MOVE! multidisciplinary programs: Challenges and resources for weight management treatment in VHA

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ABSTRACT

The *MOVE!* program has been a successful weight management and physical activity initiative from the Veteran's Health Administration. While it embraces a multicomponent approach to weight management, local facilities have primarily focused on the implementation of delivery of *MOVE!* educational materials to groups or individuals. We discuss additional *MOVE!*-related weight management efforts within VHA that reflect treatment strategies beyond delivery of these educational materials. First, we present a case study that highlights the special challenges associated with the Veteran overweight/obese population. Second, we describe the implementation of our local, multidisciplinary, individualized weight management clinic as an example of on-the-ground provision of a higher treatment intensity program as part of *MOVE!*'s multicomponent model. Third, we present program outcomes and consider challenges to program sustainability.

KEYWORDS

Obesity, Overweight, Weight loss, Weight management, Primary care, Veterans

CASE PRESENTATION

A 60-year-old white male Veteran with diabetes, hypertension, long-standing depression, and knee osteoarthritis presents to a VA multidisciplinary weight loss clinic upon referral by his primary care physician. He has already attended *MOVE!* educational group visits presenting information on nutrition, physical activity, and behavioral changes necessary for weight management and has made some changes but is frustrated that he has lost only 2 pounds. He has struggled with his weight for over 20 years with a few pounds gained per year, until it accelerated to 30 pounds gained over the past several years with the initiation of insulin therapy and starting an antidepressant. His current weight is 240 pounds with a body mass index (BMI) of 42 and waist circumference of 52 in. He has pain in both knees and reports that his pain score is a six out of ten. The Veteran is retired and has a limited budget for food. He has hypoglycemia several times a week and believes that it is necessary to drink juice and snack on peanut butter crackers frequently in order to prevent low blood sugars. He also

Implications

Practice: Multidisciplinary intensive behavioral weight management programs may be an appropriate alternative for Veterans who may not benefit from educational approaches.

Policy: VHA policy should support the development of more intensive weight management intervention strategies that complement *MOVE!* group educational classes and other *MOVE!* modalities and that can be adapted locally.

Research: Researchers and clinicians must continue to develop weight management intervention strategies that account for the specific needs of the Veteran population. Dissemination and implementation of these interventions should be a priority within VHA.

endorses daytime fatigue, snoring, and mentions that his wife has noted that at times he stops breathing while he is sleeping. He limits his walking due to knee pain but reports more walking in the past month accompanied by exertional shortness of breath. He has a past diagnosis of major depression. The Veteran's medications include 70/30 insulin 55u twice a day, hydrochlorothiazide/lisinopril, amlodipine, sertraline, simvastatin, and aspirin. His recent labs include normal thyroid testing and diabetes that is only moderately well-controlled.

BACKGROUND

Obesity is recognized as an independent predictor of mortality [1, 2] as well as a risk factor for countless other medical conditions including congestive heart failure, cancer, osteoarthritis, sleep apnea, metabolic syndrome, and diabetes [3–5]. Estimates show that obesity accounts for nearly 400,000 deaths annually [4]. The epidemiologic data and medical burden of excess weight is no less significant among U.S. Veterans. Several recent studies of overweight/obesity have indicated high rates in the Veteran population [6–9]. Almond et al. reported that 73.3% of male Veterans had excess weight (BMI ≥ 25) and 25.3% were obese (BMI ≥

30); rates in female Veterans were 53.6% and 21.2%, respectively [7]. In a sample of Veterans utilizing the Veterans Health Administration (VHA), rates of overweight/obesity were comparable for male Veterans (73% and 32.9%) and slightly higher for female Veterans (68.5% and 37.4%) [8]. The projected prevalence of obesity-related illnesses and their resulting costs are predicted to be among the highest concerns for the VHA in the coming decades.

