Promoting Lifestyle Change to Improve Population Health: VA’s MOVE! Weight Management Program for Veterans

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VA National Center for Health Promotion and Disease Prevention

APA Division 18 Webinar
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Learning Objectives

1. Describe the challenge of obesity and the link between overweight and obesity and health risks
2. Identify evidence-based interventions for weight management, including comprehensive lifestyle intervention, pharmacotherapy, and bariatric procedures
3. Describe opportunities for psychologists to enhance weight management programming and support patients in self-management of overweight and obesity
4. Describe relationship between mental health conditions and obesity
The Challenge of Obesity and Associated Health Risks
Obesity Trends – US Adults 1999-2018

Obesity is a body mass index (BMI) ≥ 30
Severe obesity is a BMI ≥ 40

1Significant linear trend

Source: NCHS Data Brief, February 2020
VHA Obesity Prevalence FY00-FY21

- Normal or Underweight (BMI < 25)
- Overweight (BMI 25-29.9)
- Obesity (BMI ≥ 30)

Data Source: VHA Support Service Center
US States: Prevalence of Obesity by Race/Ethnicity

Non-Hispanic White

Non-Hispanic Black

Hispanic

Adult Obesity Prevalence Maps | Overweight & Obesity | CDC
## Obesity by Race/Ethnicity in Women Receiving VHA Care

### Obesity Rate by Race/Ethnicity Status among Women Veteran VHA Primary Care Users in FY2014

<table>
<thead>
<tr>
<th>Race/Ethnicity Status</th>
<th>Obesity Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black or African American</td>
<td>51%</td>
</tr>
<tr>
<td>Native Hawaiian/Other Pacific Islander</td>
<td>47%</td>
</tr>
<tr>
<td>American Indian/Alaska Native</td>
<td>45%</td>
</tr>
<tr>
<td>Unknown/Declined to state</td>
<td>43%</td>
</tr>
<tr>
<td>Multiracial</td>
<td>43%</td>
</tr>
<tr>
<td>White</td>
<td>41%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>39%</td>
</tr>
<tr>
<td>Asian</td>
<td>21%</td>
</tr>
</tbody>
</table>

Darker colors indicate ≥5% difference from population obesity mean (41%).

Data source: Women’s Health Services Women’s Health Evaluation Initiative; Breland et al., *JGIM*; 2017
Obesity by Race/Ethnicity in Men Receiving VHA Care

Obesity Rate by Race/Ethnicity Status among Men Veteran VHA Primary Care Users in FY2014

- American Indian/Alaska Native: 47%
- Unknown/declined to state: 47%
- Native Hawaiian/Other Pacific Islander: 46%
- Multiracial: 43%
- Hispanic: 43%
- Black or African American: 43%
- White: 41%
- Asian: 25%

Darker colors indicate ≥5% difference from population obesity mean (41%)

Data source: Women’s Health Services Women’s Health Evaluation Initiative; Breland et al., JGIM, 2017
Conditions Associated with Overweight and Obesity

- Hypertension
- Type 2 diabetes and pre-diabetes
- Dyslipidemia
- Metabolic syndrome
- Obstructive sleep apnea

- Osteoarthritis/degenerative joint disease
- Non-alcoholic fatty liver disease
- Gastroesophageal reflux disease
- Cancer
Higher Prevalence of Chronic Conditions

Biener AI, Decker SL. Medical Care Use and Expenditures Associated With Adult Obesity in the United States. JAMA. 2018;319(3):218.
Prevalence of Obesity-Related Conditions

Chronic Conditions in Veterans by BMI Class

<table>
<thead>
<tr>
<th>Condition</th>
<th>BMI &lt; 25</th>
<th>BMI 25 to &lt;30</th>
<th>BMI ≥30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes</td>
<td>15.7%</td>
<td>23.2%</td>
<td>35.6%</td>
</tr>
<tr>
<td>Hyperlipidemia</td>
<td>14.4%</td>
<td>18.8%</td>
<td>20.9%</td>
</tr>
<tr>
<td>Hypertension</td>
<td>46.3%</td>
<td>52.8%</td>
<td>60.6%</td>
</tr>
<tr>
<td>Ischemic Heart Disease</td>
<td>14.2%</td>
<td>14.8%</td>
<td>14.5%</td>
</tr>
<tr>
<td>Obstructive Sleep Apnea</td>
<td>2.9%</td>
<td>7.4%</td>
<td>19.8%</td>
</tr>
</tbody>
</table>

