"MOVE!": Outcomes of a Weight Loss Program Modified for Veterans With Serious Mental Illness

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Objectives: **Veterans with serious mental illness are at increased risk of obesity, sedentary lifestyle, and a host of related chronic diseases. Although evidence suggests that lifestyle interventions can help mental health consumers achieve modest weight loss, several studies have failed to show a benefit and most have concluded that significant challenges remain in delivering effective interventions. In 2006, the Veterans Health Administration introduced MOVE!, a weight management program that includes behaviorally based dietary and physical activity self-management support. This article describes modifications used to manualize MOVE! for veterans with serious mental illness and reports findings from a randomized controlled trial of the new intervention.** ***Methods:*** **Between January 2007 and June 2009, overweight or obese veterans with serious mental illness were randomly assigned to a six-month trial of MOVE! (N=53), which includes both individual and group sessions, or to a control condition that offered basic information about diet and exercise every month (N=56). Weight and metabolic, attitudinal, behavioral, and functional variables were measured at baseline and six months, and weight was also measured monthly.** ***Results:*** **Thirty participants in MOVE! and 41 participants in the control group completed the six-month assessment, and only seven lost 5% of their baseline weight; there was no effect of group assignment on weight loss. There were no significant group × time differences in any metabolic, dietary, physical activity, attitudinal, or functional measure.** ***Conclusions:*** **Despite the negative findings of this study, research is crucial to identify lifestyle interventions and related supports and services to help veterans with mental illness reduce overweight and obesity. (*Psychiatric Services* 64: 737–744, 2013; doi: 10.1176/appi.ps.201200314)**

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Obesity and sedentary lifestyles have reached epidemic proportions in the United States, resulting in increased rates of a variety of chronic diseases, increased risk of mortality, and substantial health care costs (1). Adults with schizophrenia and other serious mental illnesses are more likely to be overweight or obese, which contributes to the higher rates of comorbid general medical disease and early mortality in this population (2,3). The association between serious mental illness and obesity may result from poor dietary habits and sedentary lifestyle (4). Medication side effects, such as metabolic alterations associated with the use of second-generation antipsychotic agents, also contribute to the problem (5,6).

A recent systematic review of the literature identified 23 studies designed to help individuals with serious mental illness lose weight and become more physically active (7). Interventions included both individual and group sessions. All provided general information about diet and exercise, and many included instruction in how to read food labels, count calories, practice portion control, and develop healthier diets. Some, but not all, interventions also incorporated exercise or fitness training elements. Most of the interventions incorporated behavioral strategies, including goal setting and behavioral self-management. Finally, all interventions had modifications

or enhancements to address the range of motivational and cognitive deficits common among individuals with serious mental illness.

Of the 18 studies that conducted statistical analyses, ten reported significant weight loss findings. Among the seven randomized controlled trials (8–14), three of which did not find statistically significant weight loss outcomes (8–10), the mean±SD weight loss was 3.7±2.3 pounds (7). By comparison, the mean weight loss from lifestyle interventions tested in the general population, according to recent meta-analyses, was between eight and 11 pounds (15,16). Collectively this research indicated that lifestyle interventions for individuals with serious mental illness can achieve modest weight loss and clinically meaningful reductions in cardiovascular risk factors. However, the challenges are considerable, and some studies failed to show benefit (7). Notably, it is unknown which elements of the programs are critical to helping various participant groups.

A recent nonrandomized trial evaluated a psychosocial weight management program for veterans with schizophrenia in the context of a larger longitudinal Veterans Affairs (VA) evaluation of a chronic care model for schizophrenia (17). The program, a 16-session group intervention, was based on the Lilly Solutions for Wellness program (18). Weight loss did not differ among participants and nonparticipants (2.4±10.6 and 2.2±11.9 pounds, respectively) (19). In 2006, the Veterans Health Administration (VHA) introduced the MOVE! Weight Management Program for Veterans to provide comprehensive, multidisciplinary weight management services for the nearly six million veterans served throughout its system of care (20). The core components of MOVE! include delivery of behaviorally based dietary and physical activity self-management through a variety of modalities, including individual and group face-to-face counseling and telephone care. Weight loss medication, intensive outpatient treatment, residential treatment, and bariatric surgery may also be available as adjuncts to the core behavioral program.

