Promise and Peril of Technology Driven Behavioral Health

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CHESS/NIATx
A-CHESS

Meetings (GPS)

Support Network

PANIC Button

Easing Distress
Relapse Prevention Theory

ACHIESS Services with Respect to Self Determination Theory

Stages Preceding Relapse

- Lifestyle imbalance
- Desire for indulgence
- Urges and craving
- High risk situation
- Lack of coping response
- Decreased self-efficacy; positive outcome expectancies

Stage Appropriate Change Methods

- Increasing lifestyle balance (e.g., developing positive addictions [jogging, meditation] and substitute indulgences [e.g., recreational activities])
- Stimulus control techniques (e.g., removing all items associated with alcohol use), reduce barriers to medication adherence
- Self-monitoring and behavior assessment, Avoidance strategies, descriptions of past relapses, education about warning signs of relapse (+ expectancies, lifestyle imbalances)
- Coping skills training
- Efficacy-enhancing strategies
- Lapse Management (e.g., instructions on how to cope with lapse)

Cognitive restructuring (consider lapse a mistake, not a failure)

Setup, Check-in, Track, Feedback, and Participation inform which ACHIESS services an individual is offered, and when the user is given the option to receive them. The ACHIESS interface is designed to query the patient with respect to their intrinsic goals and provide options in interviewing which should enhance the principles of motivational motivations.

Relapse Prevention Theory

- Setup
- Check-in
- Track
- Feedback
- Participation

Healthy
- Easing Distress
- Consumer Guide
- Weblinks
- Locations
- Reminders
- Med. Resources
- Alerts
- Virtual Training
- Care Manager
- Recovery Groups
- Journaling
- Reminders
- Virtual Counselor
- Ask an Expert

- Competence
- Autonomy
- Admit One

The Center for Health Enhancement Systems Studies University of Wisconsin-Madison
Risky Drinking Days: Group Means by Month

<table>
<thead>
<tr>
<th>Month</th>
<th>Control</th>
<th>ACHESS</th>
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<tbody>
<tr>
<td>4</td>
<td>3.0</td>
<td>1.5</td>
</tr>
<tr>
<td>8</td>
<td>2.7</td>
<td>1.5</td>
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<tr>
<td>12</td>
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<td>1.1</td>
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Results:

The main effect of treatment group was significant \([t(287.686)=2.97, \ p=0.003; \ d=0.23]\), with A-CHESS participants reporting fewer days of risky drinking (M=1.386) than control participants (M=2.752).
% Using A-CHESS by week
Current and Future Studies

Integration with HIT
Implementation study with research consortium
Outcomes with various groups
Sensors
Predictive modeling
Leadership Challenges

Treatment Providers

• Automation
• Data (Big Data)
Leadership Challenges

Regulators/Payers

• System design
• Cross border issues
• Data capture/sharing
• Privacy protection
Leadership Challenges

Research

• Technology cycle/RCT timeline
• Study design innovation