Data Source: VHA Corporate Data Warehouse
Higher Total Medical Expenditures

2016 Burden of Diseases, Injuries, and Risk - USA

Risk factors and related deaths

Risk factors

- Dietary risks
- Tobacco use
- High systolic blood pressure
- High body mass index
- High fasting plasma glucose
- High total cholesterol
- Impaired kidney function
- Alcohol and drug use
- Air pollution
- Low physical activity
- Occupational risks
- Low bone mineral density
- Residential radon and lead exposure
- Unsafe sex
- Child and maternal malnutrition
- Sexual abuse and violence
- Unsafe water, sanitation, and handwashing

Noncommunicable diseases

- Neoplasms
- Cardiovascular diseases
- Chronic respiratory diseases
- Cirrhosis and other chronic liver diseases
- Digestive diseases
- Neurological disorders
- Mental and substance use disorders
- Diabetes, urogenital, blood, and endocrine diseases
- Musculoskeletal disorders
- Other noncommunicable diseases

https://jamanetwork.com/journals/jama/fullarticle/2678018
Critical Risk Factor for COVID-19

Modest Weight Loss Has Benefits

• **Lifestyle changes** that produce even **modest, sustained weight loss of 3%-5%** produce **clinically meaningful health benefits**
  – Reductions in triglycerides, blood glucose, HbA1C, and risk of developing type 2 diabetes

• **Greater amounts of weight loss** have **greater benefits**
  – Reductions in blood pressure, further reductions in triglycerides and blood glucose
  – Reductions in the need for medications to control blood pressure, blood glucose and lipids
  – Improved LDL-C and HDL-C

Jackson et al., 2017; Jensen et al., 2013; Look AHEAD Research Group, 2014
Evidence-Based Interventions
Clinical Practice Guidelines

- Are evidence-based
- Provide decision support
- Standardize care
- Offer recommendations
- Contain algorithm for care
- Include support tools

Management of Adult Overweight and Obesity (OBE) (2020) - VA/DoD Clinical Practice Guidelines
2020 Obesity CPG Recommendations

<table>
<thead>
<tr>
<th>18 Evidence-Based Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Long-Term Management (15)</strong></td>
</tr>
<tr>
<td>Comprehensive lifestyle intervention</td>
</tr>
<tr>
<td>Pharmacotherapy</td>
</tr>
<tr>
<td>Dietary supplements/nutraceuticals</td>
</tr>
<tr>
<td>Bariatric procedures</td>
</tr>
</tbody>
</table>

Management of Adult Overweight and Obesity (OBE) (2020) - VA/DoD Clinical Practice Guidelines
Key Elements of Weight Management

1. Obesity is a chronic disease requiring lifelong commitment to treatment and long-term maintenance.

2. Shared decision-making is fundamental to weight management.

3. Reviewing medications and eliminating obesogenic agents used to treat other conditions is important.

4. Comprehensive lifestyle intervention (CLI) is central to successful and sustained weight loss and maintenance.

5. Negative energy balance should be achieved through decreased caloric intake and increased physical activity.

6. Dietary supplements do not contribute to clinically meaningful weight loss or management.

7. Pharmacotherapy and/or bariatric procedures may be considered in conjunction with CLI and require long-term follow-up.

8. There are several FDA-approved medications indicated for weight loss. Consider safety, efficacy and individual needs and preferences.

9. Bariatric procedures are effective for weight loss. Type 2 diabetes especially improves.

10. A multifaceted approach combining CLI, pharmacologic and surgical options can enhance weight loss and maintenance.

Management of Adult Overweight and Obesity (OBE) (2020) - VA/DoD Clinical Practice Guidelines
Comprehensive Lifestyle Intervention (CLI)

• Offer an in-person group or individual comprehensive lifestyle intervention that always includes behavioral, dietary, and physical activity components for patients with overweight or obesity.