Recent data indicated that 18.6% of veterans who participated in at least two MOVE! visits experienced a 5% loss of body weight by six months (20,21). The cohort of the studies was 31,854 veterans across the VHA with available weight measurements, and the data were compiled from a variety of sources, including administrative and clinical databases, electronic medical record reviews, and annual structured VHA facility self-reports. Of note, 12.5% of veterans in a comparison group matched for age, gender, body mass index (BMI), and comorbidity status who were not treated with MOVE! also had at least a 5% loss of body weight. Among those who participated in more intense and sustained treatment (eight or more MOVE! visits and continuous engagement in MOVE! for at least four months), 31.6% achieved clinically relevant weight loss; only 13.4% of the cohort, however, received intense and sustained treatment.

MOVE! has not yet been tested in specialty mental health settings to facilitate weight management among veterans with serious mental illness. Using content developed for MOVE!, we created a manualized six-month weight management intervention for individuals with serious mental illness that included both individual and group sessions. This article describes the modifications that we used to manualize MOVE! for veterans with serious mental illness and reports findings from a randomized controlled trial comparing MOVE! with a control condition that offered basic information about diet and exercise at monthly weigh-ins. We hypothesized that over a six-month period, the number of veterans who achieved weight loss of 5% or more would be greater among veterans randomly assigned to MOVE! versus the control condition. We also hypothesized that those assigned to MOVE! would experience greater reduction in individual metabolic syndrome criteria (hypertension, increased waist circumference, dyslipidemia, and hyperglycemia) as well as diagnosis of metabolic syndrome (three or more individual criteria). Secondary hypotheses focused on differential outcomes between study conditions in physical activity and dietary management as well as a range of attitudinal and functional variables.

Methods

Study setting and sample

Veterans were recruited from outpatient mental health clinics within the VA Maryland Health Care System and the District of Columbia VA. Inclusion criteria were *DSM-IV* chart diagnosis of schizophrenia, other psychotic spectrum disorder, bipolar disorder, major depression, or severe anxiety disorder; age 18 to 75; community dwelling; BMI ≥25; and English speaking. Exclusion criteria were documented debilitating general medical diagnoses, including serious renal, cardiac, neurological, and respiratory diseases; prior or planned bariatric surgery; use in past three months of prescription pharmacological agents for weight loss; and abnormal results of blood tests —including hemoglobin A1c >9 mg, fasting blood sugar >160, and values outside a normal range for hematocrit, creatinine, and liver enzymes within the past six months —that indicate a serious medical condition that would contraindicate participation in a weight loss program. All study participants gave written informed consent, and the study was approved by all relevant institutional review boards.

Procedures

A total of 1,223 veterans were screened for eligibility. Of the 329 who met initial eligibility criteria, 227 were approached and asked to participate and 147 (65%) consented. The main reasons for ineligibility included diagnosis not listed as an inclusion criterion, disengagement from mental health treatment services, and presence of exclusionary general medical conditions. All consents occurred between January 2007 and June 2009. Subsequently, 38 veterans were excluded after a review of blood work collected as part of screening procedures and responses to the Physical Activity Readiness Questionnaire (22) indicated a self-reported medical condition or prompted the primary medical provider to withdraw preapproval for the veteran to participate.

