

ACMHA ARM CHAIR REFLECTIONS

Using Technology to Deliver Substance Use Treatment and Recovery Support

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The behavioral health field needs to embrace and utilize new technologies if our future is to be vibrant. The use of technology within behavioral health has predominately been limited to administrative functions such as service reporting and billing procedures or adopting electronic medical records. Virtually all treatment is delivered face-to-face by practitioners. In behavioral health care organizations, labor costs typically account for the vast majority of total expenses. In contrast, the labor is less than 10% of the production costs of a Toyota vehicle due to the high use of technology in their plants. *I propose that we need to bring technology into the delivery of treatment and recovery support services.* While I will focus on substance use treatment in my examples, I believe they apply equally to mental health.

Using technologies delivered through web-based application, stand alone computer software, or smart phones are all components of a new approach termed E-Health. Let me provide a few examples currently in use to address substance use illnesses.

First, several NIDA-funded studies have demonstrated that evidence-based clinical treatments can be delivered through computerized applications. These studies have shown outcomes that are equal or superior to the same treatment delivered solely by clinicians. Review of three of these studies can be found in *NIDA Notes, Vol. 22, No. 5* (http://www.nida.nih.gov/NIDA_notes/NNvol22N5/Computer.html). More such computerized approaches and studies can be expected in the near future.

A University of Wisconsin NIAAA-funded study using smart phones for recovery support following residential treatment is currently underway within my former organization, Fayette Companies. Services provided through the phones include a discussion board with other participants, information on a variety of recovery related topics, a panic button to request immediate assistance from self-identified supportive persons when at high risk for drinking, notification of activities in the community that provide healthy and enjoyable alternatives to drinking, and maps and information for mutual aid meetings. Another interesting feature is a GPS tool that serves as an automated rescue function when someone approaches an identified high risk location such a bar where they previously drank with their friends. In January 2011, a new generation of phones will be introduced that will allow face-to-face services through web conferencing.

While study recruitment only began in February, preliminary results for persons completing the first follow-up are very positive. The intervention includes a weekly survey on recovery protection and risk factors developed by researchers at the University of Pennsylvania. This survey is delivered and completed through the phones. It appears from comparing changes on

the weekly scores with reports of relapse that changes within the domains surveyed may indicate increased risk for return to drinking. Thus, a pilot study is underway to develop clinical algorithms to address the identified problems and provide adaptive continuing care. The goal is to provide "just-in-time" interventions, some of which may be delivered through smart phones.

Invariably, when the study is discussed, someone will propose that people will sell the phones after leaving treatment. Thus far, with 99 people having received phones for the study over a period of seven months, only six people are not using the phones, one of which is known to be in jail. People are also beginning to inquire about the phones at assessment. Word is spreading in the community and people want an opportunity to participate. There are even stories of people being admitted for other drug use problems and subsequently "confessing" that they also have an alcohol problem hoping to gain use of the smart phone resource.

The web-based virtual world of Second Life offers another platform for E-Health. In this environment, people create avatars that can interact with each other in real time. The Robert Wood Johnson Foundation has sponsored two meetings of researchers and clinicians to explore how this environment may be used for addiction treatment and support. A Missouri program is currently conducting a study using Second Life to provide counselor-facilitated group continuing care for adolescents following residential treatment. Again, the preliminary results are very positive. Adolescents typically go to residential treatment from dispersed geographic areas. Studies have shown that the majority of adolescents do not participate in continuing care when they return to their home communities. The Missouri experiment is not only showing a far higher rate of participation compared to the control group, but finding that many youth want to continue participation indefinitely!

Another frontier being explored is virtual counseling involving a programmed avatar "who" provides counseling through responses to voice interactions. A study at MIT developed such a program aimed at assisting people to increase walking exercise. Participants in one arm of the study received counseling from a "Relational Agent" programmed to form a relationship through both verbal interaction and facial expressions that were appropriate to the participant responses. The avatar was also programmed to remember and discuss previous interactions. Surveys at the end of the 45-day study demonstrated that the virtual instructor, "Laura," was able to form a strong working alliance with the subjects. Further, when provided an opportunity to leave a farewell to the avatar, 69% of participants left an emotional message. A common theme was "I am really going to miss you, Laura." Thus, it appears that a computerized "person" can establish an empathetic relationship with a human.

Web-based applications may also be used for early interventions as an alternative to providing professionally-delivered screening and brief interventions. One such resource is available at www.checkyourdrinking.net. Based on the AUDIT assessment tool, the 10 minute questionnaire gives an individual feedback on his/her alcohol use compared to others of the same age and gender. Graphs are provided to assist in individual assessment of drinking patterns. A recent Canadian study with young adults demonstrated a reduction in consumption of 8-9 drinks weekly for those with risky drinking patterns.

Incorporating this technology into our existing treatment systems will require overcoming several major challenges.

First, changes to beliefs, cultures, policies and procedures are needed. For example, most residential treatment programs for substance use illness believe in restricting outside communication. Cell phones and use of the Internet may not be allowed. Obviously, the technologies previously described cannot be utilized without access to these resources. I anticipate significant resistance within many organizations.

A significant issue is establishing payment mechanisms for use of these new technologies. How will provision of smart phones and the clinical and technical support required be paid for by insurance and public funding? Solutions may include episode of care payments, case rate reimbursement, or a form of monthly payment for an all inclusive system of treatments and supports. The rates may be adjusted for severity.

A third barrier is the fear factor. A consistent question I receive is whether adoption of technology will mean the end to "my job and career." An honest answer is "maybe." Implementing technological solutions may require less clinical staff, but those who remain may need a far higher skill level. Thus, the jobs of many traditional counselors with a bachelor's degree or counselor certification may be in jeopardy. Of course, new employment opportunities may be opened for these persons to provide community-based recovery coaching for persons needing in-person case management services to build their recovery capital, such as assistance in obtaining employment, finding housing and building recovery supports.

The Annapolis Coalition, with major leadership from ACMHA members, is attempting to develop a plan for the future behavioral health workforce. We all know the challenges we face with an aging workforce and difficulty attracting new talent to our field. If we adopt these emerging technologies, we will need fewer clinicians to deliver effective services and can therefore afford to pay higher salaries, attract a more qualified staff, and reduce turnover. Of course, the composition of the workforce may need to change. As with the emerging need for more medical personal to administer medication assisted treatments, more people with skills to program and manage computerized delivery systems will be required. Ideally, these costs could be shared by multiple providers using the same systems and platforms.

I believe the triple aim in behavioral health is to:

1. Increase access,
2. Increase quality of care and positive outcomes, and
3. Control or reduce costs while achieving the first and second aims.

I believe emerging technologies are crucial to simultaneously achieving these three aims. I see a future where people can access treatment and support from the privacy of home or in any location at any time through computers, smart phones, and other emerging technologies. And that "future" is possible today.