• Can be delivered in an individual or group setting, in-person, by telephone, or through synchronous video.

• Though there is insufficient evidence to recommend a specific number of sessions, most offer at least 12 intervention sessions in the first 12 months of intervention.

• Goal of participation is sustained, clinically meaningful (~5%) weight loss
Dietary and Physical Activity Components of CLI

• The physical activity component can be aerobic, resistance, and/or lifestyle physical activity:
  – 150 min of moderate/vigorous physical activity/week
  – 300 + min/week may be needed to maintain successful weight loss
• The dietary component may be any evidence-based dietary approaches (e.g., low carbohydrate, DASH, low fat, Mediterranean, low calorie)
• Choice of dietary component based on patient preferences and medical conditions
• Negative energy balance is key
Comprehensive Lifestyle Intervention Evidence

• 2018 systematic review of comprehensive lifestyle interventions
• 80 good or fair quality randomized controlled trials for weight loss; n=30,304 adults with overweight or obesity
• Results from 67 of the RCTs (n=22,065) indicated greater weight loss from CLIs vs. minimal intervention at 12-18 months
  – 2.3 kg mean difference in weight change (95% CI: -2.86 to -1.93)
  – Intervention participants 1.94 greater probability of 5% weight loss

LeBlanc et al., 2018
Weight Management Program for Veterans

- Evidence-based, population-focused, includes CLI
- Assists Veterans to achieve clinically significant weight loss
- Guided by national policy, aligned with VA/DoD Obesity CPG
- Led by MOVE! Coordinators and Provider Champions
- Supported by Health Behavior Coordinators
- Standardized program content, materials
- Performance measurement: reach, engagement, participation
MOVE! Program Reach

Number of New MOVE! Participants

Data Source: VHA Support Service Center
MOVE! Outcomes
Clinically Significant Weight Loss in New MOVE! Participants
12-Month Follow-Up

Data Source: VHA Support Service Center
Pharmacotherapy for Weight Management

• Weight management medications (WMM) for long-term weight loss should be offered to individuals with BMI ≥ 30 kg/m² and to those with BMI ≥ 27 kg/m² with an obesity-associated condition

• **In conjunction with comprehensive lifestyle intervention**

• Can be initiated at any time during participation in comprehensive lifestyle intervention

• Individualize choice of medication to patient-specific comorbidities, dosing, administration, and potential for side effects
### Weight Loss and Adverse Event Outcomes with Medications for Long-term Weight Loss

<table>
<thead>
<tr>
<th>Medication</th>
<th>Mean weight loss vs. placebo</th>
<th>&gt; 5% Weight loss</th>
<th>Discontinuation due to an adverse event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phentermine/topiramate</td>
<td>-8.8 kg</td>
<td>75%</td>
<td>10%</td>
</tr>
<tr>
<td>Liraglutide</td>
<td>-5.3 kg</td>
<td>63%</td>
<td>13%</td>
</tr>
<tr>
<td>Naltrexone/bupropion</td>
<td>-5.0 kg</td>
<td>55%</td>
<td>12%</td>
</tr>
<tr>
<td>Orlistat</td>
<td>-2.6 kg</td>
<td>44%</td>
<td>8%</td>
</tr>
<tr>
<td>Semaglutide</td>
<td>-6.1 kg to 13.2 kg</td>
<td>69 to 89%</td>
<td>7%</td>
</tr>
</tbody>
</table>

Khera et al., JAMA 2016; Wilding et al., NEJM 2021; Davies et al., Lancet 2021; Wadden et al., JAMA 2021
Supplements and Nutraceuticals

• CPG suggests against using dietary supplements or nutraceuticals for clinically meaningful short-term weight loss or long-term weight management

• Nutraceutical – a food or dietary supplement that is believed to provide health benefits

