

The Frontline Reports column features short descriptions of novel approaches to mental health problems or creative applications of established concepts in different settings. Material submitted for the column should be 350 to 750 words long, with a maximum of three authors (one is preferred), and no references, tables, or figures. Send material to one of the column editors: Francine Cournos, M.D., at the New York State Psychiatric Institute, 1051 Riverside Drive, Unit 112, New York, New York 10032, or Stephen M. Goldfinger, M.D., at SUNY Downstate Medical Center, Department of Psychiatry, Box 1203, 450 Clarkson Avenue, Brooklyn, New York 11203.

Structured Exercise for Persons With Serious Psychiatric Disabilities

Many people with serious mental illness live with the dual challenge of a psychiatric illness and a serious medical condition, such as diabetes, obesity, or hypertension. However, many rehabilitation programs focus on managing mental illness rather than providing comprehensive interventions that promote functional health.

A study funded by the National Institute on Disability and Rehabilitation Research conducted at the Center for Psychiatric Rehabilitation at Boston University investigated the feasibility and efficacy of a supported, structured exercise program as an adjunct to treatment and rehabilitation for persons with serious psychiatric disabilities. The intervention consisted of three supervised, 45-minute exercise sessions each week for 20 weeks. Before the program began, participants underwent a comprehensive medical examination with a cardiologist and participated in an exercise tolerance test to determine individualized target heart rates for exercise. The exercise sessions were conducted in a university fitness room, and participants chose from station-

ary bicycles, stair-climbing machines, and treadmills. Participants were taught to monitor their heart rates, and they exercised within a predetermined target heart range. They progressed to 30 minutes of cardiovascular exercise with defined warm-up and cool-down periods.

Instructors included two graduate students in exercise science and two master's-level rehabilitation counselors. The staff provided instruction on assessing heart rates, using proper warm-up and cool-down techniques, exercising within target heart rates, and using the exercise equipment correctly. Instructors collaborated with participants to set individualized fitness goals and create wellness plans. They monitored exercise intensity and duration and provided support for participation.

The findings from a 40-week program evaluation indicated that structured physical activity programs are feasible, wanted, and needed by persons with serious mental illness. The evaluation assessed physiological and psychosocial variables at baseline, ten weeks, and 20 weeks. Forty-six individuals began the program, and 37 (16 women and 21 men; mean age 32 years) completed it. They attended an average of 40 of the 60 sessions (66 percent). During the exercise phase, participants showed statistically significant improvements in their cardiovascular fitness, as assessed by the exercise tolerance test, and in the psychological constructs of

self-esteem, quality of life, mood, and depression.

The successful intervention identified the need for a range of wellness interventions to meet people's readiness to change their lifestyle habits. The structured exercise program was the catalyst for the development of the Recovery Center, an innovative program within the Center for Psychiatric Rehabilitation at Boston University that was started in 2000.

The Recovery Center (www.bu.edu/cpr/rc) uses an adult education model to offer people with serious mental illness educational opportunities to strengthen and broaden their skills in physical, intellectual, emotional, and spiritual practices that may support their treatment, rehabilitation, and recovery efforts. Currently, 150 participants, referred to as students, work with a recovery advisor to choose from courses that raise awareness, teach information and skills, and develop support and coping strategies for the implementation of health promotion practices in daily life.

Courses meet weekly for two hours and are offered on a trimester basis. Class sizes range from 12 to 20 students. The program cost is estimated at \$400 per course, but most participants receive full scholarships. Scholarship money is donated by private individuals, foundations, and corporations. Physical health-related courses include tai chi, chi gung, nutrition, conscious eating, developing stress hardiness, health literacy and advocacy, sexuality and intimacy, supported fitness, yoga, meditation, healthy lifestyle education, and reiki.

Courses are team taught by both individuals in recovery and professionals from the fields of social work, occupational therapy, medicine, exercise science, mental health, theology, and technology. Fourteen of the 26 staff are consumers of mental health services. There are five full-time staff. All instructors receive training and supervision in skill teaching and support of persons with mental illness in an educational setting. Instructors develop content outlines, syllabi, and

Editors' Note: An article in this month's issue by Caroline R. Richardson, M.D., and her colleagues (see page 324) reviews evidence supporting the need for interventions to promote physical activity among persons with serious mental illness. Described here are four such interventions for changing sedentary habits that have been welcomed by participants.

curricula for their courses. Since 2000, more than 400 students have taken courses at the Recovery Center.

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A Lifestyle Physical Activity Program for Persons With Serious Mental Illness

Lifestyle physical activity programs encourage participants to integrate physical activity, usually walking, into their daily routine. These programs have been very successful in healthy populations but have not been tested extensively in individuals with serious mental illness.

To test the feasibility of a lifestyle intervention designed for individuals with serious mental illness, researchers at the University of Michigan developed the Michigan Walk Your Talk Program, a group-based 18-week lifestyle physical activity intervention. The group sessions were conducted weekly for six weeks in the initial phase and then monthly for three more months. Sessions were led by a trained fitness and nutrition group leader. Each session included education and behavior modification strategies that focused on nutrition and physical activity as well as a 15-minute group walk. Participants were asked to wear pedometers for the entire 18 weeks and to log daily step counts on a calendar.

The intervention was offered in three different mental health settings that were chosen to target groups that varied by severity of mental illness. The settings included a university-based outpatient depression center, a community mental health center, and a clubhouse program for individuals disabled by mental illness. Thirty-nine participants were recruited. Five dropped out before the first intervention session, and 34 started the intensive phase of the intervention (eight men and 26 women; mean age, 44 years). Twenty-two remained in the program until

the end of the six weeks (six men and 16 women; mean age, 43 years). Twelve (two men and ten women; mean age, 48 years) completed the final questionnaire three months after the intensive intervention.

