psychological Distress

QOL

Years Since Problem Resolution

Income (30k > 100k; OR = 2.5)

SUD Medication (Yes; OR = 3.2)

Recovery Support Services (Yes; OR = 2.8)

Psychological Distress (More; OR = 1.1)



How might digital services make a difference?

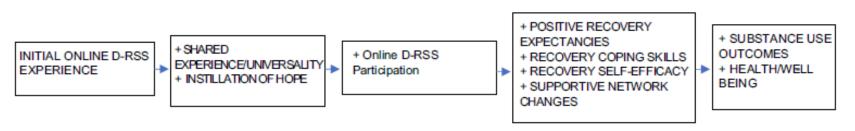


Fig. 1. Conceptual model theorizing how social-online D-RSS enhance initial engagement and confer benefits. The "+" symbolizes a theorized increase or enhancement of the construct (e.g., + online D-RSS participation = increased engagement with online D-RSS).

Source: Bergman & Kelly, 2020, Journal of Substance Abuse Treatment





Online Recovery Support Meetings



Contents lists available at ScienceDirect

Addictive Behaviors





Editorial

Online recovery support meetings can help mitigate the public health consequences of COVID-19 for individuals with substance use disorder



ARTICLE INFO

Keywords:
Mutual-help organizations
Covid-19
Digital recovery support services
Telemedicine

ABSTRACT

For people with current and remitted substance use disorder (SUD), the COVID-19 pandemic increases risk for symptom exacerbation and relapse through added stressors and reduced service access. In response, mutual-help groups and recovery community organizations have increased access to online recovery support meetings. However, rigorous studies examining online recovery support meeting participation to inform best practices have not yet been conducted. In the absence of such studies, a review of relevant literature, considered in context of potential barriers and drawbacks, suggests the risk-to-benefit ratio is favorable. Particularly given limited inperson SUD service access resulting from COVID-19 precautions, online recovery support meetings may help mitigate a key public health problem during an ongoing, public health pandemic.



Building on Social Norms/Identity and Mutual-Help Research

- Socially-derived MOBCs may be mobilized online too
 - Recovery role models (sponsors; Tonigan & Rice, 2010; Zemore et al. 2013; Kelly et al. 2016)
 - Social network changes (Kelly et al. 2012; Stout et al. 2012)
 - Enhanced (AA) friendship quality (Humphreys & Noke, 1996)
 - AA-specific social support (Kaskutas et al. 2002)
- Norms partially explain why pro-alcohol content exposure on social media predicts subsequent drinking increases (Labrie, Boyle)
- Social identity theories of health behavior change







Online Recovery Support Meetings: What is Known Empirically?

- Online SMART attendance associated with alcohol abstinent days over the short-term (Campbell et al. 2016; Hester et al. 2013)
 - o RCT unrelated to online meeting attendance
- "Zoom" AA effects unknown
 - Developmental model of recovery?





Social Capital as Defining Feature of Recovery Capital

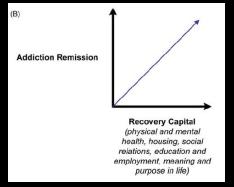
Recovery capital: The sum total of one's resources that can be brought to bear on the initiation and maintenance of substance misuse cessation. The four major components of recovery capital include social capital, physical capital, human capital, and cultural capital. While many of these resources are tangible, others are not and adhere to the socio-environmental structures, including relationships, in which persons are embedded.

Personal recovery capital can be divided into physical and human capital. A client's physical recovery capital includes physical health, financial assets, health insurance, safe and recovery-conducive shelter, clothing, food, and access to transportation. Human recovery capital includes a client's values, knowledge, educational/vocational skills and credentials, problem solving capacities, self-awareness, self-esteem, self-efficacy (self-confidence in managing high risk situations), hopefulness/optimism, perception of one's past/present/future, sense of meaning and purpose in life, and interpersonal skills.