• Not studied in conjunction with comprehensive lifestyle intervention

• Low quality of evidence - limitations and confounders

Management of Adult Overweight and Obesity (OBE) (2020) - VA/DoD Clinical Practice Guidelines
Metabolic/Bariatric Surgery

• Offer the option of metabolic/bariatric surgery in conjunction with CLI to patients with:
  – BMI $\geq 30$ kg/m$^2$ and type 2 DM;
  – BMI $> 35$ kg/m$^2$ and an obesity-related comorbidity
  – BMI $> 40$ kg/m$^2$

• Offer intragastric balloons in conjunction with a CLI to patients with obesity who prioritize short-term (up to six mo.) weight loss.

Management of Adult Overweight and Obesity (OBE) (2020) - VA/DoD Clinical Practice Guidelines
Metabolic/Bariatric Procedure Comparisons

Management of Adult Overweight and Obesity (OBE) (2020) - VA/DoD Clinical Practice Guidelines
# Metabolic/Bariatric Surgery – Weight Outcomes

<table>
<thead>
<tr>
<th></th>
<th>Restrictive Procedures (AGB, SG, GP)</th>
<th>RYGB</th>
<th>BPD, BPD-DS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Weight Loss (%)</td>
<td>20 - 30</td>
<td>25 - 35</td>
<td>30 - 40</td>
</tr>
<tr>
<td>Pattern of Weight Loss</td>
<td>Gradual, maximum at 2-3 years</td>
<td>Rapid, maximum at 1-1.5 years</td>
<td>Rapid, maximum at 1-1.5 years</td>
</tr>
<tr>
<td>Chance for Weight Regain/Need for revision</td>
<td>Moderate</td>
<td>Low</td>
<td>Very Low</td>
</tr>
</tbody>
</table>

Surgery May Reverse Obesity-Associated Conditions

- Type 2 diabetes: 60-85% remission
- Hypertension: up to 40% remission
- Cardiovascular events: reduced by 50-67%
- Nonalcoholic Fatty Liver Disease: 37% resolution of inflammation
- Obstructive sleep apnea: 45-75% resolved
- Polycystic Ovary Syndrome: up to 90% resolved

Long-term mortality reduced by 25 – 50% (42% in Veterans)

## Common Surgical Complications

<table>
<thead>
<tr>
<th>Restrictive Surgeries</th>
<th>Malabsorptive Surgeries</th>
</tr>
</thead>
<tbody>
<tr>
<td>GE Reflux</td>
<td>Dumping syndrome</td>
</tr>
<tr>
<td>Gatroic dilatation</td>
<td>Internal heria</td>
</tr>
<tr>
<td>Gallstones</td>
<td>Marginal ulcers, stenosis, fistulas</td>
</tr>
<tr>
<td>Iron deficiency</td>
<td>Iron deficiency</td>
</tr>
<tr>
<td>B12, Calcium, Vitamin D deficiencies</td>
<td>B12, Calcium, Zinc, CU, Vitamin D, Vitamin A deficiencies,</td>
</tr>
<tr>
<td>Band slippage, erosion (AGB)</td>
<td>Gallstones, Renal stones</td>
</tr>
<tr>
<td></td>
<td>Protein-calorie malnutrition</td>
</tr>
</tbody>
</table>

**Perioperative surgical mortality overall – 0.3%; up to 2% with open bypass**

Hanipah et al. Chapter 22, in Wadden, Bray, Eds., Handbook of Obesity Treatment, 2nd Ed., 2018
Opportunities for Psychologists
Screening and Assessing

**Management of Adult Overweight and Obesity (OBE) (2020) - VA/DoD Clinical Practice Guidelines**

For patients of Asian descent: is BMI ≥23 kg/m²?; for patients >65 years old: consider individualized assessment


Abbreviations: BMI: body mass index; DoD: Department of Defense; kg: kilograms; m: meters; VA: Department of Veterans Affairs; CLI: comprehensive lifestyle intervention
5 Key Steps to Promote Veteran Engagement in Weight Management

