

# Identifying and Addressing Barriers to Obesity Treatment and Bariatric Surgery in VA

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# Financial Disclosures

- VA HSR Career Development Award (CDA 15-060)
  - Supported this work
- American College of Surgeons George H.A. Clowes Career Development Award
  - Supported this work
- National Institutes of Health (NIMHD R-21)
  - Unrelated to this work

# Objectives

- Review obesity burden and treatment options in VA
- Highlight findings from our qualitative research and pilot RCT of an educational intervention
- Discuss study considerations for an upcoming RCT proposal

# Poll Question 1

- What % of Veterans who meet BMI criteria participate in behavioral weight management (aka MOVE!)?
  - A. <10%
  - B. 11-50%
  - C. 51-75%
  - D. >75%

# Poll Question 2

- What % of Veterans who meet BMI criteria receive obesity medications?
  - A. 0
  - B. 2%
  - C. 10%
  - D. 30%

# Poll Question 3

- What % of Veterans who meet BMI criteria undergo bariatric surgery?
  - A. <1%
  - B. 5%
  - C. 10%
  - D. 25%

# Background

- More than 40% of the 7.5 million Veterans who receive VA care have a BMI  $\geq 30$  (obese)
- 16% of Veterans have a BMI  $\geq 35$  (“severe obesity”)
  - >700,000 Veterans
  - Severe obesity increased 70% between 2000-2010

$$\text{BMI} = \frac{\text{weight (kg)}}{[\text{height (m)}]^2}$$

BMI	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
WEIGHT (IN POUNDS)																
4'10"	167	172	177	181	186	191	196	201	205	210	215	220	224	229	234	239
4'11"	173	178	183	188	193	198	203	208	212	217	222	227	232	237	242	247
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6'2"	272	280	287	295	303	311	319	326	334	342	350	358	365	373	381	389
6'3"	279	287	295	303	311	319	327	335	343	351	359	367	375	383	391	399
6'4"	287	295	304	312	320	328	336	344	353	361	369	377	385	392	402	410

HEIGHT

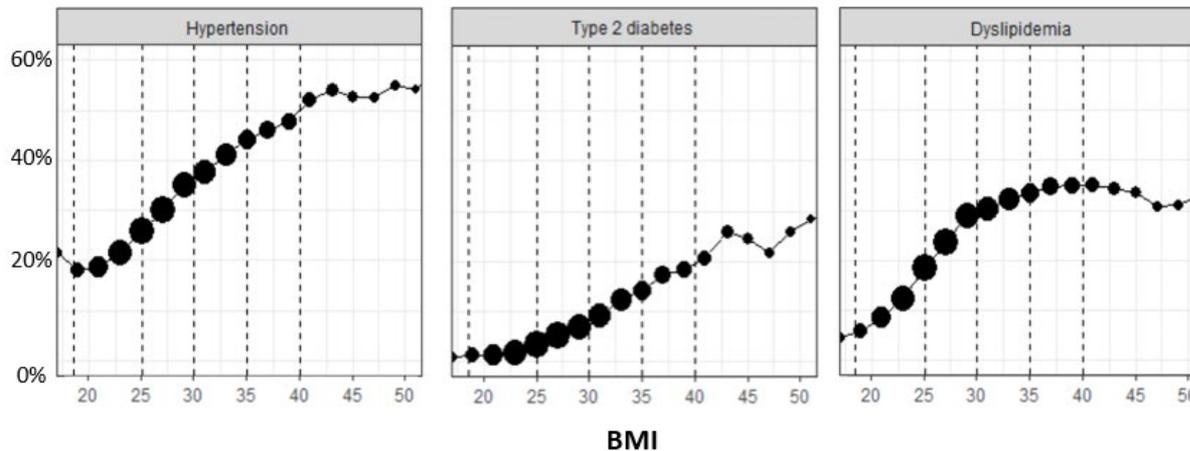


# Body Mass Index (BMI)

<b>BMI Category</b>	<b>BMI Range</b>
<b>Healthy</b>	<b>18.5-24.9</b>
<b>Overweight</b>	<b>25-29.9</b>
<b>Obese</b>	<b>30-34.9</b>
<b>Severely Obese</b>	<b><math>\geq 35</math></b>

# Burden of obesity

- Adults with obesity are much more likely to have:
  - obesity-related co-morbidities



- decreased lifespan
- worse quality of life
- more missed time from work
- increased medical costs

# Evidence-based Treatments in VA

- ❖ Diet, Exercise and Behavioral Tools
- ❖ Diet, Exercise and Behavioral Tools along with Weight Management Medications
- ❖ Diet, Exercise and Behavioral Tools along with Bariatric Surgery

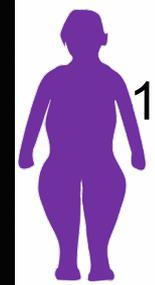


Diet,  
Exercise,  
& Behavioral  
Tools

*diet, exercise, & behavioral tools*

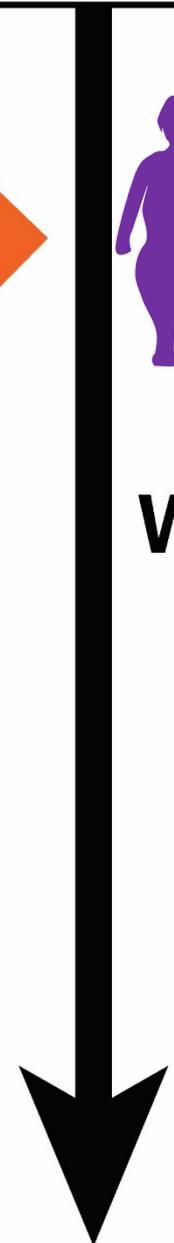
5-8% LOSS  
OVER 6 MONTHS

**275lbs**  
Baseline Weight



14-22 lbs

**Weight  
Loss**



# Evidence-based Treatments in VA

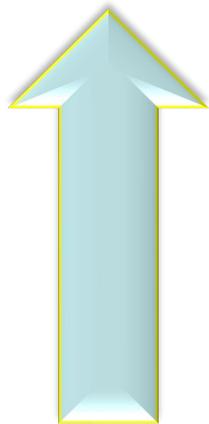
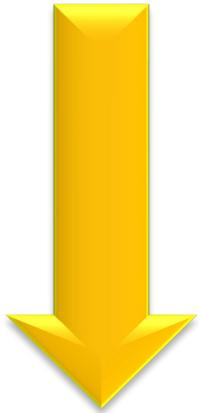
- ❖ Diet, Exercise and Behavioral Tools