Table 1

Summary of the MOVE! weight loss intervention optimized for use with veterans with serious mental illness

Time frame	Component	Content or focus	Enhancements for veterans with serious mental illness
Month 1	Weekly individual sessions	Session 1: Motivation and engagement Session 2: Basics of healthy eating and review of diet history Session 3: Basics of healthy eating and creating a new meal plan Session 4: Introduction to goal setting and problem solving	Motivational techniques to foster engagement and frame weight management as recovery-oriented pursuit A structured curriculum including visual learning aids and repetition of content to reduce requirements on memory and attention Instruction in basic cognitive-behavioral techniques to reinforce learning and afford opportunities for behavioral rehearsal
Months 2–4	Weekly group sessions	Didactic review of topics related to nutritional and physical activity Assistance in setting weekly goals for weight loss and physical activity Weigh-in and discussion of successes and challenges	Relatively brief (60 minutes) sessions and continued use of visual learning aids to reduce requirements on memory and attention Review of previous session content and in-session practice of new cognitive-behavioral strategies to reinforce lifestyle changes Reliance on weekly goal setting and problem solving to help participants develop sense of mastery needed to maintain lifestyle changes and to link weight management to broader pursuit of recovery-oriented goals Inclusion of new content area focusing on interconnections between weight management and symptoms and treatments associated with mental illness
Months 5 and 6	Biweekly group review sessions	Review major concepts and strategies	Continued application of strategies above to help reinforce learning and sustain motivation
Months 2–6	Monthly individual sessions	Review knowledge and reinforce skills	Continued application of strategies above to help reinforce and synthesize learning

A total of 109 veterans completed the baseline assessment and were randomly assigned to the MOVE! (N=53) or control condition (N=56) by using a permuted-block randomization scheme with varying block sizes stratified by antipsychotic medication categories. Antipsychotic medication categories were defined as being prescribed at baseline either olanzapine or clozapine or any other medication regimen. All study participants in both conditions were asked to return monthly for a weigh-in and again at the end of six months to complete a battery of follow-up assessments.

Interventions

MOVE! In adapting MOVE! for individuals with serious mental illness, we strove to include strategies associated with successful weight loss programs targeting individuals with serious mental illness, including psychoeducation focusing on nutritional counseling, caloric expenditure, and portion control (23). We also emphasized behavioral and motivational self-management strategies, including weekly goal setting and regular weigh-ins. Table 1 presents a summary of the key components of the intervention and reviews the enhancements used to optimize MOVE! for use with veterans with serious mental illness.

Research staff who had previous experience leading psychosocial and behavioral interventions with seriously mentally ill adults delivered the intervention. Participants completed individual sessions once a week for the first month, followed by weekly group sessions of about 60 minutes during months 2–4. Months 5 and 6 included four biweekly sessions and two individual sessions to further reinforce weight loss efforts and review important information covered in the curriculum. We did not incorporate supervised exercise as part of the intervention because veterans did not have access to exercise facilities at the study sites and they were recruited from across multiple programs.

Control condition. Participants assigned to the control condition received standard services in the context of their existing treatment plans. In addition, once a month they met with research staff and were weighed and provided with brochures and handouts about diet and exercise. Notably, at the time of the study trial, MOVE! was not widely available at the facilities where the study was conducted, nor were programmatic efforts or procedures in place to screen and refer veterans with serious mental illness for a service related to MOVE!

Assessments and measures

Participants completed a 1.5-hour assessment administered at baseline

and again six months later. Weight measurements were recorded for all participants at both time points and monthly during the intervening months. The subset of participants recruited from the VA Maryland Health Care System (N=71) also had their blood pressure measured at baseline and at the six-month follow-up and provided a blood sample after a ten-hour, overnight fast to measure total cholesterol, triglycerides, low-density and high-density lipoprotein cholesterol, and glucose.

All participants completed a demographic questionnaire and the MOVE! 23, a 23-item questionnaire developed by the VHA National Center for Health Promotion and Disease Prevention about general medical health, eating habits, exercise patterns, and barriers that may get in the way of weight management efforts (24). The study assessment battery also included instruments to measure dietary habits, including the Block Fruit, Vegetable, and Dietary Fat Screeners (25,26); attitudinal and motivational measures, including the Diet and Exercise Confidence Survey (27); and the Impact of Weight on Quality of Life Survey (28). The 12-Item Short Form (SF-12), a self-reported rating of general medical health, mental health, and physical functioning, was also included (29).