1. Ask Permission to discuss weight management
2. Explore readiness and experience
3. Support and Affirm ANY interest, benefits, current/past success
4. Share Information (with permission)
5. Confirm Next Steps
Supporting Behavioral Strategies of CLI

- Setting weight loss, diet and physical activity goals
- Addressing barriers to change
- Self-monitoring (weight, dietary elements, physical activity)
- Problem-solving to maintain lifestyle changes
- Patient-centered engagement and motivational approaches
Supporting Self-Management

MOVE! Weight Management Program for Veterans

VETERAN WORKBOOK

Facilitator Guide

Welcome

The MOVE! Program sessions are designed to help veterans lose weight and keep it off. Each session is 90 minutes, though, for non-veterans, losing weight will be their initial major focus. By fostering a group, individual, or team approach that is engaging, rewarding, and accountable, MOVE facilitators will help participants build and refine their weight-loss management skills.

Goals for MOVE! Participants

It’s essential to work with veterans to establish clear weight-loss goals. Most will identify a male goal to achieve over time, and establish goals for weight maintenance. Engaging patients in personalized weight-reduction strategies is critically important. Veterans will achieve a goal of 5-10% weight loss and maintain loss of 10% or more of initial body weight.

Designing MOVE! Sessions

Program Interventions

Content and format for the 16-session MOVE! Program is based on the National Veterans Administration Program (NVA) and is consistent with the Veterans Affairs Clinical Practice Guidelines for Screening and Management of Overweight. The content focuses on nutrition, physical activity, and behavior change. Each session will be 90 minutes long. The sessions are designed to last 60 minutes, which is intended to maintain interest in the existing needs of veterans and staff.

Research suggests that the closer the sessions occur, the more weight is lost, so sessions should be scheduled weekly or bi-weekly.

To achieve weight loss, a balanced eating approach is encouraged. It is recommended that a weight loss of 5-10% of initial body weight is achieved and maintained.

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To achieve weight loss, a balanced eating approach is encouraged. It is recommended that a weight loss of 5-10% of initial body weight is achieved and maintained.

The U.S. Department of Veterans Affairs 2013-2014

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Participating on Interdisciplinary Team

- Admin. Staff
- Primary Care Clinician
- Healthy Living Team
- MOVE! Coordinator
- MOVE! Provider Champion
- Registered Dietitian Nutritionist
- Health Psychologist
- Exercise Physiologist
- Rehab. Specialist
- Weight Management Team

Choose VA

U.S. Department of Veterans Affairs
Recognizing Complexity of Obesity

Understanding Influences on Obesity

Source: http://debategraph.org/obesityFSM
Understanding Weight Bias

• Negative attitudes, beliefs, judgements, and stereotypes toward individuals *because of their weight*.

• Often leads to prejudice and discrimination
  – Prevalence of weight discrimination in US is comparable to racial discrimination

• Can be subtle or overt; explicit or implicit

• Is evident in healthcare, education, the media, the workplace, interpersonal relationships

• Fosters blame and intolerance that reduces quality of life for persons with obesity

• Is dehumanizing and damaging and results in obesity stigma

• Individuals who experience weight bias or discrimination are at risk for serious psychological, emotional, and health-related consequences – some of these reinforce weight gain and obesity

For more information visit [ObesityAction.org/WeightBias](https://www.obesityaction.org/weightbias) and Uconn Rudd Center for Food Policy & Health [uconnruddcenter.org/research/weight-bias-stigma/](http://uconnruddcenter.org/research/weight-bias-stigma/)
Addressing Weight Bias

• Recognize obesity stigma exists in all aspects of life
• Increase education and awareness about damaging and lasting effects of weight bias
• Make efforts to recognize weight bias – on social media, in the news, in our healthcare system
• Identify your own potential biases
• Respond to weight bias – use person first language, respectfully portray individuals with obesity in images and language
• Remember that obesity is a complex disease impacted by many factors
For those who kept physical activity diaries and/or food diaries, feedback on these diaries appears to be important to their satisfaction with the program.

- Approximately 30% of respondents indicated they were not given feedback on their physical activity diary and/or food diary.
- CSI for those not given feedback is about 12 points lower compared to those who were given feedback.