- ❖ Diet, Exercise and Behavioral Tools along with Weight Management Medications

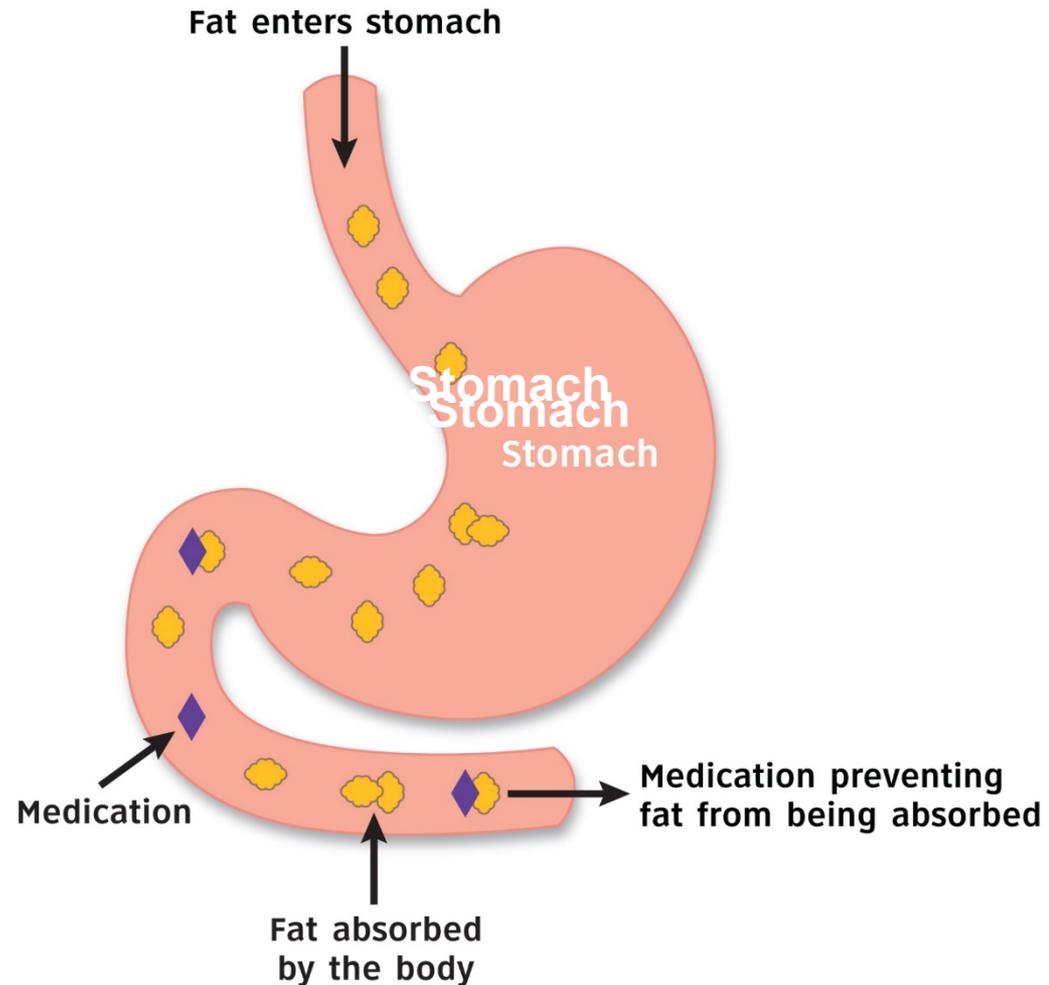
- ❖ Diet, Exercise and Behavioral Tools along with Bariatric Surgery

# Weight Management Medications

APPETITE



FULLNESS



# FDA-Approved Weight Management Medications



## **Fat Blockers**

- Orlistat (Xenical)

## **Appetite Suppressants**

- Liraglutide (Saxenda)
- Naltrexone/Bupropion (Contrave)
- Phentermine
- Phentermine/Topiramate (Qysmia)

HEIGHT	BMI	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
	WEIGHT (IN POUNDS)																			
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**275lbs**  
**Baseline Weight**

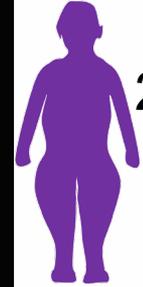


5-8% LOSS  
OVER 6 MONTHS

*diet, exercise, & behavioral tools*

*add weight management medications*

8-14% LOSS  
OVER 6 MONTHS



22-33 lbs

**Weight  
Loss**



# Evidence-based Treatments in VA

- ❖ Diet, Exercise and Behavioral Tools
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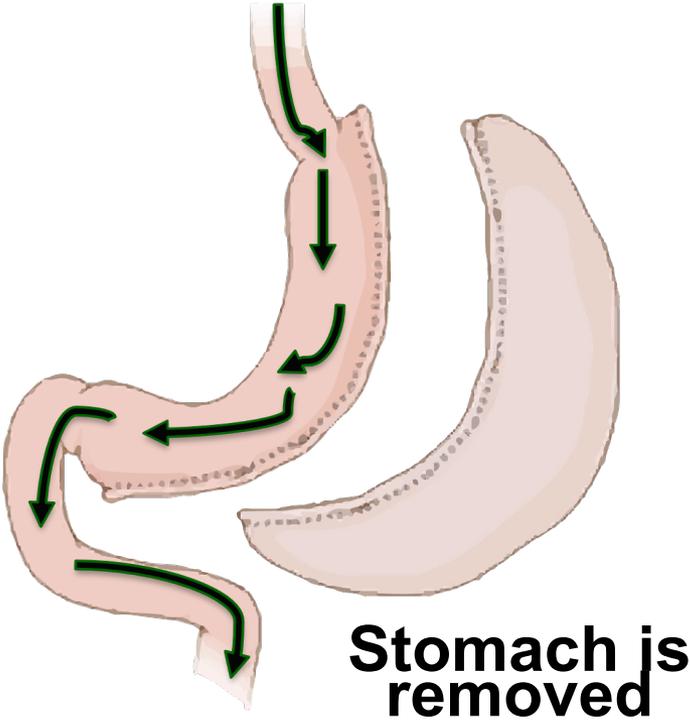
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HEIGHT