Family/social recovery capital encompasses intimate relationships, family and kinship relationships (defined here non-traditionally, i.e., family of choice), and social relationships that are supportive of recovery efforts. Family/social recovery capital is indicated by the willingness of intimate partners and family members to participate in treatment, the presence of others in recovery within the family and social network, access to sober outlets for sobriety-based fellowship/leisure, and relational connections to conventional institutions (school, workplace, church, and other mainstream community organizations).

Community recovery capital encompasses community attitudes/policies/resources related to addiction and recovery that promote the resolution of alcohol and other drug problems. Community recovery

Substance use and sobriety
Global psychological health
Global physical health
Citizenship and community involvement
Social support
Meaningful activities
Housing and safety
Risk-taking
Coping and life functioning
Recovery experience



Sources: Cloud & Granfield (1999; 2008), Best & Laudet (2010), White & Cloud (2007), Groshkova, Best, & White (2012; Kelly & Hoeppner (2014)

Yalom's "curative" group therapy factors

- Instillation of hope
- Universality
- Imparting information
- Altruism
- Corrective recapitulation of the primary family group
- Development of social skills
- Imitative behavior
- Interpersonal learning
- Group cohesiveness
- Catharsis
- Existential factors



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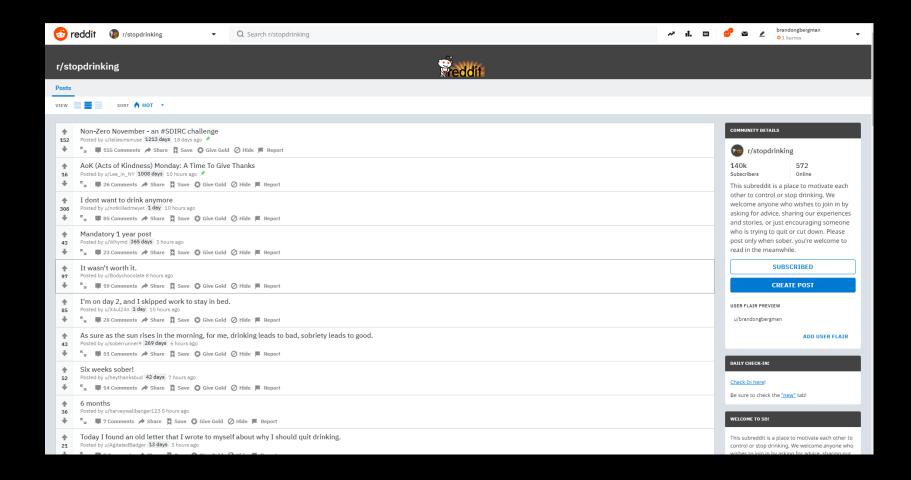


Some working definitions

- Online recovery community: An online space dedicated to recovery (i.e., efforts to resolve substance use problems and/or enhance well-being) for individuals with substance use disorder (SUD)
 - Space can be actual (website, app, etc.) or conceptual (cutting across multiple online spaces)
- Recovery-specific social network sites (SNS) are a type of online community; from Ellison & boyd (2013)
 - Unique profile
 - Articulated connections that can be viewed and traversed
 - Ability to interact with streams of user generated or shared content
- Online recovery forums aka discussion boards overlaps functionally with recovery SNS with simpler functionality

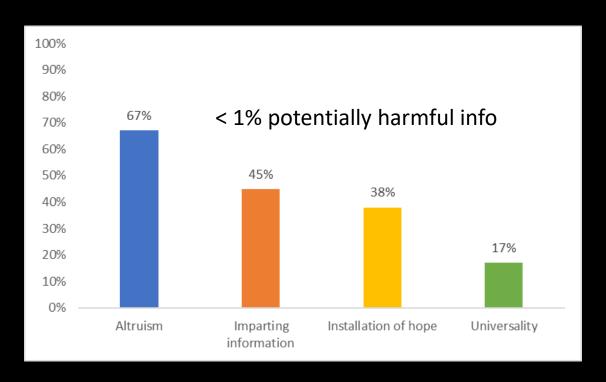


Online Recovery Forums



Online forums: What is known empirically?

 Opioid use recovery group (D'Agostino 2017) 500+ comments on the 100 "hottest" posts





Online forums: What is known empirically?

