

# **A Social Ecological Analysis of Barriers to Weight-loss Success in the Veterans' Health Administration MOVE! Program**

Colmery – O'Neil VA Medical Center, Topeka, Kansas  
June 2012 – October 2012  
Jeffrey M. Warner, D.C.



# MPH Capstone Report

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Michael Cates, DVM, MPH

Practicum Preceptor:

David Scharpenburg, RD, CDE





# Presentation Outline

## Intro

- National Veteran Administration (VA) stats
- Topeka VA stats
- MOVE! 101

## Project

- Goals
- Social Ecological Interventions
- Daily Activities

## Data/Results

- Change in referrals
- Patient visit average (PVA)
- Average weight loss
- Correlation between number of classes attended and weight loss

Discussion – Public Health Relevance

Questions



# Veteran Population

Military Veterans at a glance:

- 22.7 million vets
- 1.84 million female
- Population is declining and will do so until 2036
- Stats show that up to 74% of patients seeking care at VA facilities are overweight or obese!
- Physical Activity is similar to general population with few exceptions:
  - Post Traumatic Stress Disorder (PTSD)
  - Higher musculoskeletal injuries





# Veteran Population Served by VA Nationally

- 8,570,000 vets served by VHA in fiscal 2011
- 91.9% male
- 79.9% white
- Median age = 60
- Fastest growing sector is 20-29 years old (OIF/OEF)
- 92% high school graduates, 26% bachelor degree
- 82% home ownership rate



# Veteran Population Served by VA Nationally

2,999,950 (35%) of patients  
served in 2011 had BMI of  
30 or greater!





# Veteran Population Served by Topeka VA

- 37,020 vets served in 2011
- Average age is 60
- Predominately white (80%)
- **12,500 have obesity diagnosis (33.77%)**
- Since 2006, 875 vets have been referred to MOVE!  
in Topeka (7%)



# Topeka VA Resources

- VA staff of 1,744 and volunteer pool of 601
- 407,139 outpatient visits in 2011
- \$262,000,000 Topeka VA budget in 2011
- Walk score of 57 according to [www.walkscore.com](http://www.walkscore.com)





# Veterans' PA Level

- Littman (2009) Veterans vs. non-Vets
  - Inactivity 16.2% vs. 20.5%
  - Meeting PA recommendations 46% vs. 42%
  - Va users vs. non-VA Vets inactivity 20.8% vs 14.7%
- DeVries (2001) found veteran PA levels similar to general population
- Peterson (2004) used a six minute walking test to compare PA capacity in older Veterans to their non-Vet peers. They found no significant difference



# MOVE! 101



## MOVE!® WEIGHT MANAGEMENT PROGRAM

is a national weight management program designed by the VHA National Center for Health Promotion and Disease Prevention (NCP), a part of the Office of Patient Care Services, to help veterans lose weight, keep it off and improve their health.





# MOVE! 101

- MOVE! = Managing Overweight/Obesity in Veterans Everywhere
- MOVE! is Congressionally mandated and federally funded but implementation is at the discretion of local VA facilities



# MOVE! 101

- Implemented in 2006
- Free pedometers provided to vets in program
- 18.6% of participants lost more than 5% of body weight over two year period, compared to 12.5% of control group (Kahwati 2011).
- Successful implementation associated with an “innovation champion” and institutional readiness for change (Weiner 2011).





# MOVE! 101

The VA National Center for Health Promotion and Disease Prevention developed the MOVE! Program based on the [National Heart, Lung and Blood Institute \*Clinical Guidelines on the Identification, Evaluation and Treatment of Overweight and Obesity in Adults\*](#) with guidance from the VA Weight Management Executive Council.