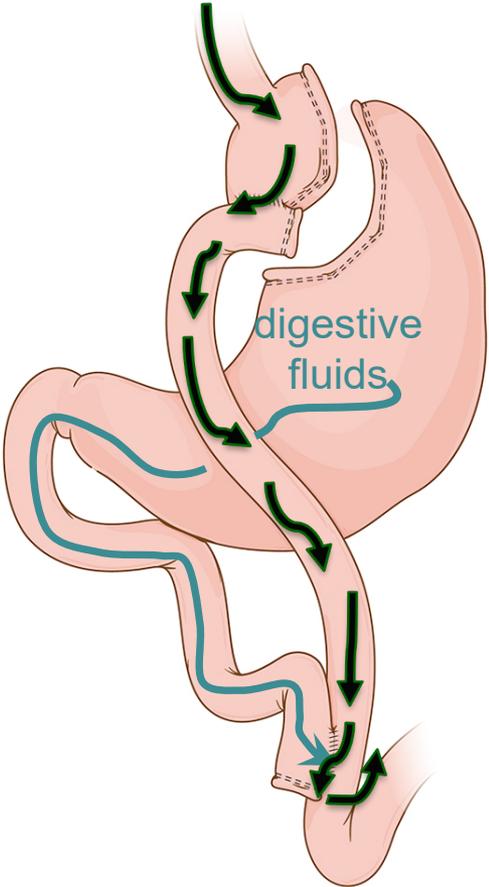


# Bariatric Surgery

## Sleeve Gastrectomy



## Gastric Bypass



**275lbs**  
**Baseline Weight**

**Diet,  
Exercise,  
& Behavioral  
Tools**

5-8% LOSS  
OVER 6 MONTHS

*diet, exercise, & behavioral tools*

*add weight management medications*

8-14% LOSS  
OVER 6 MONTHS

*add bariatric surgery*

25-30% LOSS  
OVER 12-18 MONTHS

**Weight  
Loss**



69-83 lbs

# Evidence-based Treatments in VA

- Behavioral weight management
  - Dietitian visits (dietary and lifestyle changes; MOVE!)
  - Challenge: <10% of Veterans participate
- Obesity medications
  - Numerous obesity-specific meds approved by FDA
  - Challenge: 2% of eligible Veterans receive them
- Bariatric surgery
  - Most effective treatment for severe obesity
  - Challenge: 0.3% of “BMI eligible” Veterans undergo it

Veterans Affairs Office of Research and Development  
Health Services Research and Development Service

VA HSR&D STATE OF THE ART CONFERENCE

WEIGHT MANAGEMENT

March 7-8, 2016  
Arlington, VA

- 40 participants within and outside of the VA
  - clinicians, researchers, operations, administrators
- 3 work groups
  - behavioral, pharmacologic, bariatric surgery
- Goals
  - Develop recommendations to improve adherence to evidence-based obesity treatments
  - Develop a research agenda to address knowledge gaps in obesity care



## Bariatric Surgery Work Group Membership

### Work Group #1

#### Work Group Facilitators:

**Luke Funk, MD, MPH**

Staff Physician, Surgery Service  
William S. Middleton Memorial Veterans Hospital  
Madison, WI



**Matthew Maciejewski, PhD**

Director, Health Economics and Policy Unit  
Durham VA Medical Center

#### Work Group Members:



**Jason Dominitz, MD, MHS**

National Director of Gastroenterology  
VA Puget Sound Healthcare System, Seattle, WA



**Lisa Kearney, PhD**

Senior Consultant, Mental Health Operations  
Frank M. Tejeda VA Outpatient Clinic  
San Antonio, TX

**Dan Eisenberg, MD**

Bariatric Surgeon, Surgical Service  
VA Palo Alto Healthcare System



**Edward Livingston, MD**

Physician, Surgical Service  
VA North Texas Health Care System  
Dallas, TX



**Susan Frayne, MD, MPH**

Staff Physician, Medical Service  
VA Palo Alto Healthcare System



**Thomas Rutledge, PhD (Can't attend)**

Clinical Psychologist, Mental Health Service  
VA San Diego Healthcare System



**Melissa Kalarchian, PhD**

Clinical psychologist  
Duquesne University



**Melinda Gibbons, MD, MSHS**

Physician, Surgical and Perioperative Care  
VA Greater Los Angeles Healthcare System  
University of California at Los Angeles

**Vivian Sanchez, MD**

Staff Physician, Surgical Service  
VA Boston Healthcare System



**William Gunnar, MD, JD**

Executive Director, Office of Clinical Operations  
Department of Veterans Affairs  
Washington, DC

**Brian Smith, MD**

Bariatric Surgeon  
VA Long Beach Healthcare System



**Zafar Iqbal**

Scientific Review Officer & Program Specialist, ORD  
Department of Veterans Affairs, Washington, DC



**Hollis Weidenbacher, PhD**

Research Health Scientist  
Durham VA Medical Center



Not practicing bariatric surgeons  
(n=11/15)

# JGIM Supplement (April 2017)

- 15 articles
  - 7 original papers
  - 4 editorials
  - 3 perspectives
  - 1 review paper

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David Atkins MD, MPH

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# A Health Services Research Agenda for Bariatric Surgery Within the Veterans Health Administration

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<sup>1</sup>William S. Middleton VA Hospital, Madison, WI, USA; <sup>2</sup>Department of Surgery, University of Wisconsin-Madison, Madison, WI, USA; <sup>3</sup>The George Washington University, Washington, DC, USA; <sup>4</sup>U.S. Department of Veterans Affairs, Washington, DC, USA; <sup>5</sup>Division of Gastroenterology, University of Washington, Seattle, WA, USA; <sup>6</sup>VA Palo Alto Health Care System, Palo Alto, CA, USA; <sup>7</sup>Department of Surgery, Stanford University School of Medicine, Stanford, CA, USA; <sup>8</sup>Department of Medicine, Stanford University School of Medicine, Stanford, CA, USA; <sup>9</sup>VA Greater Los Angeles Healthcare System, Los Angeles, CA, USA; <sup>10</sup>Department of Surgery, David Geffen School of Medicine at the University of California, Los Angeles, CA, USA; <sup>11</sup>School of Nursing and Department of Psychology, Duquesne University, Pittsburgh, PA, USA; <sup>12</sup>JAMA, Chicago, IL, USA; <sup>13</sup>Department of Surgery at the UT Southwestern School of Medicine, Dallas, TX, USA; <sup>14</sup>VA Boston Healthcare System, Boston, MA, USA; <sup>15</sup>Boston University School of Medicine, Boston, MA, USA; <sup>16</sup>VA Long Beach Healthcare System, Long Beach, CA, USA; <sup>17</sup>Department of Surgery, UC Irvine Medical Center, Irvine, CA, USA; <sup>18</sup>Center for Health Services Research in Primary Care (152), Durham VA Medical Center, Durham, NC, USA; <sup>19</sup>Division of General Internal Medicine, Department of Medicine, Duke University, Durham, NC, USA.

## • Research questions

- 1 - What is the average effect of bariatric surgery on short and long term weight loss, comorbidity resolution, complications, mortality and costs?
- 2 - How long should behavioral interventions be pursued before bariatric surgery?
- 3 - What are the patient, provider and system-level barriers to bariatric surgery referral and receipt?**
- 4 - What strategies should be considered before performing bariatric surgery on “special populations” such as transplant patients and orthopedic surgery patients?