- Similar findings for cannabis use recovery group (Sowles 2017)
- Groups dedicated to substance use may contain harm reduction advice (Wombacher 2019)
- In study of SHE RECOVERS (Curtis 2019), 80% had already or wanted to connect with peers in person



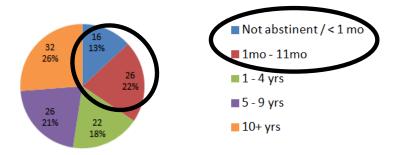
Recovery-specific social network sites



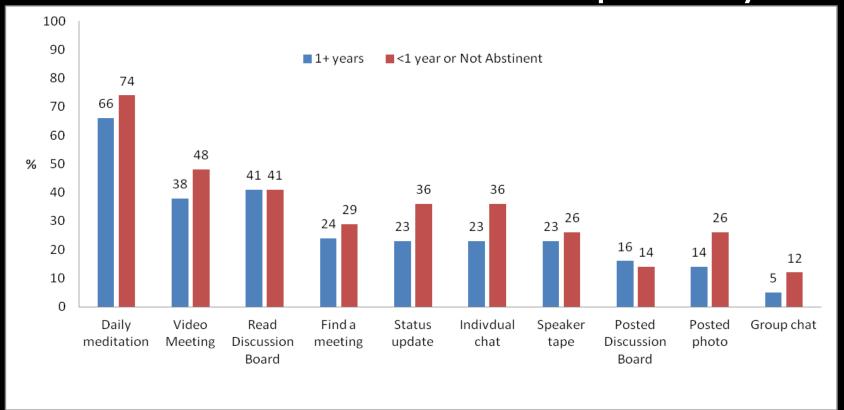




- Cross-sectional survey of individuals recruited from Intherooms.com who participated for their "own current or former substance problem" (N = 123; Bergman et al. 2017)
 - \$10 Dunkies gift card
- M = 50.8 years, 94% White and 57% Female (vs. 46.7 years, 61% White, and 40% Female in the National Recovery Study)
- 7.3 years abstinent, on average (SD = 9.3)







Similar for 1+ and <1 (p > .05); rs = .01 - .154



"InTheRooms.com participation" (% agreement)

- Enhanced identity as a person in recovery (69.2%)
- Reduced craving for alcohol or other drugs (67.5%)
- Increased abstinence motivation (83.2%)
- Increased abstinence self-efficacy (80.3%)
- "Tell us what you find most helpful/least helpful about InTheRooms.com in your recovery or efforts to cut back or quit using alcohol and/or other drugs" (up to five open-ended responses)



Common Therapeutic Factors (Yalom, 2005)	InTheRooms.com/Online Factors
	InTheRooms.com Resources (1st)
	"Speaker tape library"
	Convenience (2 nd)
	"I'm far from meetings so it is nice to have an online meeting"
Imparting Information (3 rd)	
"Meeting locator/finder"	
Cohesiveness (4 th)	
"Unity worldwide of recovery"	
Universality (5 th)	
"Knowing I'm not alone"	
Instillation of Hope (6 th)	
"Help me make up my mind to quit"	

Common/Online Socialization	InTheRooms.com Specific	
	Functional/technical issues (1st)	-
	"Hard to navigate"	_
Online socialization, general (2 nd)		_
"Some of the snarking back and forth gets old"		
	InTheRooms.com Resources, general (3 rd)	-
	"Need more speaker videos"	
Online recovery (4 th)		
"Missing the human connection"		
	Live online video meetings (5 th)	-
	"Some folks try to hog the meetings"	
	InTheRooms.com as for-profit organization (6th)	-
	"Advertisements for treatment facilities"	\

- Sober Grid, top third most active users (Ashford 2020)
 - o < 1 year abstinent and < 1 year in recovery measured separately
 </p>
 - M = 95 posts, 396 comments, 10 check-ins, 1270 'likes' with lots of variability
 - Check-ins related to 'sobriety date' change (i.e., recurrence of use)
 - Gen X and baby boomers showed greater engagement than millennials
- Hello Sunday Morning/Daybreak (Kirkman 2018; Tait 2019)
 - Free for Australian citizens; access fee internationally
 - Posts/comments associated with improved drinking outcomes