# MOVE! 101

MOVE! combines nutrition, physical activity and behavioral health components

Group education format is most common

TeleMOVE! and web-based MOVE! are options for participation



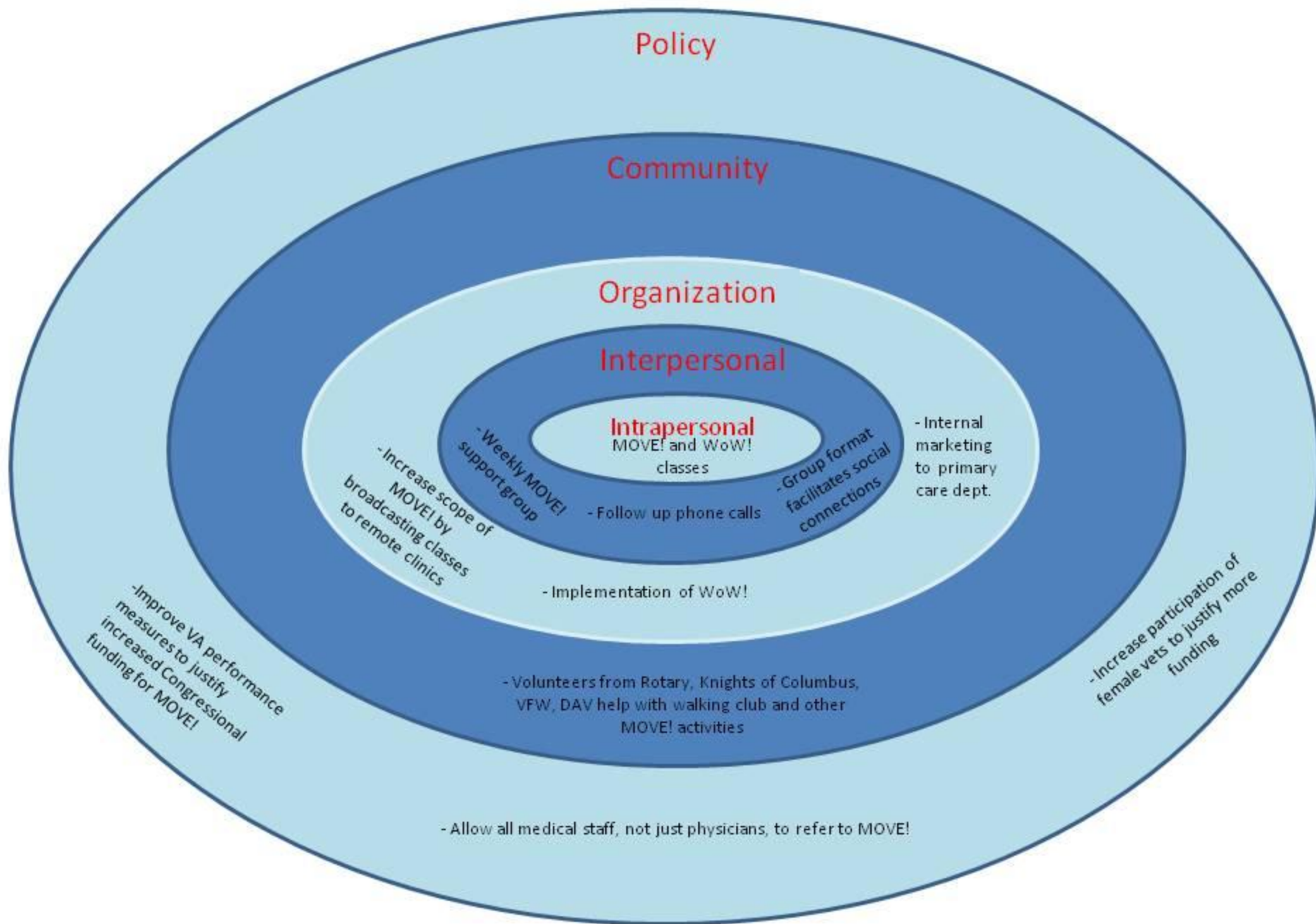


# Practicum Objectives

This project utilized a Social Ecological Framework to:

1. Increase the referral rate to MOVE!
2. Increase patient compliance rates once enrolled
3. Remove possible barriers to participation
4. Increase weight loss success!







# MPH Capstone Project Logic Model

Jeffrey M. Warner

## Inputs



## Activities



## Outputs



## Outcomes

- VA Preceptor – David Scharpenburg, R.D.
- MOVE! instructors
- MOVE! participants
- VA medical staff
- MOVE! class material

- Assist with weekly MOVE! group classes
- Teach MOVE! classes when needed
- Weigh-in patients prior to each class
- Develop survey to assess VA physicians' perceptions of obesity
- Evaluate referral process and simplify if possible
- Attend MOVE! administrative meetings and participate in national MOVE! teleconferences
- Establish a women-only MOVE! program with the VA's Dept. of Women's Health

- Number of vets who attend first MOVE! class
- Number of vets who attend more than one class
- Number of participants who decrease abdominal circumference
- Number of VA physicians who refer to MOVE!