# A Health Services Research Agenda for Bariatric Surgery Within the Veterans Health Administration

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## **Key Question #3: What Are the Patient-, Provider-, and System-Level Barriers to Bariatric Surgery Referral and Receipt?**

BSWG members agreed that there was limited literature regarding barriers to and facilitators of referral and uptake of bariatric surgery, as only one systematic review was identified (patient and referring provider knowledge about bariatric surgery were notable barriers).<sup>12</sup> The BSWG identified the following as potential barriers: limited patient and provider knowledge, coordination of care across VA sites, a low

# VA HSR CDA (2016-2021)

**Aim 1:** Identify patient, provider and work system elements that influence the treatment choices that patients with severe obesity make within VA.

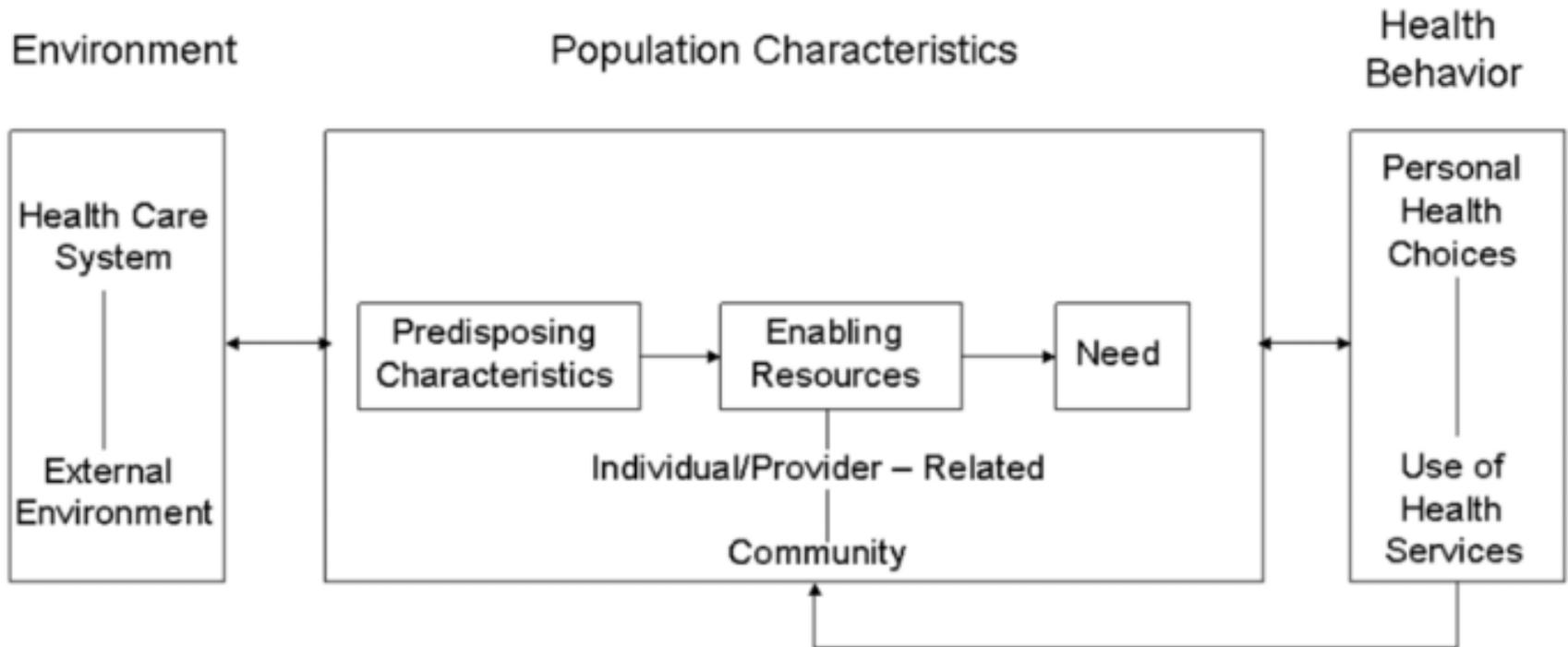
**Aim 2:** Develop and pilot-test an educational tool that aligns patient preferences with treatment options to optimize the care that Veterans with severe obesity receive.

**Aim 3:** Examine how primary care providers (PCPs) manage patients with severe obesity, including presenting the option of bariatric surgery, and explore their experiences regarding how these patients engage with the MOVE! program (via a national survey of VA PCPs).

# Aim 1: Methods

- Veteran interviews
  - 2 VAs; BMI $\geq$ 35 and either attended  $\geq$  3 visits or were referred for bariatric surgery
- Provider interviews
  - Health psych, RDs, PCPs, bariatric surgeons
- Recruitment: mail/email invitation
- Audio-recorded, semi-structured, 60-minute interviews about their experiences -> transcribed
- Conventional content analysis, theme matrices organized by participant type

# Andersen Model of Health Care Utilization



# Bariatric surgery barriers: a review using Andersen's Model of Health Services Use

Joseph R. Imbus, M.D.<sup>a</sup>, Corrine I. Voils, Ph.D.<sup>a,b</sup>, Luke M. Funk, M.P.H, M.D.<sup>a,b,\*</sup>

<sup>a</sup>*Department of Surgery, Wisconsin Surgical Outcomes Research Program (WiSOR), University of Wisconsin-Madison, Madison, Wisconsin*

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Table 1

Contextual factors contributing to bariatric surgery referral and receipt (adopted from Andersen's Behavioral Model of Health Services Use)

Type of factor	Description	Barriers/facilitators and relevant citations
Predisposing		
Provider demographic characteristics	Characteristics of a community and/or providers involved in the care of a population	Barrier: female providers [10] Facilitator: younger providers [11], providers with higher BMI [11]
Social	Measures of how patients' communities might affect their access to health services; also may include socioeconomic composition of providers	Barrier: societal normalization of obesity and stigma of obesity treatment [12] Facilitator: PCP perception that they have an important role in obesity care [12]
Beliefs	Refers to the underlying attitudes, values, and knowledge of a community, organization, or provider regarding disease management and how health services should be organized and made accessible	Barrier: PCP beliefs: that obesity is not a disease [14], that obesity is due to poor self-control [15], that lifestyle change is the most effective weight loss method [16], that patients lack motivation [16], that obesity is not a priority to treat [17]; concerns about postoperative complications and long-term, postbariatric medical care [11,16,17,19–22], lack of confidence managing obesity [16], misperception regarding bariatric surgery effectiveness [16,17,22,23], preference to recommend nonsurgical treatments for obesity [23], NPs less likely to refer for bariatric surgery [10] Facilitator: obesity classification as a disease [14], PCP as obesity care provider [10], PCP familiarity with NIH guidelines and obesity care [11], completion of bariatric CME [11], physician obesity-related training [18]
Enabling		
Health policy	Authoritative decisions made pertaining to health or influencing the pursuit of health.	Barrier: CMS coverage mandate requiring surgery at COE [24,47] Facilitator: COE accreditation [26]
Financing	Measures that reflect the amount of financial resources potentially available (e.g., per capita community income) to pay for health services, incentives to provide services, and health insurance coverage rates/types	Barrier: Medicaid insurance [29], low usage of obesity-related billing codes [10], PCP perception of inadequate provider reimbursement [18], bariatric surgery cost and insurance coverage influence PCP referral decision [16,17,20,21] Facilitator: Private insurance [27]