Talk Objectives

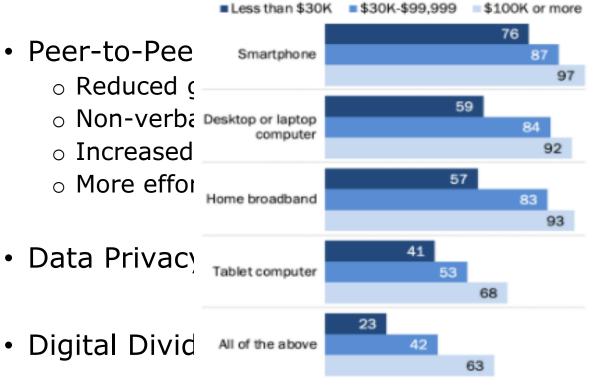
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Potential Drawbacks

Americans with lower incomes have lower levels of technology adoption

 Attendance % of U.S. adults who say they have each of the following, by household income



Services 1 therapy

Negative Affect t building?

Note: Respondents who did not give an answer are not shown. Source: Survey of U.S. adults conducted Jan. 25-Feb. 8, 2021.

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Some further caution...

PREDATORY BEHAVIOR RUNS RAMPANT IN FACEBOOK'S ADDICTION SUPPORT GROUPS

Huge groups of vulnerable people looking for help are a rehab marketer's dream

By Cat Ferguson | May 21, 2018, 9:02am EDT

https://www.theverge.com/2018/5/21/17370066/facebook-addiction-support-groups-rehab-patient-brokering



Tips for referral

- Explore the digital service yourself
 - o General perceptions of helpfulness vs. harmfulness
 - Services offered by respective platforms
- Discuss ways to enhance privacy
 - Online meetings that use security features
 - Use username/pseudonym
 - Safe physical space if using video
 - Encourage patient to check for what data is being collected about them
- Check in regularly
 - Assess for therapeutic mechanisms: social support, selfefficacy, shifts in stage of change and motivation, etc.
 - Assess for risks and any potential side effects (e.g., signs of compulsive use)



Readings from our group

Ashford, R. D., Bergman, B. G., Kelly, J. F., & Curtis, B. (2019). Systematic review: Digital recovery support services used to support substance use disorder recovery. *Human Behavior and Emerging Technologies*. https://doi.org/10.1002/hbe2.148

Bergman, B. G., & Kelly, J. F. (2021). Online digital recovery support services: An overview of the science and their potential to help individuals with substance use disorder during COVID-19 and beyond. *Journal of Substance Abuse Treatment*, 120, 108152. https://doi.org/10.1016/j.jsat.2020.108152

Bergman, B. G., Kelly, J. F., Fava, M., & Evins, A. E. (2021). Online recovery support meetings can help mitigate the public health consequences of COVID-19 for individuals with substance use disorder. *Addictive Behaviors*, 113, 106661. https://doi.org/10.1016/j.addbeh.2020.106661

Hoeppner, B. B., Schick, M. R., Kelly, L. M., Hoeppner, S. S., Bergman, B., & Kelly, J. F. (2017). There is an app for that—Or is there? A content analysis of publicly available smartphone apps for managing alcohol use. *Journal of Substance Abuse Treatment*, 82, 67–73. https://doi.org/10.1016/j.jsat.2017.09.006



Resources

Grayken Center for Addiction at the Boston Medical Center

https://www.bmc.org/addiction/covid-19-recovery-resources

American Society of Addiction Medicine

https://www.asam.org/Quality-Science/covid-19-coronavirus/support-group

National Institute on Drug Abuse

https://www.drugabuse.gov/related-topics/covid-19-resources

Recovery Research Institute

https://www.recoveryanswers.org/media/digital-recovery-support-online-and-mobile-resources/

m-Health Index and Navigation Database (MIND)

https://mindapps.org



Thanks for your time!



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