- Increase in referral rate to MOVE!
- Increase in participants' perceived ability to lose weight
- Number of patients who lost weight during program
- Positive patient experience during MOVE! program
- Increase in vets perception of social and institutional support when losing weight



## Impact

- To increase the reported 8% MOVE! usage rate among eligible Veterans at the Topeka VA.
- To lower the 35% obesity rate among the Veteran population
- To offer the MOVE! program to 100% of eligible patients

# Daily Activities

Tuesdays:

- Program marketing
- Curriculum development
- National MOVE! conference calls
- Collaboration with VA Women's Health Dept. on women-only MOVE! program (WOW!) development





# Daily Activities

Thursdays:

- MOVE! class
- Data gathering
- Stakeholder meetings
- Participant outreach (calls, emails)



# MOVE! Conference Room





# Project Evaluation

This project began in June of 2012 and concluded in November of 2012.

- Two full eight week MOVE! cycles were included
- Evaluation of my impact will be based on comparison of these two cycles with the eight week cycle that ended in May 2012.



# MOVE! Evaluation

Measure Mnemonic	Concept Measured	How Measured	Calculation	National Goals
<b>MOV5</b>	BMI screening and offering MOVE!	Chart review	$(\# \text{ offered MOVE!} / \# \text{ who would benefit}) \times 100$	100%
<b>MOV6</b>	Basic Participation in MOVE!	Chart review	$(\# \text{ with one MOVE! visit in last year} / \# \text{ who would benefit}) \times 100$	Running 9% nationally, local goals of 15-30% increase
<b>MOV7</b>	Intense and sustained participation in MOVE!	DSS Data	$(\# \text{ with intense AND sustained care} / \# \text{ of new patients})$	Running 13% nationally, goal to increase by 15% locally





# MOVE! Evaluation (MOV6)

CGPI 1Q12 – MOV6 – MOV – Output - Eligible pts who participated in wt mgt pgm in last yr (NEXUS\_WT)

## DATNUM

Sample category

15. All - Outpatient visit  
30. SCI Dx  
45. Female, age 25-69  
50. Random Sample  
70. Random Sample MH

57. Offroad and TE -  
60. DM Outpatient  
61. Inpatient SCI  
64. CHF Outpatient  
68. Control GSKG

## DATNUM

Sample category

15. All - Outpatient visit  
30. SCI Dx  
45. Female, age 25-69  
50. Random Sample  
51. Random Sample MH  
52. Random Sample SCI

57. Screened positive for TBI  
60. Diabetes  
61. Inpatient SC  
62. PTSD positive  
63. MDD positive  
64. CHF Outpatient

## OTHCARE

(Validation)

Is there evidence in the medical record that within the past 124 weeks, the patient self-reported primary care or a non-VHA setting?

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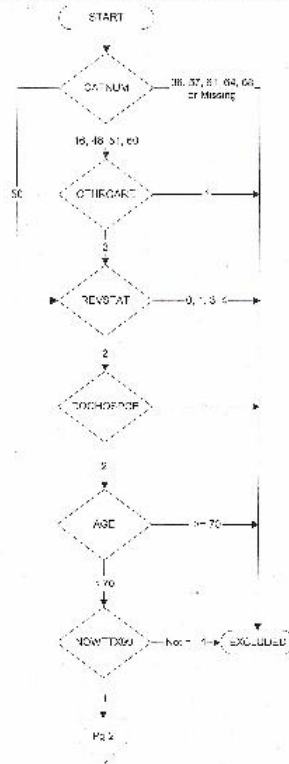
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CGPI 1Q12 – MOV6 – MOV – Output - Eligible pts who participated in wt mgt pgm in last yr (NEXUS\_WT)

## BMI

Calculated based on patient height and weight

## OTHCARE

(Core)

Enter the patient's most recent BMI calculated in the record within the last year.