**Table 1. Patient and provider demographics**

‡

	<b>Veterans (n=33)</b>	<b>Providers (n=40)</b>
<b>Age (mean, SD)</b>	58.5 ( $\pm$ 8.4)	44 ( $\pm$ 9.9)
<b>Gender (%)</b>		
Male	79	27
Female	21	73
<b>Ethnicity (%)</b>		
White	76	77.5
Black or African American	21	0
Asian	0	5
Hispanic	3	2.5
American Indian or Alaska Native	0	2.5
Other	0	12.5
<b>Marital Status (%)</b>		
Married	55	
Single, never married	27	
Divorced/Separated	18	
<b>Years in Practice (mean, SD)</b>		13.7 ( $\pm$ 9.3)
<b>Dual Appmt. at a University (%)</b>		43
<b>Provider type (%)</b>		
Bariatric surgeon/NP		32.5
Primary care provider		37.5
Health psychologist		15
Registered dietitian		15

# Results

**Table 2. Contextual determinants (per Andersen’s Behavioral Model of Health Services Use) that are barriers to bariatric surgery within VA**

Contextual determinant	Contextual determinant description according to Andersen’s Model	Study theme
<b>Predisposing</b>		
Social	Measures of how patients’ communities might affect their access to health services; also may include socioeconomic composition of providers	1. Limited access to healthy foods
Beliefs	Refers to the underlying attitudes, values, and knowledge of a community, organization, or provider regarding disease management and how health services should be organized and made accessible	2. Not referring patients for bariatric surgery early enough or at all
<b>Enabling</b>		
Organization	The amount, distribution, and connectedness of hospitals, clinics, and healthcare personnel available for a given service (e.g. bariatric surgery), as well as how care is delivered at a given institution	3. Poor coordination of care between services and providers
		4. Long travel distances for patients
		5. Lack of pre- and post-operative guidelines for patient care
		6. Lack of education and training about bariatric surgery care
		7. Difficulty meeting preoperative requirements
8. Lack of provider availability		

# Results

**Table 3. Barriers to bariatric surgery from provider and patient perspectives**

<b>Contextual determinant</b>	<b>Theme</b>	<b>PCP</b>	<b>Bariatric surgeon</b>	<b>Registered dietitian</b>	<b>Health psychologist</b>	<b>Veteran</b>
Social	1. Limited access to healthy foods	X				X
Beliefs	2. Not referring patients for bariatric surgery early enough or at all	X	X			X
Organization	3. Poor coordination of care between services and providers	X	X	X	X	X
	4. Long travel distances for patients	X	X	X		X
	5. Lack of pre- and post-operative guidelines for patient care	X	X	X	X	
	6. Lack of education and training about bariatric surgery care	X	X	X	X	
	7. Difficulty meeting preoperative requirements	X	X	X		
	8. Lack of provider availability and/or time	X	X	X		

X indicates the barrier was identified as a theme during interviews with that type of study participant

# Lack of guidelines for pre-operative care

- Bariatric surgeon: “If they would standardize the referral across the VA, I think they need to have a bariatric handbook again that addresses this so that the referring hospital knows exactly what they have to do and what their responsibilities are. Right now it’s helter skelter.”
- RD: “There’s nothing standardized to my knowledge. That would have been nice, but, and I’ve asked others about how they go about charting, if they could share stuff with me. And many people are like “please share with me what you find out”. So I get the impression there’s nothing really standardized out there ...I think more of a road map would be nice.”

# Lack of guidelines for post-operative care

- Bariatric surgeon: “Most of these programs have absolutely no idea what they need to do, in terms of post-op, taking care of patients.”
- PCP: When asked if the plan was clear after bariatric surgery: “You know it wasn’t. I will say it was not made clear to me. The dietitian did all the lab ordering. So, and now that dietitian’s gone, that patient is just mine. I just keep ordering the same labs...”

# Poor communication/knowledge: can we improve this for patients?

Table 3. Barriers to bariatric surgery from provider and patient perspectives

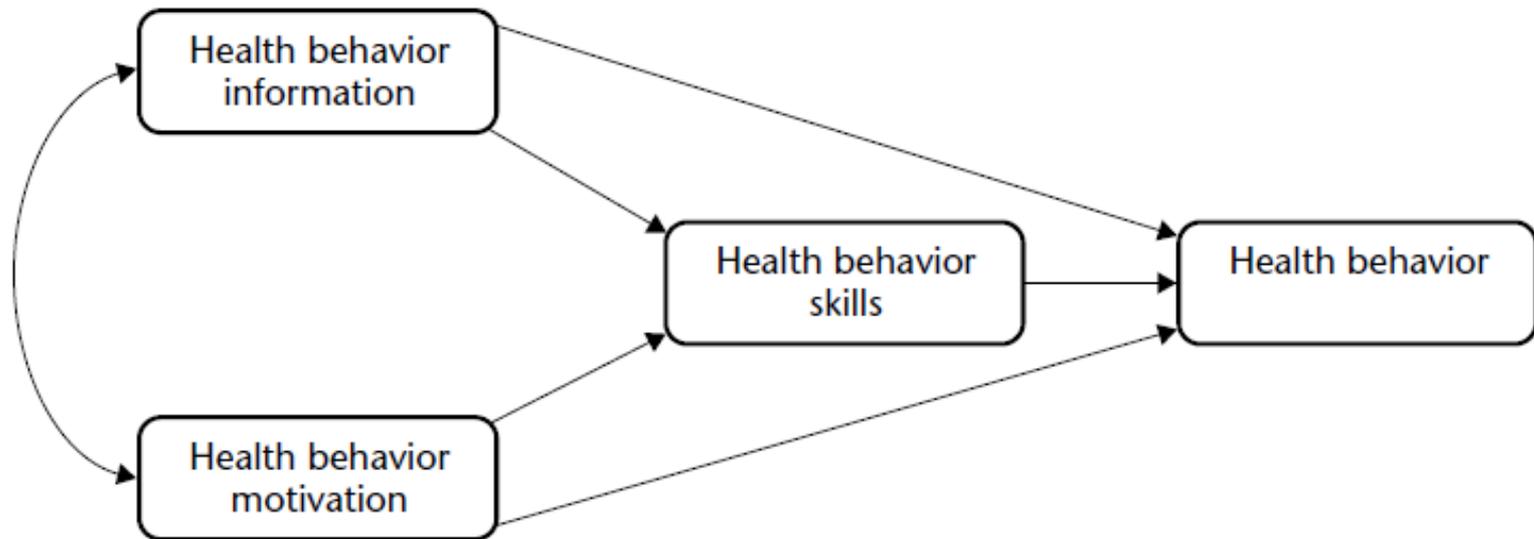
Contextual determinant	Theme	PCP	Bariatric surgeon	Registered dietitian	Health psychologist	Veteran
Social	1. Limited access to healthy foods	X				X
Beliefs	2. Not referring patients for bariatric surgery early enough or at all	X	X			X
Organization	3. Poor coordination of care between services and providers	X	X	X	X	X
	4. Long travel distances for patients	X	X	X		X
	5. Lack of pre- and post-operative guidelines for patient care	X	X	X	X	
	6. Lack of education and training about bariatric surgery care	X	X	X	X	
	7. Difficulty meeting preoperative requirements	X	X	X		
	8. Lack of provider availability and/or time	X	X	X		