Statistical analyses

Baseline characteristics were compared across conditions by using independent t and chi square tests. Baseline values for participants who completed the six-month assessment and those who were lost to follow-up were also compared.

Monthly weight data were analyzed both as a binary outcome, indicating whether the participant had lost 5% of his or her body weight, and as a continuous weight measure. All participants were included in the analyses regardless of the number of assessment points or intervention sessions they completed (intent to treat). A generalized estimating equation model (SAS, version 9.2, Proc Genmod) was used to compare binary outcomes between groups over time, with month, treatment group, and month × treatment group as independent variables. For continuous outcomes, a general linear mixed model (Proc Mixed) was used. An unstructured covariance matrix was specified for all repeated-measures analyses.

Changes in measures of metabolic or laboratory, dietary management, physical activity, and attitudinal variables obtained at baseline and six-month follow-up were analyzed by using the same models described above.

Results

Seventy-three percent (N=41) of the control group and 57% (N=30) of participants in the MOVE! condition completed the six-month assessment. Those who did not complete the follow-up composite assessment (N=38, 35%) were younger (t=2.56, df=56, p=.013) and reported poorer functioning on the mental health subscale of the SF-12 (t=2.89, df=107, p=.005) than the completers (N=71, 65%).

Sample characteristics

Baseline characteristics for the 109 veterans randomly assigned to the two conditions are presented in Table 2. The sample was predominantly African American and had a high burden of medical comorbidity, current tobacco use, and alcohol use in the past 30 days. Twenty-five percent of the sample resided in a supervised community residence; approximately half of the sample also reported being dependent on others for grocery shopping (47%) and preparation of meals (52%). There were no significant differences between participants in study conditions across any of the variables listed except that a greater proportion of persons in the control condition (36%) than in MOVE! (19%) reported a diagnosis of diabetes (p=.049).

Intervention fidelity

A total of 38 group sessions were video recorded, and the intervention was rated by using a fidelity checklist that focused on both content—for example, coverage of essential nutritional and physical activity information—and process-oriented aspects—such as facilitator attention to barriers or obstacles voiced by participants. Items were rated on a scale from 1, not at all evident, to 4, fully evident. The mean score on all items across the 38 videos was above 3.7.

Intervention completion rates

Among the 53 veterans assigned to MOVE!, 70% (N=37) completed all four individual sessions, 15% (N=8) completed two or three sessions, and 15% (N=8) completed fewer than two sessions (mean=3.3 sessions). During months 2–6, a total of 34% (N=18) attended 75% or more of the 16 group sessions; 15% (N=8) completed between 50% and 75% of the sessions, 15% (N=8) completed between 25% and 50%, and 36% (N=19) completed fewer than 25%. The mean number of group sessions completed was 7.4, and the median was five.

Responses to questions on the MOVE!23 (24) indicated a nonsignificant change from baseline to follow-up in the number of participants in the control group who reported lifetime receipt of weight loss services (z=.84, p=.399), suggesting that they did not receive additional weight loss programming during the course of the trial.

Monthly weight and metabolic outcomes

A total of seven participants (6% of the full sample) lost 5% of their baseline weight over the six-month study period. Neither a main effect of month or month × treatment effect was significant. When continuous weights were analyzed, no significant effects were found for month or month × treatment effects. We also compared all weight outcomes between participants in the MOVE! condition who completed eight or more group sessions (N=26) and those who completed seven or fewer (N=27); there were no significant differences in weight outcomes in relation to dose of the intervention.

Further, there were no significant differences over time in any of the variables used to classify metabolic syndrome between the 30 veterans in MOVE! and the 41 veterans in the control condition for whom we had complete laboratory data (Table 3).

