

# Health Information Technology in the Service of Depression Treatment

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Patient self-management of depression and other chronic conditions supported by information technology is becoming an important factor in the way providers deliver health care. This new modality offers a remarkable opportunity for clinicians. As the From Research to Practice section in this issue of *Diabetes Spectrum* (p. 7–37) shows, patients with depression often need a complex set of services including psychotherapy, medication management, social support, physical activity promotion, nutrition counseling, and more. Implementing such support for individuals who are already overwhelmed can be a challenge that requires a variety of strategies. Using new online tools, clinicians can now have a major impact on depression outcomes by providing robust and affordable support to large numbers of patients who want to make emotional and behavioral changes.

Online tools can extend mental health practices and provide support through cost-effective programs that help clinicians guide their patients to better manage their depression. The best Internet self-management education and support programs are rich in pertinent content, provide engaging interactive elements, and offer users a tailored, personalized learning experience. They contain self-assessment tools and ways for individuals to monitor their performance and changes in biological measurements such as weight, blood pressure, mood, and blood glucose. Patients can access their information, input their data, and receive support 24 hours a day, at times and places most convenient for them and

not limited to their clinicians' office hours.

Web-based learning and support technology benefits both clinicians and patients; patients learn to overcome barriers and to self-document activities and interactions, permitting clinicians to review their progress and feedback at any time. In addition to automating much of the educational content, this time-shifting element afforded by online tools is one of the keys to making the support process efficient and affordable. The ability to perform automated reviews of patients' activities also provides clinicians with a valuable boon to effectiveness and efficiency.

Linked with an online intervention, "virtual coaches" can provide individualized guidance and support based on readily available analyses of patients' characteristics and performance. Clinicians can communicate frequently, offering personalized email support to patients without requiring in-person meetings. Clinicians can also monitor "virtual support groups," through which patients interact with others online via informational chat rooms and blogs. By incorporating Web-based patient self-management and support into traditional treatment methods, one clinician can effectively support many patients, one patient at a time.

## Depression Interventions

As early as 2002, a work group commissioned by the U.S. National Institute of Mental Health<sup>1</sup> recommended the development of innovative mental health treatments that could be delivered at low cost to large populations. Specifically, the work group noted, "the Internet

affords the opportunity to make psychosocial interventions available to large segments of the public. Interventions can be delivered programmatically and reliably, greatly extending the numbers and types of people who can be reached with services."<sup>1</sup>

Since that 2002 report, the Internet and cell phones have been used more frequently to provide patient self-management education and support to help patients with depression and other chronic conditions meet their complex and ever-changing needs. Several reviews have summarized the depression-related experiences with a variety of these approaches.<sup>2–8</sup>

In recent years, Web- and cell phone-based approaches have been shown to be effective and inexpensive alternatives to traditional depression treatments.<sup>9–17</sup> These and other programs use a variety of psychological approaches typically based on effective in-person interventions that have been transformed for delivery via the Internet or cell phones. Even with these successful programs as examples, the limited available evidence makes it difficult to definitively state what impact these types of interventions will have on patients with depression. Still, many of these innovative programs are quite promising.

## Summary

Online self-management education and support for patients with depression have the potential to make not just an incremental difference in patient outcomes, but rather a profound change in the way providers engage with patients. To

date, their use in clinical settings has been limited primarily because of the lack of reimbursement for online interventions. In the near future, clinicians may be able to use information technology, coupled with traditional treatment approaches, to support large numbers of patients with depression in an economical and feasible manner.

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**Note of disclosure:** Dr. Kaufman is the founder, owner, and chief executive officer of DPS Health, which develops and commercializes health-promoting Internet and cell phone-based interventions.