In response to the challenge of obesity in VHA, the *MOVE!*® Weight Management Program was piloted between 2002 and 2004, began early implementation in 2005, and was nationally implemented in 2006. In the 5 years since national implementation, the reach of *MOVE!* has grown to include 2.05% of the total VHA outpatient population (5,576,858) in 2010 [10]. The program has embraced a multicomponent approach that promotes Veteran support of weight self-management through multiple options of care using several treatment modalities including group care, individualized care, telephone care, and technology-linked care. Most local facilities offer on-site self-help or educational classes/support groups and some offer tailored individual contact. Some sites additionally offer pharmacotherapy, medically intensive interventions (e.g., day or residential treatment), and/or bariatric surgery. While the *MOVE!* program provides a set of tools and resources for evidence-based weight management treatment to VHA patients, implementation of *MOVE!* programs across local facilities has been diverse, taking into consideration local needs and resources.

The most common *MOVE!* program at local facilities uses a group format. In 2010, 72% of all *MOVE!* visits were group visits [10]. The majority of these groups are educational classes/support groups using structured materials provided by the *MOVE!* program. Both *MOVE!* educational groups and more intensive and individualized programs may incorporate strategies that are considered core components of behavioral weight loss programs including self-monitoring, stimulus control, problem-solving, goal-setting, and relapse prevention [11, 12]. Within VHA, almost all facilities reported some use of behavioral or cognitive therapy strategies in 2010. Specifically, 97% reported use of explicit goal setting, 94% reported use of self-monitoring, 96% reported use of other behavioral strategies, and 83% reported use of relapse control or weight maintenance strategies [10]. In addition, VHA facilities have begun to incorporate motivational interviewing (MI) in their weight loss programs, following empirical evidence of its efficacy as an adjunct to behavioral weight loss programs [13, 14] and as an independent weight loss intervention [15]. Some VHA facilities have developed specialized group weight loss programs including for Veterans with serious physical limitations (9%), women only (14%), and serious mental illness (17%) [10].

***MOVE!* MULTIDISCIPLINARY WEIGHT MANAGEMENT**

The case study outlined above reflects the complex physical and psychosocial diagnostic status often associated with overweight/obesity in the Veteran population. As such, *MOVE!*-related multidisciplinary programs may be preferable for many treatment-seeking, overweight/obese Veterans. Overweight/obesity is only one part of a Veteran's medical status that can include a history of psychiatric illness, substance abuse, significant pain, and interrelated medical illnesses such as diabetes, osteoarthritis, high blood pressure, and sleep apnea. To address the challenges associated with overweight/obesity in the VHA population, a VA Connecticut team began meeting in early 2004 with the goal of constructing a multidisciplinary weight management program that offered more intensive and individual weight treatment to obese, medically complex patients. With the national roll out of the *MOVE!* program, our local program became known as *MOVE!* Intensive Therapy, or *MOVE IT!*

PROGRAM IMPLEMENTATION

The roots of the *MOVE IT!* program began in 2004 when initial meetings took place with a group of interested providers. Initially, unaware of the larger VHA proposal to establish *MOVE!*, the group consisted of a very broad range of providers including health psychologists, clinical pharmacists, nutritionists, physical therapists, nurses, primary care providers, and endocrinologists. Meeting weekly for almost a year, providers considered planning for clinic structure, staffing models, length of treatment expectations, patient inclusion criteria, methods of communication, and content development of treatment interventions. As more of the tenets of the national *MOVE!* program became known in late 2004, aspects of our local program were redefined and then presented not just to local leadership but also to leadership at the level of medical departments whose staff and space would be impacted by the program (e.g., primary care, nutrition, physical therapy, health psychology, and nursing administration).

Both national and regional factors facilitated the implementation of *MOVE IT!* at VA Connecticut. The birth of a larger scale VHA *MOVE!* mandate, coincidental to the local planning for a multidisciplinary weight management program in 2004, was likely critical in establishing a national programmatic context and undoubtedly fortuitous in promoting “buy-in” to the team's proposal. Prior to this, there were no such multidisciplinary weight management programs on which to build. There were also an overwhelming number of positive local factors that facilitated implementation of the multidisciplinary program. These included a history of early adoption of innovation, being part of an academic tertiary care hospital, and having access to multiple disciplines of care including nutrition, health psychology,

and physical therapy. Team culture of the organizational committee and, ultimately, the caregivers was extremely positive. This was, in part, aided by a common recognition of an unmet need, namely, the treatment of excess weight that was driving the illnesses that were dominating the clinics of the individual disciplines themselves.