Additional follow-up outcomes

There were no significant group × time differences across the full range

Table 2

Characteristics of veterans in the MOVE! weight loss intervention and a control condition, at baseline[a]

Characteristic	Total (N=109)		MOVE! (N=53)		Control (N=56)		Group comparison		
	N	%	N	%	N	%	Test statistic	df	p
Demographic									
Male	88	81	40	75	48	86	χ^2=1.84	1	.175
African American	65	60	36	68	29	52	χ^2=2.95	1	.086
Age (M±SD)	52.0±9.1		50.5±9.9		53.5±8.1		t=1.73	107	.086
≥12 years of education	105	96	51	96	54	96	FET[b]=.38	—	1.000
Clinical									
Diagnosis									
Schizophrenia or schizoaffective disorder	40	37	19	36	21	38	χ^2=.03	1	.858
Major depression	15	14	8	15	7	13	χ^2=.15	1	.694
Bipolar disorder	27	25	13	25	14	25	χ^2=.00	1	.955
Posttraumatic stress or anxiety disorder	27	25	13	25	14	25	χ^2=.00	1	.955
Medication									
Olanzapine	14	13	9	17	5	9	χ^2=1.50	1	.221
Risperidone or quetiapine	35	33	13	25	22	41	χ^2=2.97	1	.085
Ziprasidone or aripiprazole	20	19	13	25	7	13	χ^2=2.51	1	.113
Fluphenazine, haloperidol, or perphenazine	10	9	6	12	4	7	FET[b]=.20	—	.522
Environment									
Supervised living	27	25	16	30	11	20	χ^2=1.63	1	.202
Food shopping assistance	51	47	27	52	24	43	χ^2=.89	1	.346
Food preparation assistance	57	52	27	51	30	54	χ^2=.08	1	.784
Lifestyle									
Smokes tobacco	45	41	24	45	21	38	χ^2=.68	1	.409
Alcohol use in past 30 days	27	25	10	19	17	30	χ^2=1.93	1	.165
Moderate activity									
Days per week (M±SD)	3.0±2.3		2.7±2.2		3.3±2.3		t=1.34	107	.182
<30 minutes on days with moderate activity	40	47	19	48	21	46	χ^2=.03	1	.864
Vigorous activity									
Days per week (M±SD)	.6±1.2		.4±.9		.8±1.5		t=1.42	95	.158
<30 minutes on days with vigorous activity	8	30	4	36	4	25	FET[b]=.27	—	.675
Diet									
High or very high in fat	93	85	44	83	49	88	χ^2=.44	1	.509
Not enough fruits or vegetables	44	40	21	40	23	41	χ^2=.02	1	.878
Co-occurring general medical condition	89	95	43	93	46	96	FET[b]=.31	—	.674
Not under control (self-rating)	13	12	5	9	8	14	χ^2=.61	1	.435
Diabetes	30	28	10	19	20	36	χ^2=3.87	1	.049
Respiratory disease	17	16	11	21	6	11	χ^2=2.09	1	.149
Heart disease	12	11	4	8	8	14	χ^2=1.26	1	.261
Arthritis or joint pain	51	47	28	53	23	41	χ^2=1.51	1	.219

[a] The control condition was treatment as usual plus monthly weigh-ins and distribution of diet- and exercise-related brochures and handouts.
[b] Fisher's exact test

of dietary management, physical activity, attitudinal, and functional measures. All baseline and follow-up results are presented in Table 3.

Discussion

This study did not find any significant differences in weight loss or related metabolic outcomes between persons receiving MOVE! and persons receiving monthly weight monitoring and brochures and handouts related to diet and exercise. Further, there were no significant differences between the study and the control groups across any of the dietary, physical activity, and attitudinal measures. These results underscored the significant challenges associated with helping seriously mentally ill adults adopt and sustain healthier lifestyle behaviors.

