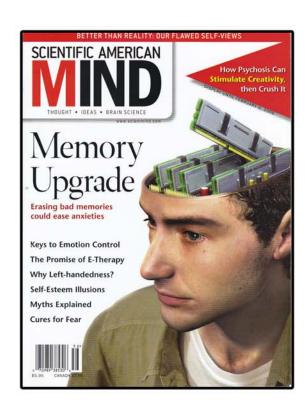# SCIENTIFIC AMERICAN

The Promise of eTherapy
Videoconferencing, Web sites and other electronic media offer faster, cheaper care--without the stigma of parking in front of the shrink's office

By Beryl Lieff Benderly

A sheriff's deputy pulls up to the emergency room at Scott County Hospital in rural Oneida, Tenn., with an agitated, disoriented passenger who appears to need psychiatric care, maybe even immediate hospitalization. But no one at the county hospital is trained to make that decision. The nearest qualified person is 59 miles across the state, at the Ridgeview Psychiatric Hospital in Oak Ridge.

Only a few years ago a member of Ridgeview's Mobile Crisis Team would have driven for 90 minutes, mostly over winding back roads, to Oneida. During that long wait, the distressed patient could not receive needed treatment, and the ER would have had to deal with a possibly disruptive individual. But today when a call comes from Scott County, the Ridgeview clinician takes a much shorter trip, to a nearby room equipped for videoconferencing.

Back at the ER, a staffer accompanies the patient to a room fitted with similar equipment. An average of 13 minutes after the emergency room phones Ridgeview, the patient's evaluation gets under way. The medium may be different, but "it's the same evaluation," with no apparent difference in clinical results, says Sheila Musharbash, the Mobile Crisis Team's director. What is more, according to evaluation studies conducted as part of the federally funded research project that has supported the videoconference service since 2001, the 300-plus patients who have undergone the procedure have declared themselves very satisfied with the results.

Cutting the wait for emergency evaluations at Scott County is only one of the changes that new communications devices are bringing to mental health care. Psychiatrists, psychologists and counselors now use e-mail, handheld computers, computerized telephone systems, Web sites and streaming video. They treat conditions such as anxiety, addiction and post-traumatic stress disorder in patients who, in many cases, would otherwise not get care or would receive treatment less suited to their needs. Variously called e-therapy, telemedicine and telehealth, the practice has been growing over the past 15 years. Its full extent is not definitively known, however.

Though still often occurring in experimental settings, e-therapy is "moving forward, and it's going to become part of the mainstream," says social worker Ann Miller. Miller is vice president of clinical services at CRC Health, the parent company of eGetgoing, which offers counseling via the Internet to recovering alcoholics around the world. Miller and other proponents claim that technology is surmounting such major barriers to mental health care as distance, scheduling, stigma and cost. Before Miller's prediction can come true, however, supporters will have to overcome some significant clinical, ethical and administrative issues as well as the skepticism of many peers. The American Psychiatric Association (APA), for example, "supports the use of telemedicine as a legitimate component of a mental health delivery system to the extent that its use is in the best interest of the patient and is in compliance with the APA policies on medical ethics and confidentiality," according to an official statement of position--a rather tepid endorsement. A number of professional organizations in the mental health community are currently working to define ethical and responsible remotely delivered practice. Meanwhile organizations such as the International Society for Mental Health Online and the International Society for Research in Internet Interventions have been formed to advance knowledge in the field.

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Nevertheless, for Jay Shore, a psychiatrist at the University of Colorado Health Sciences Center and at Veterans Administration medical centers in several cities, high-tech treatment is already the norm. Only four of his 20 weekly clinical hours are traditional face-to-face psychiatry. The rest involve patients hundreds of miles away. For the past three years, he has conducted weekly group therapy via videoconference for Vietnam veterans with post-traumatic stress disorder who live

on the Rosebud Sioux Reservation in South Dakota. Similar clinics have also been organized by the Veterans Administration at reservations in Wyoming and Montana. Without these sessions, Shore says, "at least half would be getting no treatment" because they could not regularly drive seven hours to Denver. Like rural communities everywhere, their reservations largely lack specialized mental health facilities. Some of his patients "might get some treatment locally," he adds, "but probably not specifically tailored to veterans."

Overcoming Barriers

Finding expert care for undertreated conditions is challenging even in big cities. Few clinicians, for example, effectively treat pediatric encopresis, a condition affecting 3 to 6 percent of children. A combination of physical and emotional factors prevents kids from having normal bowel movements, and the resulting chronic constipation, accompanied by frequent accidents, comes to dominate their families' lives. A team at the University of Virginia School of Medicine "developed a behavioral treatment that works in combination with medical management," says Lee Ritterband, a psychologist with training in computers. "We said, 'Okay, we've got this treatment that works. Let's see if we can get it out to people because there are so few people in the country who know how to deal with it.'"

The Internet provided the perfect platform. The group's Web site, www.ucanpooptoo.com, offers a four-week program of structured activities, complete with animated cartoon characters and video games, that a child and parent work through together. (The giggle-provoking "Super Clean-Out" game lets the youngster empty a cartoon bowel by blasting incoming stools, Space Invaders-style.) Families who enroll in a clinical study after referral by a physician or psychologist receive free, password-protected access. The group also has in the works adult-oriented Internet interventions to treat insomnia and aid glucose control in type 1 diabetes.