Most participants were able to record daily pedometer step counts on paper log sheets. No statistically significant increase in step counts resulted from the intervention. The ten participants who completed the program and for whom both baseline and 18-week weight data were available lost an average of 5.3 pounds (paired $t=1.9$, $df=9$, $p=.045$). Several members of one group spontaneously organized a walking group after the 18-week program ended. Currently 14 people with serious mental illness walk together each week at a local shopping mall.

Despite concerns that lifestyle interventions might be too unstructured for individuals with serious mental illness, our low-cost, group-based lifestyle intervention was associated with a significant weight loss that was maintained for 18 weeks. Although the initial dropout rate was disappointing, satisfaction was high among the individuals who completed the program. Furthermore, the intervention motivated some participants to organize their own walking group. We are currently conducting an ethnographic study of the walking group to determine whether this type of program can be replicated for other individuals with serious mental illness.

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A Group-Based Walking Program at a Psychiatric Rehabilitation Center

Obesity, sedentary lifestyle, hypertension, and diabetes have been among the most frequent health problems

we have encountered in our nursing center, which provides integrated primary and mental health care for clients—known as “members”—of Thresholds Rehabilitation Centers. We developed a walking program to address these health risks and promote more active lifestyles.

In 2003 we introduced a group-based, moderate-intensity walking program for sedentary Thresholds members who were affiliated with the Thresholds Vocational Rehabilitation Center located on Chicago's near South Side. Participants were first screened for cardiovascular risk with a physical examination and laboratory and fitness testing. Eligible members were enrolled in the group as part of their quarterly rehabilitation center schedule. The group met three times a week for 12 weeks and was led by a case manager cross-trained to support and educate new exercisers as they became more physically active. Each participant received a personal exercise plan based on his or her fitness test, walking shoes, and a heart rate monitor to use during walking sessions to self-monitor duration and intensity.

For the first four weeks—the conditioning phase—participants walked twice a week for ten to 15 minutes; the third group meeting each week was an interactive workshop that covered benefits and barriers to exercise, getting started with exercise, and finding ways to maintain motivation. By week 12, participants were walking three times a week for 25 to 30 minutes each time in addition to warm-up, cool down, and stretching. The case manager was assisted by an advanced practice nurse from the nursing center who had expertise in walking programs, and both walked with the group each time on routes preplanned for distance, interest, and safety. A wrap-up session at the end of the 12 weeks recognized all participants for their accomplishments. The program was a preliminary study to determine the feasibility of cardiovascular risk reduction among individuals with serious mental illness through supported physical activity. Fifteen participants aged 21 to 66

years enrolled, and 13 completed the 12-week program. The average participant attended about 23 of the 30 walking sessions (76 percent) and 3.4 of the educational activities (87 percent). Walking attendance was inversely related to body mass index; obese participants were absent more often. The SF-12 Health Survey was administered before and after the 12-week program, and no change in physical or mental health was noted. Mood improved significantly ($p=.02$), as measured by the Profile of Mood States. Scores on the Multnomah Community Ability Scale, which measures psychosocial functioning of persons with serious and persistent mental illness living in the community, also improved ($p=.02$).

A walking group was added to the center's next quarterly schedule and was quickly filled. The program continues as a 12-week group for up to 15 members, which meets twice a week during the spring, summer, and fall quarters. The group includes workshops and group walking sessions led by a case manager.

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Use of CBT in a Walking Program for Veterans With Diabetes and Depression

Diabetes is a common comorbid illness among persons with major clinical depression. Physical activity can improve outcomes of both diabetes and depression. University of Michigan researchers developed an intervention that used a cognitive-behavioral therapy (CBT) model to promote walking among individuals with comorbid diabetes and depression.

The intervention—the Michigan VA Positive Steps Program—was tested in a pilot program at the Department of Veterans Affairs (VA) Health Services Research and Development Center for Excellence in Ann Arbor in 2003. Individuals with both diabetes and depression were identified by their primary care provider, and interested individuals were subsequently screened for eligibility. Eligible participants met with a member of the research team to complete the enrollment and written informed consent process.

The CBT was delivered individually in 12 weekly one-hour telephone sessions by a trained nurse-clinician. Two different CBT-trained nurse-clinicians delivered the intervention. One of the barriers to psychiatric care in the VA system is the fact that patients often live relatively far from the regionalized medical

centers. Therefore, all CBT sessions were conducted by telephone. The first six weeks focused on managing depression symptoms. For the sixth session, participants were given a pedometer and asked to fill out a written step-count log. During subsequent sessions, the nurse reviewed CBT concepts with the patient and also encouraged the patient to gradually increase his or her daily step counts.

A workbook and therapist handbook were designed specifically for individuals with both diabetes and major clinical depression. The intervention materials were modified from existing CBT manuals. Specific information about diabetes and about the walking program was added. The physical activity component of the intervention was objectively assessed by analyzing the daily step counts logged by participants during the final six weeks of the intervention. Eleven individuals began the pilot program, but three dropped out before starting the physical activity component. Of the eight who completed the study, five recorded pedometer data for both the sixth and 12th week. Initially, participants walked an average of 6,562 steps per day. Six weeks later, the average step count was 8,829 steps per day ($t=3.05$, $df=4$, $p=.039$). The average difference of 2,266 steps represents an increase of 20 minutes of walking each day at three miles per hour.

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