Barriers to implementation were also present. The multidisciplinary structure of the clinic was a critical component but presented both initial and ongoing implementation challenges. Negotiations with individual disciplines took place in the context of limited resources and care backlogs. Creative solutions had to be developed to devise service-specific workload, particularly prior to the routine use of *MOVE!* program codes in the VHA electronic encounter system. Scheduling the clinic had to take into account space availability and collateral duty conflicts. Communication continues to be an ever-evolving process particularly in light of overlapping care domains, staff changes and involvement of trainees. Space for all of the individual providers is borrowed from one primary care clinic. Since 2005, the patient and provider numbers in this clinic have increased dramatically and on many *MOVE IT!* clinic dates there are few rooms available. This challenge is met by using traditionally nonclinic rooms such as conference rooms or administrative offices in which to see patients.

The program began seeing its first patients in January of 2005. It was designed to provide weight management to Veterans with a BMI ≥ 35 , or a BMI ≥ 30 with significant comorbid medical illness. The inclusion of heavier and medically complicated patients was purposeful and based on the mathematical reality of limited resources relative to the tens of thousands of those with BMIs ≥ 30 . Entry into the program is controlled by electronic consult via the VHA Computerized Patient Record System (CPRS). Typically, consultation is initiated by the Veteran's primary care provider but may be initiated from subspecialty programs or mental health. Consults are received by a nurse administrator and patients are scheduled for a face-to-face group visit known as a prescreen (Fig. 1). These prescreens are held once every 2 months and serve both as a means to introduce the Veteran to the goals of the program, for example, the specifics of scheduling and time commitment, and to determine readiness to participate in this resource intensive program. Prescreens were not an initial part of the program in early 2005 but were added later because of no-show rates approaching 50% on many days. Veterans who agree to participate in *MOVE IT!* are scheduled for their initial visit within 2 months of the prescreen appointment.

The program consists of three to eight individual visits (average of four visits over 7 months) with a multidisciplinary team. Visits one and two are separated only by 2 weeks and subsequent visits are generally 4 weeks apart. A facility-based RN with

specialty training in weight management schedules visits and coordinates patient check-in. At check-in, vital signs and BMI are determined. Patients then rotate through a series of 30-minute visits with each discipline: Physician, Health Psychology, Nutrition, and Physical Therapy. The physician is responsible for the initial assessment that focuses on general health, weight history, weight-related comorbidities, medication usage that might contribute to weight gain or loss, social factors that modify weight (unemployment, alcohol use), a family weight history, and measurement of waist circumference. At follow-up visits physicians are responsible for reassessment of medical cofactors that are affected by weight loss, for example, adjustments to diabetes medications in the context of weight loss as well as medical factors that might contribute to nonadherence to the program (e.g., pain). In addition, the physician may titrate medications (e.g., for diabetes), refer for tests that are indicated by history (cardiac evaluation, sleep studies) and communicate with other prescribing providers regarding considering medication changes. The health psychologist assesses motivation, disordered eating patterns, mood status, psychosocial factors contributing to excess weight, and potential barriers and facilitators of successful weight management. They use behavioral weight loss strategies and motivational interviewing techniques to give patients practical, weight loss tools. Since the majority of our patients suffer from psychiatric comorbidities such as depression and PTSD and screening often discovers other as yet untreated psychiatric diagnoses, the health psychologist will often collaborate with the Veteran's mental health provider. The nutritionist uses short- (24-hour) and long-term (3-day or weekly food log) dietary recall to help establish client-centered realistic goals for dietary changes that focus on basic, sustainable caloric reduction rather than radical elimination or very low calorie diets, with special attention to nutritional requirements of aging Veterans and those with comorbid conditions such as diabetes. The physical therapist conducts a practical exercise assessment including measurements of perceived pain and agility. Using these assessments, a realistic exercise program is devised and monitored taking into account patient preferences and limitations. This may involve giving pedometers to patients and a referral to VA Connecticut physical activity programs. Following patient visits, the entire multidisciplinary team meets for "rounds" during which each case is discussed, discipline recommendations are shared, and team-based patient goals are more refined. In some cases, the team recommends initiation of the Tele-*MOVE!* program using home-based telehealth equipment and electronic messaging to promote weight loss. This program is run by the *MOVE IT!* nurse.

