Obesity-Related Health Status Changes and Weight-Loss Treatment Utilization

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Background: Behavioral weight-loss treatment can improve health, yet it is underutilized. Factors leading to initiation of weight-loss treatment are not well characterized. In particular, it is unknown whether changes in obesity-related health status contribute to weight-loss treatment initiation.

Purpose: To determine if recent weight change or diagnosis of an obesity-related comorbidity was associated with utilization of a behavioral weight-loss program in an integrated healthcare setting.

Methods: In a retrospective cohort study of 45,272 Veterans Affairs (VA) patients with BMI >30, logistic regression was used to examine whether recent weight change or obesity-related comorbidities newly diagnosed in the past 6 months were associated with initiation of a VA behavioral weight management program (called MOVE!) in 2010 or sustained MOVE! use (eight or more sessions). Weight change in prior year was categorized as >3% weight loss; weight stable (<3% change); or weight gain of 3%–4.9%, 5%–9.9%, or ≥10%. Data were analyzed in 2013.

Results: Patients were 91% male, 68% white, and had a mean age of 58 years. Patients were more likely to initiate treatment if they had ≥3% weight gain (3%–4.9%: OR=1.64, 95% CI=1.52, 1.77; 5%–9.9%: OR=1.99, 95% CI=1.84, 2.16; ≥10%: OR=2.68, 95% CI=2.32, 3.10) or were newly diagnosed with any obesity-related comorbidity (ORs: 2.14–3.59). Weight change and new comorbidity diagnoses were not associated, however, with sustained MOVE! use.

Conclusions: Adverse obesity-related health events were associated with initiation of behavioral weight-loss treatment offered in an integrated healthcare setting.
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Introduction

High-profile randomized trials have demonstrated that intensive, multicomponent behavioral weight-loss treatment programs can result in clinically significant weight loss.[1,2] However, these programs are not reaching most of the individuals who would likely benefit from them; over one-third of obese individuals have not made a weight-loss attempt in the past year, and only 10% report using any type of professional weight-loss program.[3]

Healthcare settings, particularly primary care settings, are increasingly recognized as offering opportunities to motivate patients to initiate weight-loss treatment.[4–6] However, in order to provide weight-management advice capable of increasing rates of treatment initiation, primary care providers (PCPs) need to understand what factors motivate patients to enter weight-loss treatment and when patients are most receptive to provider encouragement. Identification of these factors can be guided by the Health Belief Model, which proposes that, among other factors, the perceived severity of a disease influences health behavior change.[7] This model suggests that factors that increase perceptions of obesity severity will contribute to actions to reduce weight, including entry into behavioral weight-loss treatment. Prior studies have shown that weight-loss treatment seekers are heavier, have greater eating disorder symptomatology, and have lower quality of life; these factors may influence treatment entry via increased perception of obesity severity.[8–10] However, little research exists on dynamic factors that may trigger treatment initiation.

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Initiation of treatment in a healthcare setting is likely the result of provider behavior (e.g., raising concerns about weight or recommending treatment) and patient behavior (e.g., increased motivation or treatment seeking). Thus, factors that increase perceptions of a patient's obesity severity in either providers or patients may contribute to treatment entry. One important factor that may increase perceptions of obesity severity is medical events. Indeed, medical events have been reported retrospectively as triggers of weight-loss initiation among individuals who had lost significant weight[11] or were part of an online weight-loss club.[12] However, these studies were limited by the absence of a control condition and use of self-reported measures of historic medical events. Further research using objective measures of medical events would address the limitations of using self-reported data and are needed to confirm the hypothesis that medical events, such as diagnosis of a new obesity-related comorbidity, can trigger engagement in weight-loss treatment.

An additional factor that may increase perceived obesity severity is larger-than-usual weight gain. Data from a registry of individuals who had lost a substantial amount of weight showed that 21% reported that their weight-loss effort was triggered by reaching a lifetime high weight,[11] although the rate of weight gain was not examined. In another study, men with greater weight gain in the prior 3 years were more likely to choose an academic center-based group weight-loss treatment than a correspondence program or no treatment.[13] Thus, initial research supports a role for weight gain leading to treatment entry. However, to our knowledge, no study has used objectively measured weight over a time frame of less than 3 years to examine the proximal influence of weight gain on subsequent treatment entry.

Weight gain or new medical comorbidities may influence not only treatment initiation but also continued treatment attendance. In accordance with the Health Belief Model, individuals with a recent change in obesity-related health status may be more motivated to lose weight, owing to sustained perceptions of overweight severity.[7]

The Veterans Affairs (VA) healthcare system provides a useful setting to examine patient and provider factors influencing weight-loss treatment entry. PCPs in the VA are well positioned to support weight loss, as clinical reminders prompt them to discuss weight management and encourage referral to a behavioral weight-loss program (MOVE!), which has been available to eligible VA patients since 2004 and at no cost since 2008.[14] The policy, tools, and framework of MOVE! are developed and disseminated from a national VA office (VA National Center for Health Promotion and Disease Prevention). Individual facilities have considerable flexibility to implement individual or group-based treatment, and substantial variability in implementation practices and outcomes exist.[15,16] Despite reduced financial barriers to this behavioral weight-loss program and a structured process for referring eligible VA patients to MOVE!, only 4%–12% of eligible VA patients initiate MOVE!, of whom approximately 12% are sustained users (attend eight or more sessions over 6 months).[15,17]

The purpose of this study is to determine if recent weight change or onset of obesity-related comorbidities are associated with initiation or sustained use of the VA's MOVE! weight-loss program. It is hypothesized that recent onset of an obesity-related comorbidity is associated with MOVE! initiation, as is a moderate or large weight gain in the prior year. Also hypothesized is that these health status change variables increase the likelihood of sustained engagement in weight-loss treatment. This study is the first to estimate the effect of obesity-related medical events on initiation of weight-loss treatment in a general primary care population, which may provide evidence about an underappreciated determinant of treatment initiation.

Methods

Study Design and Study Population

This was a retrospective cohort study of obese VA patients eligible for MOVE! in fiscal year 2010 who were identified from a longitudinal study of the VA cost of obesity. Data were obtained from the VA Corporate Data Warehouse and the VA Outpatient Care File. As a part of this larger study, data were first obtained from all patients who had received VA services and had a weight measurement in 2002 (N=3,365,004). This sample was then stratified into patients who ever had a MOVE! clinic visit in 2004–2011 or those who never used MOVE!. In the subset of MOVE! users, patients who had also initiated MOVE! in years other than 2010 were excluded in order to remove any influence of previous experiences with the program (Figure 1).

Next, patients from both cohorts (i.e., initiators and non-initiators) were excluded if they lacked weight data needed to construct weight change variables in the year prior to MOVE! initiation. Patients from both cohorts were also excluded if they were older than 70 years in 2010, had a BMI < 30 in 2009 or 2010, did not have gender data available, or had contraindications to MOVE! use in 2009 or 2010 (Figure 1). Weight-loss contraindications that warranted exclusion were central nervous system infections, organic brain syndromes or dementias, anorexia, anterior horn diseases, Huntington disease, cirrhosis, dialysis, emphysema, neurological disorders, hepatitis, recent transplant surgery, or recent cancer treatment. Patients residing in nursing homes, hospice, or residential or adult day health care were also excluded. The final cohort included 12,631 MOVE! initiators and 32,641 non-initiators.

Data, Outcomes, and Explanatory Variables of Interest

Two binary outcomes related to MOVE! use were examined in this study. The first was an indicator of MOVE! initiation, which was