X indicates the barrier was identified as a theme during interviews with that type of study participant

# Aim 2

Develop and pilot-test an educational tool that aligns patient preferences with treatment options to optimize the care that Veterans with severe obesity receive.

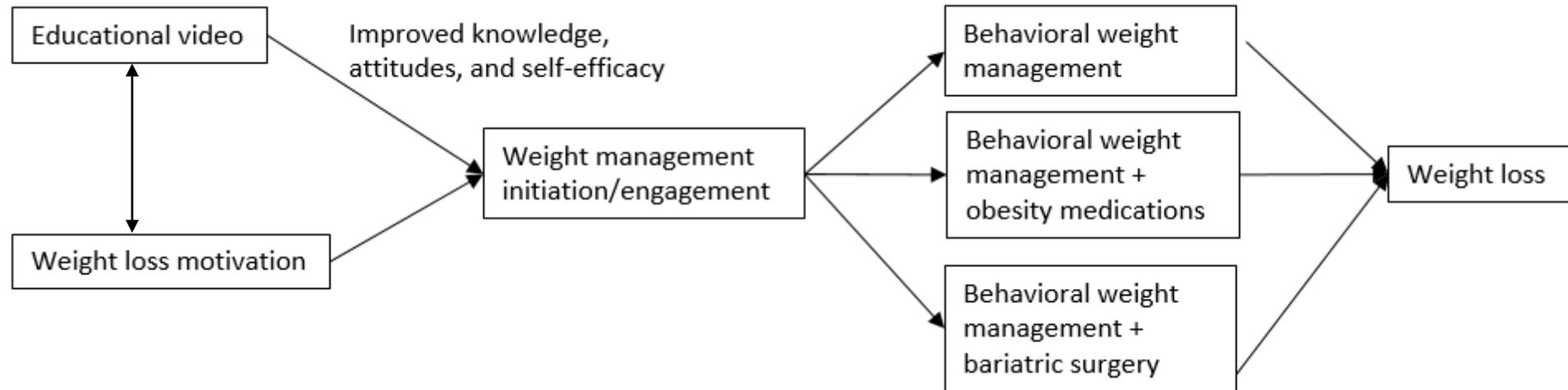
# Conceptual Model: Information-Motivation-Behavioral Skills



**Figure 4.1** The Information–Motivation–Behavioral Skills Model of health behavior.

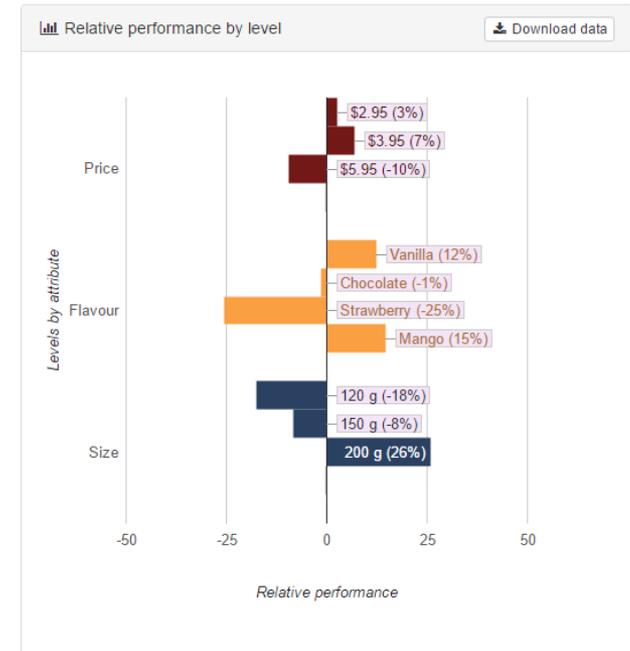
From J. D. Fisher and W. A. Fisher (1992). Changing AIDS risk behavior. *Psychological Bulletin*, 111, 455–74. Copyright by APA. Reprinted with permission.

# Our Conceptual Model



# What is the intervention?

- Decision aid
  - conjoint analysis
- Decision support tool
- Provider education
- Patient education
  - Pamphlet
  - Educational video



# Intervention development

What determines the health behavior of severely obese patients who are considering weight loss treatment (Fisher model)? **Luke Corrine Esra Sally Grace**