## WASTOIR

(Core)

Is the patient's waist circumference at least 35 inches (89cm) for males and 35 inches (89cm) for females?

1. Yes (WCI is above threshold)  
2. No (WCI is at or below threshold)  
3. Not applicable  
4. No waist circumference documented

Within the last year, does the record document a diagnosis of any of the following obesity-related comorbidities? (Core)

OBESEX1 Diabetes  
OBESEX2 Obstructive sleep apnea  
OBESEX3 Hypertension  
OBESEX4 Hyperlipidemia/dyslipidemia  
OBESEX5 Depression, anxiety, or stress  
OBESEX6 Metabolic syndrome

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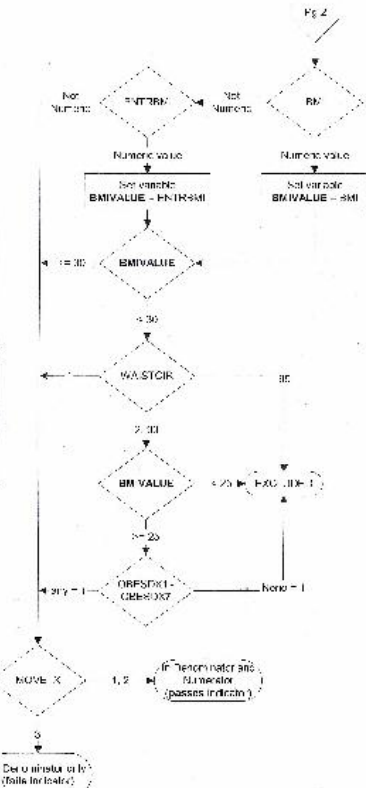
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# Baseline Data

Baseline	MOVE! Session	Total Participants	New Participants
4/5/2012	1	5	5
4/12/2012	2	2	
4/19/2012	3	3	
4/26/2012	4	3	1
5/3/2012	5	3	
5/10/2012	6	2	
5/17/2012	7	2	
5/24/2012	8	2	
<b>Totals</b>		22	6





# MOVE! Cycle 1 Data

Cycle 1 Dates	MOVE! Session	Total Participants	New Participants
6/7/2012	1	7	7
6/14/2012	2	4	1
6/21/2012	3	8	2
6/28/2012	4	5	1
7/5/2012	5	4	
7/12/2012	6	9	3
7/19/2012	7	5	2
7/26/2012	8	5	
<b>Cycle 1 Totals</b>		47	16