Even for more widely treated conditions, however, travel difficulties, stigma and other issues that surround making and keeping appointments often limit traditional care. A study provided substance abusers in a metropolitan area access to both in-person counseling sessions and online counseling via e-mail. Of those people, only "something like 30 percent" chose to show up "for the first visit face-to-face," says Farrokh Alemi of the George Mason University nursing school, whose research focuses on substance abuse treatment programs. Many more of them chose to go online, and "something like 82 percent [of the entire group] was still online six months later"--a "really striking" difference, he adds. In outcome data from eGetgoing's alcohol recovery groups, which participants attend at set times but from computers of their own choosing, "80 percent of the first 100 people completed the 24 sessions" of the program, Miller says, although the literature on face-to-face treatment shows that generally "the dropout rate of outpatient treatment runs from 40 to 70 percent."

Therapy via phone line, broadband connection or palmtop computer can also negate the often crucial barrier of stigma. "In smaller communities, where they know what car you drive--if you're parked outside [a mental health facility], they're going to know" why you're there, says health evaluation expert Susan Dimmick of Oak Ridge Associated Universities. In larger communities, people may resist needed treatment to protect personal or professional standing. The concern for privacy, Miller suggests, is a major reason that eGetgoing counts many impaired professionals, such as doctors and lawyers, in its addiction treatment program.

Tech-assisted care also has a great potential for cutting costs, proponents argue. In ongoing studies conducted by Michelle G. Newman and her colleagues at Pennsylvania State University, people with generalized anxiety disorder who receive behavioral and cognitive therapy via handheld computers were found to need fewer hours of in-office counseling. Several times each day for 12 weeks, the computer prompts clients to report their level of anxiety and then do appropriate breathing, relaxation and cognitive restructuring exercises. "A lot of these techniques are easy to master, but they're also easy to do wrong," says Amy Przeworski, a doctoral candidate in psychology who works on the project. Done incorrectly, the breathing method "can essentially lead to hyperventilation, which makes for more anxiety." But the tiny computer, she notes, can walk the patients through the procedure.

Projects using e-mail and computerized call-back systems to keep in touch with low-income substance abusers also show how caregivers can extend their reach, Alemi says. With traditional methods, "typically a counselor can handle about 20 patients." Face-to-face counseling, he adds, often plays a limited role in the lives of clients who--because of cost, lack of transportation, scheduling problems or other obstacles--are able to see a counselor only periodically. But with the technology, "our data show that a counselor can handle a lot more." He notes that patients "now have a provider that appears to them, whether by e-mail or telephone, every day."

Judging Results

But how well do such therapies work? "You can do most of the things that we as psychiatrists and mental health providers do in person pretty successfully," Shore says. Clinicians have to make some subtle changes in their approach, however, to compensate for the loss of cues provided by face-to-face contact. Still, the men in his long-distance groups have "made the same type of progress, I feel, that they would have made in person."

Formal research on the topic is still scattered but tends to support Shore's subjective impression. Preliminary findings from the Penn State anxiety study, for example, suggest that "the computer works as well as face-to-face therapy, but face-to-face therapy is going to be a lot more expensive," Przeworski says. Alemi adds that in a study of pregnant women addicted to cocaine, a group that received online services, a chat room, a voice mailbox and home monitoring showed as much recovery as a group that received face-to-face therapy.

The Virginia encopresis study did even better, producing a "very, very significant" change that "almost solved the problem," Ritterband says. Before treatment the children, on average eight years old, were having about an accident a day, between six and eight accidents a week. Four weeks later the control group that did not use the Web site but "continued with their pediatrician were still having about eight accidents a week." The youngsters using the Web site were having an accident only once every two weeks.

But, cautions Russ Newman, executive director for professional practice at the American Psychological Association, much more research is needed to determine "under what conditions, for what problems and with which interventions, do you get quality health care?" The new technologies, he adds, "are not one thing" and need to be evaluated individually.

They also raise many questions. Start-up funding is often a major challenge, and most projects to date have relied on research grants. Insurance coverage is spotty at best. Videoconference connections and the Internet cross state lines and national boundaries, but licenses to practice medicine and psychology do not. Establishing identity and guarding confidentiality in cyberspace takes special care. Long-distance therapy requires clinicians to make careful emergency plans involving the resources available in the patient's area in case problems arise. Nor is tech-assisted therapy right for some patients, such as those at risk for self-harm or who need supervision. Many practitioners thus remain wary. It is not clear whether the objections mostly reflect concerns about the value of using electronics or worries that, as Przeworski says, "they're going to lose their jobs" because technology will replace "what we do as psychologists or physicians."

Nevertheless, proponents see tremendous--and sometimes unexpected--potential benefits. In Scott County, Dimmick says, sheriff's deputies who know they will not have to kill hours waiting for evaluations are more willing to bring troubled individuals to the hospital rather than the jail and involve the mental health rather than the criminal justice system. Telemedicine can "bring [mental health care] back not only to the patients' community but into their homes and really revolutionize the model of health care," Shore says. And as for names, Newman suspects, the time will come when the new techniques simply "will be called psychotherapy."