Note: CSI = Customer Satisfaction Index
Nearly half of respondents (45%) indicated the most important thing that kept them involved in the MOVE! Program was the coaching they received. Just under 20% said the support they received from other participants kept them involved or the information about weight loss provided (17% for each). Among the 13% that provided an “other” response, many indicated it was a combination of the items listed that kept them involved.
Considering Effects of Medications

Management of Adult Overweight and Obesity (OBE) (2020) - VA/DoD Clinical Practice Guidelines
Mental Health and Obesity
## Prevalence of Obesity Among Veterans with Mental Health Conditions

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Total</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Depressive Disorder</td>
<td>48%</td>
<td>49%</td>
<td>48%</td>
</tr>
<tr>
<td>Bipolar Disorder</td>
<td>47%</td>
<td>46%</td>
<td>47%</td>
</tr>
<tr>
<td>PTSD</td>
<td>47%</td>
<td>46%</td>
<td>47%</td>
</tr>
<tr>
<td>Anxiety Disorder</td>
<td>42%</td>
<td>42%</td>
<td>42%</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>42%</td>
<td>56%</td>
<td>41%</td>
</tr>
<tr>
<td>Drug Use Disorder</td>
<td>33%</td>
<td>36%</td>
<td>33%</td>
</tr>
<tr>
<td>Alcohol Use Disorder</td>
<td>34%</td>
<td>35%</td>
<td>34%</td>
</tr>
<tr>
<td>Total (All VHA Veterans)</td>
<td>41%</td>
<td>44%</td>
<td>41%</td>
</tr>
</tbody>
</table>

Breland et al. Prevalence among key populations of women and Men Veterans. *JGIM*. 2017 32(Suppl 1:) S1-17)
Mental Health and Obesity

- Veterans with PTSD have high rates of obesity and related diseases (Dedert et al., 2010)
- MOVE! is less effective for Veterans with PTSD (Hoerster et al., 2014) and binge eating symptoms (Masheb et al., 2015)
  - Veterans participating in MOVE! report high rates (77%) of binge eating (Masheb)
- People with PTSD have unique barriers to activity and health diet (Hall et al., 2015)
  - Hyperarousal symptoms can interfere with exercise (Rutter et al., 2013)
- PTSD and depression increase risk for binge, emotional, and night eating (Dorflinger & Masheb, 2018; Talbot et al., 2013; Hoerster et al., 2015)
- Depression is associated with poor health behaviors, with or without PTSD (Hoerster et al., 2019)
- Sleep disorders are associated with poor eating and excess weight (St.-Onge, 2013)
Addressing Weight in Serious Mental Illness

Contextual Factors: weight and mental illness stigma, access to care, limited positive social supports

Psychology, Knowledge, Beliefs: self-efficacy, body image, literacy

Psychiatric Symptoms: mood, cognition, sleep, social impairments

Physiological Factors

Physical Activity & Healthy Diet

Psychiatric Medications

Body Mass Index

Weight Loss Treatment Engagement

Weight Loss Treatment Effectiveness

**Address Disproportionate Co-Morbid Obesity and Serious Mental Illness with the Following:**
- Screening and referral in mental health and primary care for behavioral weight management
- Outreach to address unique barriers to engagement in behavioral weight management
- Programs that address unique barriers to physical activity and healthy diet
- Changes in medications when possible to reduce contributions of medications to weight
- Programs to address contextual barriers (e.g., lack of social support, access to healthy foods, places to exercise)

Hoerster & Young, 2021
Summary and Questions
Summary

• Overweight and obesity are common in US adults and in Veterans receiving VA health care
  – Associated with morbidity, mortality, disproportionately affect subpopulations
• Population approach to obesity includes screening, counseling, referral to behavioral, pharmacologic, surgical interventions
• Evidence-based interventions target clinically meaningful weight loss
• Psychologists have important role in addressing obesity in patient care and health care delivery and programming
• Obesity is common in individuals with mental health conditions, which may serve as additional barriers to effective treatment