# MOVE! Cycle 2 Data

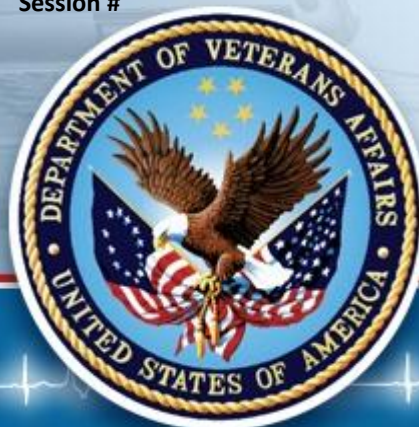
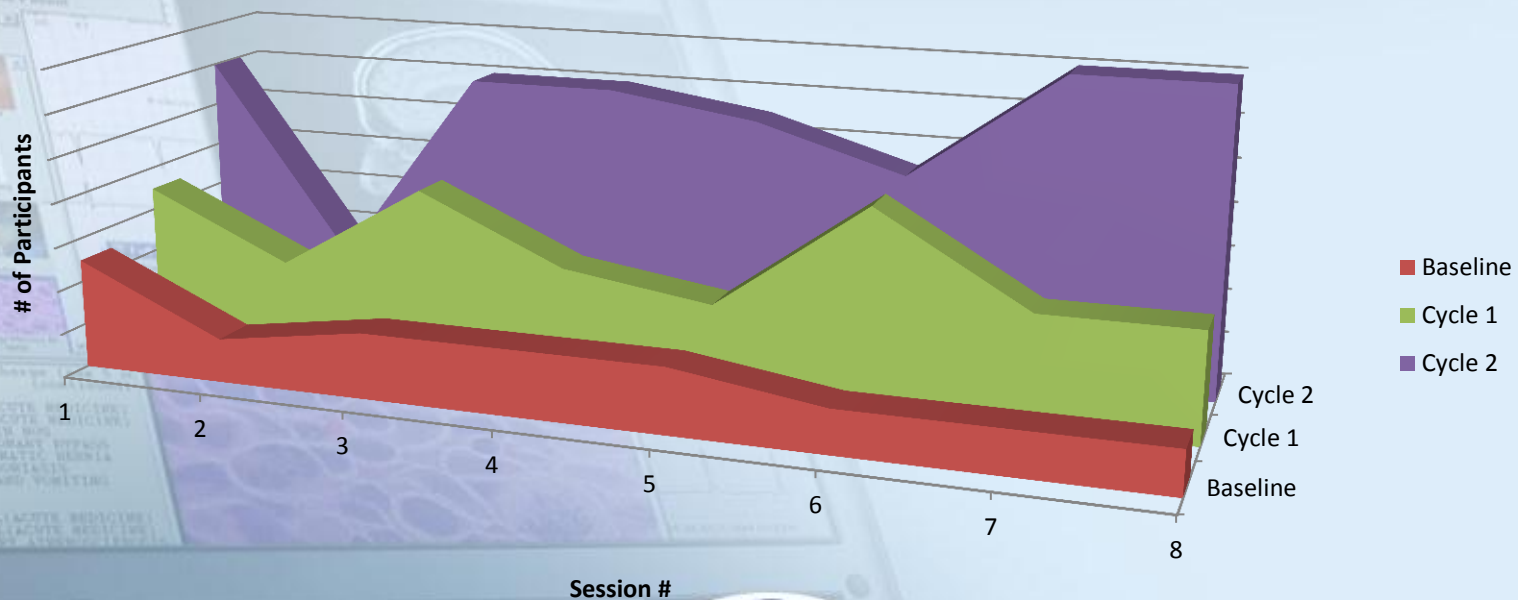
Cycle 2 Dates	MOVE! Session	Total Participants	New Participants
8/2/2012	1	12	12
8/9/2012	2	3	
8/16/2012	3	12	
8/23/2012	4	12	
9/6/2012	5	11	3
9/13/2012	6	9	
9/20/2012	7	14	3
9/27/2012	8	14	
<b>Cycle 2 Totals</b>		87	18





# Comparison of Attendance

Comparison of Attendance



# Criteria For Data Inclusion

1. Medical record must contain starting and ending weight
2. Veteran must have attended two or more MOVE! classes

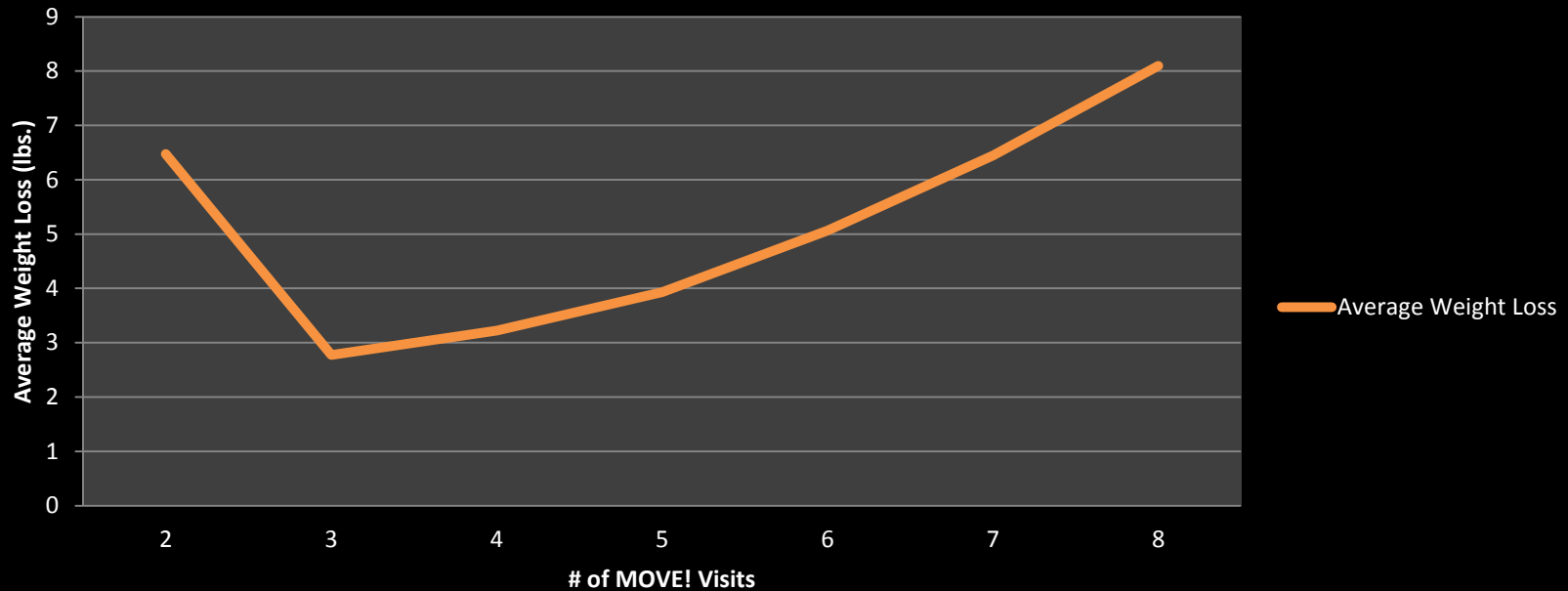
30 out of 40 possible data points met these criteria