The structure of the program also allows for intermittent follow-up visits over a more extended period of time for specific reasons. Patients who experience a weight plateau despite behavioral changes within the traditional *MOVE IT!* clinic may

Fig. 1 | VA Connecticut weight management program flow chart

participate in a weight loss medication trial. In addition, patients are referred to health psychology for individual behavioral weight loss therapy for a variety of reasons ranging from lack of weight loss in the traditional *MOVE IT!* clinic to patient request to learn additional weight management skills because of successful involvement in *MOVE IT!* clinic. Patients with a BMI ≥ 40 or a BMI ≥ 35 with two or more serious comorbidities may be considered for weight loss surgery and referral to a regional surgery center. This is accomplished via baseline participation in the *MOVE IT!* program for at least 6 months as well as supplemental discipline-specific visits outside of the general context of the program

including preoperative bariatric surgery nutrition assessments and a psychological evaluation. Follow-up *MOVE IT!* visits are scheduled for patients who demonstrate benefit from continued follow up or participate in additional weight loss modalities.

PROGRAM OUTCOMES

Demographic, medical, and psychiatric data of 155 Veterans who have participated in the *MOVE IT!* program and did not have bariatric surgery are displayed in Table 1. The patients are mostly older, white males with at least some college education. The

Table 1 | Prevalence of medical and psychiatric conditions in *MOVE IT!* patients (N=155)

Demographics	Mean (SD)/percentage
• Age (years)	59.8 (10.1)
• Sex	
Male	84%
Female	16%
• Race	
White	78.7%
Black	17.3%
Other	4.0%
• Education	
High School or Below	36.6%
Beyond High School	63.4%
• Work status	
Employed	28.3%
Retired	34.2 %
Unable to work	21.7%
Not working	15.8%
Health status	
• Mean BMI	41.5 (7.4)
• Mean waist circumference (in.)	52.0 (6.2)
• Pain as barrier to exercise	54.2%
• No participation in weekly exercise	52.2%
Medical/mental health comorbidities	
• Diabetes	53.5%
• Hypertension	76.8%
• Sleep apnea	84.5%
• Coronary artery disease	28.4%
• Osteoarthritis	16.8%
• Hypertriglyceridemia	43.2%
• Hypercholesterolemia	19.4%
• Congestive pulmonary disease	14.8%
• Current tobacco use	14.4%
• Depression	54.2%
• Anxiety	12.9%
• PTSD	18.7%

mean BMI (41.5) is reflective of the inclusion criteria of morbidly obese patients. The majority of the patients have a high risk waist circumference and report: 1) several medical comorbidities associated with overweight/obesity, 2) a history of a diagnosed mental disorder, and 3) pain as a barrier to exercise.

In spite of the challenges associated with this group of obese Veterans, the mean weight loss of the group between visits 1 and 3 (approximately 6 to 8 weeks) was 6.3 pounds. At 1 year follow up, the mean weight loss was 3.2 pounds, and 22.9% of our *MOVE IT!* patients were able to lose and maintain a 5% excess body weight loss. Although this does not match the success rate of behavioral weight loss programs reported in the literature, direct comparison of the *MOVE IT!* program to the behavioral weight loss literature is problematic. First, our weight loss program targets primarily male Veterans. A limitation of behavioral weight loss research is that almost all study samples include either all women or mixed samples with only a small percentage of men. Few studies have recruited either men [16] or Veterans [17]. Second, the

average age of Veterans participating in *MOVE IT!* is approximately 60 years. Few behavioral weight loss studies have focused on aging populations [18]. While a BMI ≥ 30 has been associated with higher risk for mortality in the elderly [19], older people may have complicating factors such as osteoporosis, comorbid conditions, and physical frailty that make both dieting and moderate or vigorous physical activity more difficult. Indeed, the mean number of medical comorbidities in our *MOVE IT!* sample was 3.5, and over one-half reported no weekly exercise. Third, 63.6% of our Veterans in the *MOVE IT!* program have mental health conditions. Weight loss studies have often excluded people with a mental health diagnosis. There is some evidence to suggest that depression predicts higher attrition from weight loss programs [20, 21] but that depression is not necessarily associated with less weight loss for those individuals able to complete the program [20, 22]. The relationship between weight loss and maintenance in obese individuals with other mental health conditions such as anxiety or PTSD is unknown. The high prevalence of a mental health diagnosis is also challenging because prescribed medications for these conditions are often associated with weight gain. Thus, considering the associated health gains associated with even small amounts of weight loss, it is notable that our clinic was able to promote a 5% excess body weight loss at one-year follow up for almost one-fourth of our patients.