Consideration of the baseline characteristics of the study sample highlights the range and magnitude of these challenges. Participants were eating foods extremely high in fat and smoking at rates greater than the general population. At baseline, the participants' mean weight was 236 pounds and their mean BMI was 34.6, both in the obese range. More than one-third met criteria for metabolic

Table 3

Group × time interaction at six-month follow-up among veterans in the MOVE! weight loss intervention and a control group, by outcome[a]

Outcome	Baseline				6-month follow-up				Group × time interaction		
	MOVE! (N=53)		Control (N=56)		MOVE! (N=30)		Control (N=41)		Test statistic[b]	df	p
	N	%	N	%	N	%	N	%			
Medical											
Weight (M±SD pounds)	237.2±50.3		230.2±45.7		240.8±40.1		228.1±43.4		F=.13	1 and 84	.720
Metabolic syndrome[c]	20	43	19	37	8	33	9	27	χ^2=.00	1	.989
Elevated waist circumference	39	93	35	80	19	86	24	77	χ^2=.69	1	.406
Dyslipidemia											
Elevated triglycerides	14	39	15	37	7	35	6	24	χ^2=.45	1	.502
Low high-density lipoprotein cholesterol	17	49	17	41	9	45	7	28	χ^2=.11	1	.745
Elevated blood pressure	19	46	16	39	9	43	11	41	χ^2=.07	1	.787
High glucose	17	52	22	56	10	56	11	46	χ^2=.08	1	.771
Secondary											
Physical activity											
Moderate (M±SD days per week)	2.7±2.2		3.3±2.3		3.6±2.7		3.9±2.7		χ^2=.72[d]	1	.396
Vigorous (M±SD days per week)	.4±.9		.8±1.5		.7±1.4		1.1±1.9		χ^2=.47[d]	1	.493
Diet											
Not enough fruits or vegetables (past year)[e]	21	40	23	41	9	30	15	37	χ^2=.17	1	.678
Low in fat (past year)[e]	0	—	2	4	1	3	4	10	—	—	—
Overeats	23	58	37	77	10	59	17	71	χ^2=.15	1	.695
Eats extremely large amounts of food at one time more than once a week	7	13	14	25	4	15	5	14	χ^2=.98	1	.323
Attitude											
DECS, diet (M±SD total score)[f]	80.7±14.4		81.5±11.8		80.9±12.2		78.4±12.6		F=2.29	1 and 104	.133
DECS, exercise (M±SD total score)[g]	45.5±10.4		47.6±11.3		37.8±14.0		43.9±13.2		F=1.52	1 and 103	.220
Importance of controlling weight[h]	9.0±1.5		9.1±1.4		8.9±1.9		8.0±2.9		F=1.83	1 and 107	.179
Confidence to change eating and activity to control weight[i]	7.5±2.3		7.5±2.0		7.9±1.8		8.0±2.1		F=.07	1 and 107	.791
Maintenance stage of weight control	21	40	23	41	18	67	24	69	χ^2=.02	1	.887
IWQOL Survey (M±SD score)[j]	67.6±18.4		73.5±21.4		75.1±15.7		78.9±19.1		F=.14	1 and 107	.710
SF-12[k]											
Physical composite (M±SD score)	45.4±10.5		45.2±11.2		45.2±12.2		43.9±12.7		F=.03	1 and 107	.859
Mental health composite (M±SD score)	41.6±14.2		44.0±13.0		43.0±15.9		48.0±9.4		F=2.30	1 and 107	.133

[a] The control condition was treatment as usual plus monthly weigh-ins and distribution of diet- and exercise-related brochures and handouts. Percentages reflect the number of respondents for whom data were available for each outcome.

[b] F test (SAS Proc mixed); Wald χ^2 (SAS Proc Genmod with binomial distribution specified)

[c] ≥3 of the following: hypertension, increased waist circumference, dyslipidemia, and hyperglycemia

[d] Wald χ^2 (SAS Proc Genmod with Poisson distribution specified)

[e] Results are for the Block Fruit, Vegetable, and Dietary Fat Screeners.

[f] Diet and Exercise Confidence Survey. Possible scores range from 20 to 100, with higher scores indicating higher confidence in controlling diet.

[g] Possible scores range from 12 to 60, with higher scores indicating higher confidence in exercise.

[h] Possible scores range from 0 to 10, with higher scores indicating greater perceived importance.

[i] Possible scores range from 0 to 10, with higher scores indicating higher confidence.

[j] Impact of Weight on Quality of Life. Possible scores range from 0 to 100, with higher scores indicating lower impact of weight on quality of life.