# Correlation Between Weight loss and Classes Attended

Average Weight Loss per MOVE! Sessions Attended



Correlation between 3 or more classes attended and average weight loss = 0.9781



P-value = 0.0004 ( $p < 0.05$ )  
Indicates the correlation is significant and highly unlikely to be due to chance

# Results

- Average # of classes attended = 5.2
- Average weight loss during MOVE! = 5.31 lbs.
- Average % of body weight lost = 2.00%
- 25 out of 30 included participants lost some weight
- Largest 8 week loss = 29.6 lbs. (9.26%)





# Women-Only MOVE! (WOW!)

Women comprise less than 10% of VHA population

- VA performance measures (MOV5, MOV6, MOV7) analyze data disproportionately from males and females (About 35% of evaluation data from females)
- Are there barriers to female participation in MOVE!?



# Barriers to Female Participation

- High rate of sexual trauma history
- Family obligations
- Younger than male vet population





# WOW! (Women's Only Wellness)



- Conducted at Women's Health Clinic
- Taught by female instructors
- Stronger emphasis on emotional aspects of weight loss
- First 8 week session began on November 6<sup>th</sup>, 2012



# Public Health Relevance

## Assessment

Barriers were identified and removed

- Physician referral eliminated
- Creation of WOW! to increase female participation

Program outcomes measured locally and found to be consistent with national standards





# Public Health Relevance

## Assurance

A Social Ecological approach increased visibility of MOVE! to stakeholders and veterans

Ensure that obese vets were linked to VA services to combat their condition

MOVE! classes provide vets with the knowledge and self-efficacy to achieve their weight loss goals



# Public Health Relevance

## Policy Development

Shifting VA demographics require new approaches to implementing programs  
(MOVE! / WOW!)

Enforcement of VA directives *requiring* MOVE! referral for all vets who qualify

Facility “willingness to change” was key to policy success in this project





# Project Limitations

1. Limited time – only 2 complete MOVE! cycles
2. Small data sample
3. Lack of control over data entry into VA medical record system
4. Backlog of MOVE!23 questionnaires not entered since January 2012 – prevented analysis of perceived barriers to weight loss



# Future Considerations

MOVE!23 Questionnaire – Great resource for public health practitioners

<http://www.move.va.gov/move23.asp>

Presence of a “Program Champion” appears to increase veterans’ perceived support from VA, which is consistent with the literature (Weiner 2011).





# Future Considerations

Longer duration interventions appear to produce greater weight loss success (close to 1:1 ratio of pounds lost vs. classes attended)

Increasing organizational support (follow-up calls) appears to increase veteran participation



# Future Considerations

If WOW! is able to attract a significant number of female participants, policies facilitating the creation of gender-specific VA programs need to be addressed.





# References

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# Questions?