DISCUSSION

Successful management of overweight/obesity and associated comorbidities in a large healthcare system requires multitreatment options. The VHA has tackled the complex problem of obesity by launching the *MOVE!* program. Weight management strategies within *MOVE!* are flexible and diverse. As the *MOVE!* program has expanded, new modalities (e.g., technology-linked care) have been introduced to assist in the promotion of weight self-management. In 2010, however, the majority of locally implemented *MOVE!* programs remained educational classes/support group interventions. *MOVE IT!*, as implemented in VA Connecticut, offers one example of another type of *MOVE!* program—a multidisciplinary approach to weight management that is more intensive and individually tailored. This program has successfully promoted weight management in obese and medically complex Veterans. Veterans have access to individualized sessions with primary care providers, nutritionists, physical therapists, and health psychologists, and develop a plan to support long-term weight self-management. Although it does not incorporate more intensive obesity best treatment practices such as residential treatment or surgical weight loss, Veterans have access to such practices at other sites. This program promotes lifestyle weight management therapy through a flexible dietary modification plan promoting small but consistent

changes in dietary intake, increased physical activity, and behavioral change.

MOVE IT! is a multidisciplinary weight management program that was developed in a local context and taking advantage of available local resources. Some of these resources, for example, the availability and commitment of a multidisciplinary staff, might not be available at other VHA sites. Program reach is restricted due to limitations of staff time and availability and program structure. Because of the rotational approach to scheduling visits across four disciplines, only four Veterans are seen on a weekly basis. In addition, the number of Veteran clinic appointments is more restrictive than a traditional weight loss clinic. Nevertheless, successful implementation of the *MOVE IT!* program over time highlights some of the best implementation practices included in the *MOVE!* best implementation practices report [23]. This includes sufficient staffing, use of a multidisciplinary team, the presence of a physician “champion”, and high program complexity in combination with high staff involvement.

Sustainability of the program has sometimes been challenging. The program requires the support of local site leadership, availability and commitment of team members across several disciplines, and the availability of clinic space. In addition, the *MOVE IT!* team wrestles with issues that may influence program effectiveness including: 1) what is the best use of multidisciplinary resources in providing a weight management program within the context of primary care, 2) which is better—maximizing the number of program visits versus maximizing the number of patients reached by the program, and 3) what is the best screening and assessment process for selection of patients who would benefit most from this program.

VA Connecticut has experimented with solutions to some of these challenges. For example, a recent innovation allows referral to individual disciplines while still enrolled in the *MOVE IT!* program. Individual patients with time or resource intensive needs (e.g., an obese Veteran with comorbid major depression interfering with the initiation of physical activity or triggering emotional eating) may be referred to individual disciplines such as health psychology or physical therapy for weight-focused care, and then seen by the *MOVE IT!* team again at a later time. This flexibility allows additional Veterans the opportunity to be seen by the *MOVE IT!* program instead of waiting for clinic availability, while still tracking and supporting the Veteran who needs more intensive treatment in one discipline.

Implementation challenges experienced in our local context such as space and departmental support may not be representative of other VA facilities or healthcare organizations. However, our lessons learned from implementing and maintaining a multidisciplinary weight management clinic suggest that effective communication among team members, a clear understanding of the role of each

member, and continued organizational support are important components for sustainability.

Long-term sustainability of the program will require continual evaluation of program resources, needs, and impact. This requires ongoing analysis of the program at many levels, ranging from patient weight outcomes to clinic communication to organizational culture. Nevertheless, through this process, we hope to ensure that the multidisciplinary approach to *MOVE!* will continue to promote successful weight management to obese Veterans.

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