Domain	Factor	Source of information	Patient Code	Provider Code	Results of the qualitative analysis	Examples to consider for the educational tool
Knowledge	Awareness of obesity health risks	Literature	<ul style="list-style-type: none"> <li>Experiencing obesity related health issues</li> <li>Patient motivations for weight loss</li> <li>Patient motivations for BS</li> </ul>	<ul style="list-style-type: none"> <li>Experiencing obesity related health issues</li> <li>Patient motivations for weight loss</li> <li>Patient motivations for BS</li> </ul>	<ul style="list-style-type: none"> <li>Obesity is associated with negative health outcomes</li> </ul>	<ul style="list-style-type: none"> <li>Obesity decreases your lifespan, increases likelihood of other diseases, worsens quality of life</li> <li>What else did patients and providers say were important reasons that they chose to undergo bariatric surgery</li> </ul>
Knowledge	Awareness of treatment options (behavioral weight management)	VA policy/practices			<ul style="list-style-type: none"> <li>Changes in diet and exercise are the cornerstone</li> <li>Can be supplemented by bariatric surgery for those who want more effect</li> <li>Medications can supplement both lifestyle changes and bariatric surgery</li> </ul>	<ul style="list-style-type: none"> <li>There are numerous options available for obesity treatment including diet and exercise plans, medications and surgery</li> <li>Within the VA, MOVE! and bariatric surgery are available if patients meet criteria</li> </ul>
Knowledge	What bariatric surgery is and what it isn't	[Interview codes]	<ul style="list-style-type: none"> <li>Patient attitudes/beliefs about BS</li> <li>Provider attitudes/beliefs about BS</li> </ul>	<ul style="list-style-type: none"> <li>Patient attitudes/beliefs about BS</li> <li>Provider attitudes/beliefs about BS</li> </ul>	<ul style="list-style-type: none"> <li>Surgical is a tool that helps facilitate lifestyle changes - also has some independent effects on the way your body handles food</li> <li>Need to define what BS is and what it is not (liposuction, it is not a quick fix)</li> </ul>	<ul style="list-style-type: none"> <li>Examples – two main operations today (sleeve gastrectomy and bypass); specific operations may change over time but the idea is to minimize caloric intake</li> <li>It is laparoscopic and as safe as taking your gall bladder out</li> <li>It is not liposuction</li> </ul>
Knowledge	How one gets “approved” for bariatric surgery	VA policy/practices	<ul style="list-style-type: none"> <li>Meeting criteria</li> <li>Referring patients for surgery</li> </ul>	<ul style="list-style-type: none"> <li>Providing VA Policy</li> <li>Meeting criteria</li> <li>Referring patients for surgery</li> <li>Evaluating mental health</li> </ul>	<ul style="list-style-type: none"> <li>Certain medical and LS criteria need to be met before BS (different providers HP/RD/cardiologist/etc.)</li> <li>Mental health comorbidities may impact eligibility</li> <li>Some programs require MOVE! attendance and weight loss requirements to be eligible - (in video “check different services available at your VA”) → Framed</li> </ul>	<ul style="list-style-type: none"> <li>Varies according to the program, but typically involves evaluation by a nutritionist, psychologist and bariatric surgery team</li> <li>Multiple visits within the MOVE! program</li> <li>Stopping certain behaviors such as smoking</li> </ul>

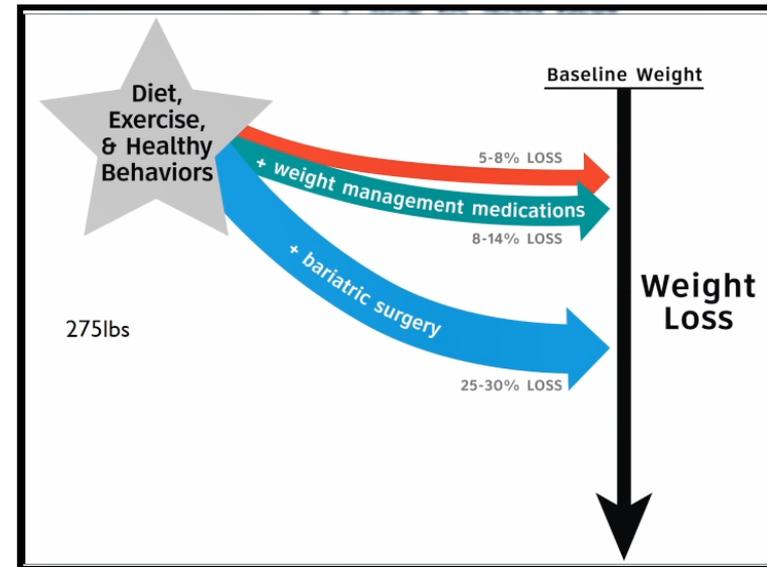
# Educational video development

- 16 minute duration
- Stakeholder feedback
  - 4 stakeholder engagement groups with Veterans (Madison, Chicago)
  - 4 provider feedback interviews

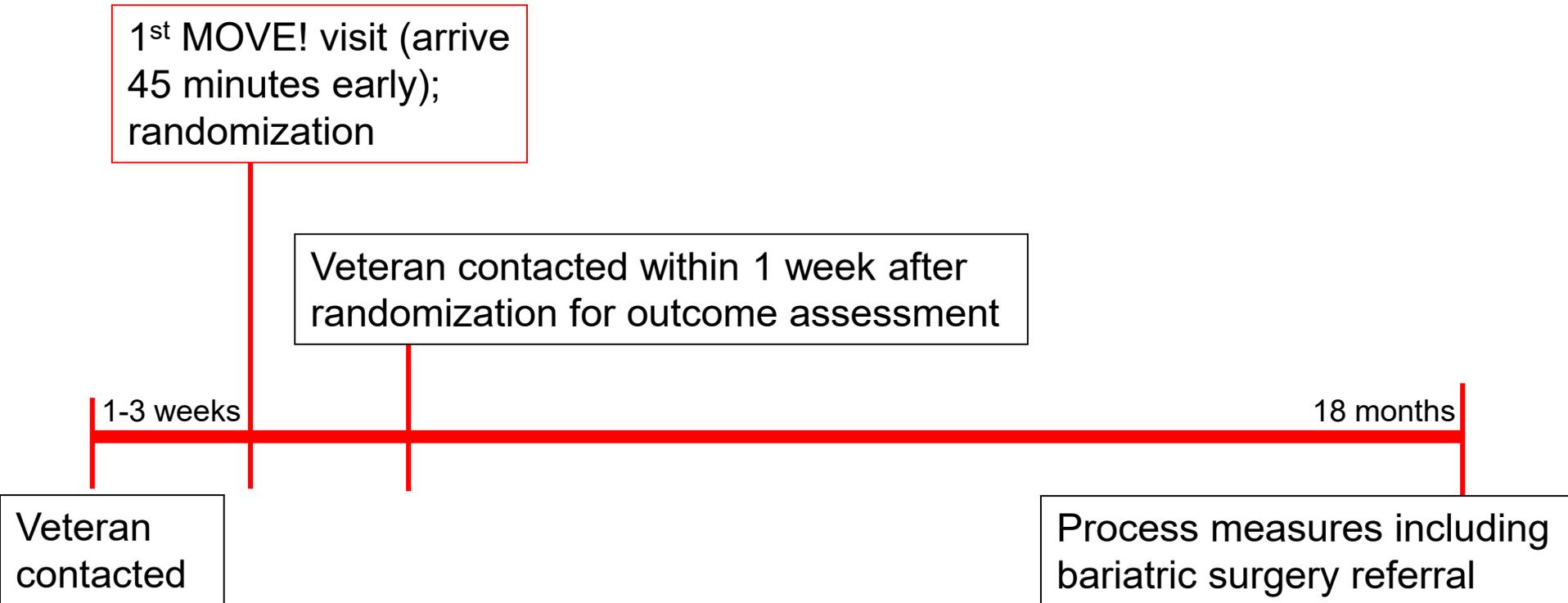


# Aim 2

- Single site, pilot RCT of an educational video highlighting obesity risks and treatment options
  - Veterans age 18-75 attending a MOVE! visit randomized to
    - Intervention (video + dietitian visit) n=21
    - Usual care (dietitian visit) n=20
  - Outcomes
    - Primary
      - Feasibility: recruitment and retention
      - Acceptability (qualitative findings)
    - Secondary
      - Preparation for decision-making
      - Knowledge
      - Attitudes
      - Behavioral intention
      - Self-efficacy