[k] 12-Item Short Form composites are norm-based scores (mean±SD=50±10). Scores above 50 can be interpreted as above the general population norm.

syndrome, and most were coping with one or more co-occurring chronic general medical conditions. Most were using an antipsychotic or an antidepressant or other mood-stabilizing medications, including 13% who were taking olanzapine, a second-generation antipsychotic associated with weight gain. Given the severity and extent of these co-occurring conditions and lifestyle challenges, future studies might consider programming and services that integrate a range of lifestyle issues and emphasize self-management of general medical health and wellness over a more narrow focus on weight. In light of the motivational deficits common among seriously mentally ill adults, work on how to best engage this population in lifestyle interventions is especially important. We also recommend that more work be done to link weight management programming with other recovery-oriented services designed to support a holistic approach to wellness.

Participants also experienced significant environmental challenges that may have made it harder for them to make meaningful changes in their diet. Specifically, one-quarter were living in supervised living situations, and close to half reported having no control over food shopping or food preparation. These findings suggested a need for added efforts to work directly with facilities to improve food services to support healthier dietary intake among consumers living in residential facilities. Others have suggested that interventions include more in vivo activities, such as shopping and cooking, to help support lifestyle changes. Recent pilot work suggested that modifying meals and snacks served in psychiatric day programs—as part of a larger intervention effort—is associated with positive weight loss results (30).

The lack of significant findings also warrants critical consideration of the manualized MOVE! intervention developed for this study. Although delivered with fidelity and packaged with a range of evidence-based intervention features, including psychoeducation focused on nutritional counseling, caloric expenditure, and portion control (23) along with behavioral goal setting and regular weigh-ins, our MOVE! intervention did not include in-session opportunities for supervised physical activity, which have been shown in other studies to be associated with weight loss (7). The attrition rate among those in the MOVE! condition also raised the question about the optimal amount and intensity of programming needed to effectively engage participants in weight loss interventions. Of note, among the 23 studies summarized in the introduction, interventions ranged in duration from 30 minutes to 52 weeks.

Future studies would benefit from qualitative feedback from participants regarding their experiences with intervention burden and its effects on retention. Future studies should also compare the relative benefits of standardized group-based interventions, such as the version of MOVE! we evaluated, and more individualized approaches that afford greater opportunity to tailor content and focus on an individual's specific needs, preferences, and challenges. Using mobile or Web-based technology to augment or replace some in-person services should also be considered.

Our intervention also did not include concerted efforts to engage other elements of the MOVE! program, such as coordinated service delivery across multiple disciplines, for example, dietetics, exercise physiology, behavioral health, nurses, and primary and specialty medical care. The VHA has been a national leader in creating service delivery models, such as the Patient Aligned Care Teams (31), that are designed to provide comprehensive patient-centered care that coordinates primary care with a full range of other care needs. Although our version of MOVE! was not successful, future work is needed to consider how to best select and configure elements of structured weight management interventions to support and complement such integrated program models.

Conclusions

Despite the negative findings of this study, further research is crucial to identify effective lifestyle interventions and related supports and services to reduce overweight and obesity among mentally ill veterans.

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Book Reviews Available Online With the August Issue of *Psychiatric Services*

The August issue of *Psychiatric Services* reviews the following books online in its Book Reviews section, edited by Jeffrey L. Geller, M.D., M.P.H.:

- Frederick J. Frese, Ph.D., reviews *The Family Guide to Mental Health Care,* by Lloyd I. Sederer, M.D.
- E. Fuller Torrey, M.D., reviews *Against Autonomy: Justifying Coercive Paternalism,* by Sarah Conly
- Roger Peele, M.D., and Neha Gupta, M.D., review *Philosophical Issues in Psychiatry II: Nosology,* edited by Kenneth S. Kendler and Josef Parnas
- Sandra L. Bloom, M.D., reviews *Trauma, Psychopathology, and Violence: Causes, Consequences, or Correlates?*, edited by Cathy Spatz Widom