# Pilot RCT timeline



# Results – Demographics

Characteristic	n = 40
Randomized Groups n (%)	
Intervention	20 (50%)
Usual care	20 (50%)
Age mean (SD)	59.1 (12.1)
Sex n (%)	
Male	34 (85%)
Female	6 (15%)
Race/Ethnicity n (%)	
White, non-Hispanic	36 (90%)
Black, non-Hispanic	0
Hispanic	1 (2.5%)
Other	3 (7.5%)
Work Status n (%)	
Working full time	11 (27.5%)
Working part time	5 (12.5%)
Unemployed, searching for work	1 (2.5%)
Unemployed, not searching for work	0
Retired	19 (47.5%)
Disabled	4 (10%)
Financial Status n (%)	
I have difficulty paying bills no matter what.	1 (2.5%)
I have enough to pay bills because I have to cut back on things.	4 (10%)
I have enough to pay bills but little to spare for special things.	17 (42.5%)
After paying bills, I still have enough for special things.	153 (37.5%)
I prefer not to answer.	3 (7.5%)
BMI at Time of Recruitment (mean, SD)	41.7 (6.4)

# Results - Outcomes

- Recruitment rate
  - 47% (42/90)
- Retention rate
  - 95% (40/42)
- Acceptability
  - Veterans found video to be easy to incorporate into visit

# Results – Outcomes

Outcome	Usual Care (n=20)	Intervention (n=20)	Absolute difference*
Preparation for decision-making (mean, SD)	2.76 (.68)	3.13 (.48)	+ .37
Knowledge of treatment options (mean, SD)	8.3 (0.8)	8.5 (1.3)	+ .2
Attitudes (mean, SD): possible range -3 to 3			
Behavioral weight management	2.02 (.88)	2.40 (.69)	+ .38
Medications	0.65 (1.44)	0.80 (1.52)	+ .15
Bariatric Surgery	-0.33 (1.61)	0.12 (1.92)	+ .45
Behavioral intentions (mean, SD): possible range 1 to 7			
Behavioral weight management	6.08 (.83)	6.04 (.75)	-.04
Medications	3.65 (2.58)	3.85 (1.97)	+ .20
Bariatric Surgery	2.42 (1.90)	3.06 (2.06)	+ .64
Self-efficacy (mean, SD): possible range 1 to 4			
Behavioral weight management	2.82 (.62)	2.84 (.47)	+ .02
Medications	2.67 (.86)	2.68 (.66)	+ .01
Bariatric Surgery	2.66 (.98)	2.59 (.81)	-.07

\*Effects sizes pending

# Aim 2: Implications

- The intervention was feasible to implement and acceptable to Veterans
- A subsequent adequately powered effectiveness trial may need different outcomes and/or a different study population
  - Effect sizes appear small for most outcomes
    - Ceiling effect for knowledge?
    - Survey targeting right areas?
  - Pilot study focused on severely obese ( $BMI \geq 35$ ) who are “engaged” in weight management in VA
    - Should we open up to all  $BMI \geq 30$  and those not “engaged”?

# Summary

- Severe obesity is a significant problem for Veterans
- Evidence-based treatments exist but are underutilized
- Addressing barriers to their delivery is a high priority in the VA
- Hopefully our work will contribute to the solution

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# Thank you

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# Supplemental Information

# Behavioral intention

## Primary patient outcome: behavioral intention:

1. After [attending the MOVE! visit or attending the MOVE! visit and watching the educational video], how likely are you to change your lifestyle to incorporate diet and exercise?

Unlikely

Likely

---

Extremely (-3)	Quite (-2)	Slightly (-1)	Neither (0)	Slightly (+1)	Quite (+2)	Extremely (+3)
-------------------	---------------	------------------	----------------	------------------	---------------	-------------------

After [attending the MOVE! visit or attending the MOVE! visit and watching the educational video], how do you view incorporating diet and exercise into your lifestyle?

Bad

Good

---

Extremely (-3)	Quite (-2)	Slightly (-1)	Neither (0)	Slightly (+1)	Quite (+2)	Extremely (+3)
-------------------	---------------	------------------	----------------	------------------	---------------	-------------------

After [attending the MOVE! visit or attending the MOVE! visit and watching the educational video], how do you view incorporating diet and exercise into your lifestyle?

Unpleasant

Pleasant

---

Extremely (-3)	Quite (-2)	Slightly (-1)	Neither (0)	Slightly (+1)	Quite (+2)	Extremely (+3)
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# Prep for decision-making

## Secondary patient outcome - Preparation for decision-making

Please indicate your opinion about the effect of the MOVE! visit or MOVE! visit + educational video by circling the appropriate number to show the extent to which you agree with each statement. How much did the [MOVE! visit] or [MOVE! visit + educational video]....

Not at all | A Little | Somewhat | Quite a bit | A great deal  
(0) (1) (2) (3) (4)

1. Help you recognize that a decision about weight management needs to be made?
2. Prepare you to make a better decision about your weight management treatment options?
3. Help you think about the pros and cons of each weight management option?
4. Help you think about which pros and cons are most important to you?
5. Help you know that the decision depends on what matters most to you?
6. Help you organize your own thoughts about the decision?
7. Help you think about how involved you want to be in this decision?
8. Help you identify questions you want to ask your MOVE! team members?
9. Prepare you to talk to your MOVE! team member about what matters most to you?
10. Prepare you for a follow-up visit with a MOVE! team member?

# Self-efficacy

**Secondary patient outcomes – Self-efficacy**: Self-efficacy to initiate treatment will be assessed with items developed for this study following the methods of Schwarzer.

**“I am \_\_\_\_\_ I can pursue a healthy diet and increased physical activity within the MOVE! program even if...**

Not at all Sure | Hardly sure | Quite sure | Very sure  
(1) (2) (3) (4)

1. the available meeting times don't work with my schedule.
2. the program content is not personalized for me.
3. I have concerns about participating in a group format.
4. I cannot obtain fruits and vegetables.
5. I do not have regular transportation and am unable to come to appointments regularly.
6. I am in pain.
7. I have limited time to exercise.
8. my family or partner is not supportive.
9. my weight loss is slower than I would like it to be.
10. I'm feeling depressed.