

# Background

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- ❑ Obesity is an extremely common problem
  - ~ 1/3 of adult Americans are obese
- ❑ Patients commonly ask physicians for advice on weight loss, yet evidence is sparse
- ❑ NHLBI issued a request for grant applications to test weight loss interventions in the setting of routine medical care

# Objective

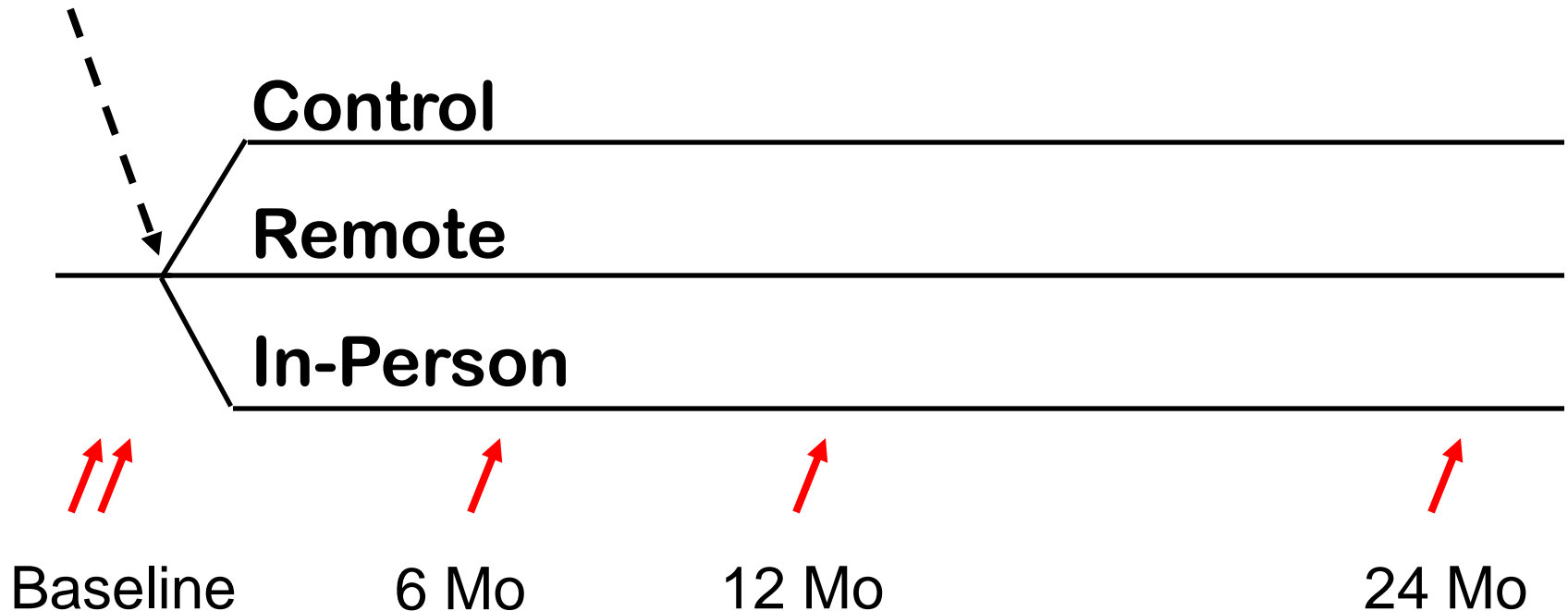
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- ❑ Conduct a comparative effectiveness trial that tested two practical behavioral weight loss interventions in obese medical outpatients with cardiovascular risk factors

# Design

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*Randomization*



 = Measured weights and other outcomes

# Interventions

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	<b>Remote</b>	<b>In-Person</b>
Mode of Delivery	Telephone only	Group meetings Individual meetings Telephone

# Interventions

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Coach	Healthways	Hopkins

# Interventions

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	<b>Remote</b>	<b>In-Person</b>
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# Interventions

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	<b>Remote</b>	<b>In-Person</b>
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Coach	Healthways	Hopkins
Coach support	Case management	
Study website	Educational modules Self-monitoring tools Tailored emails	

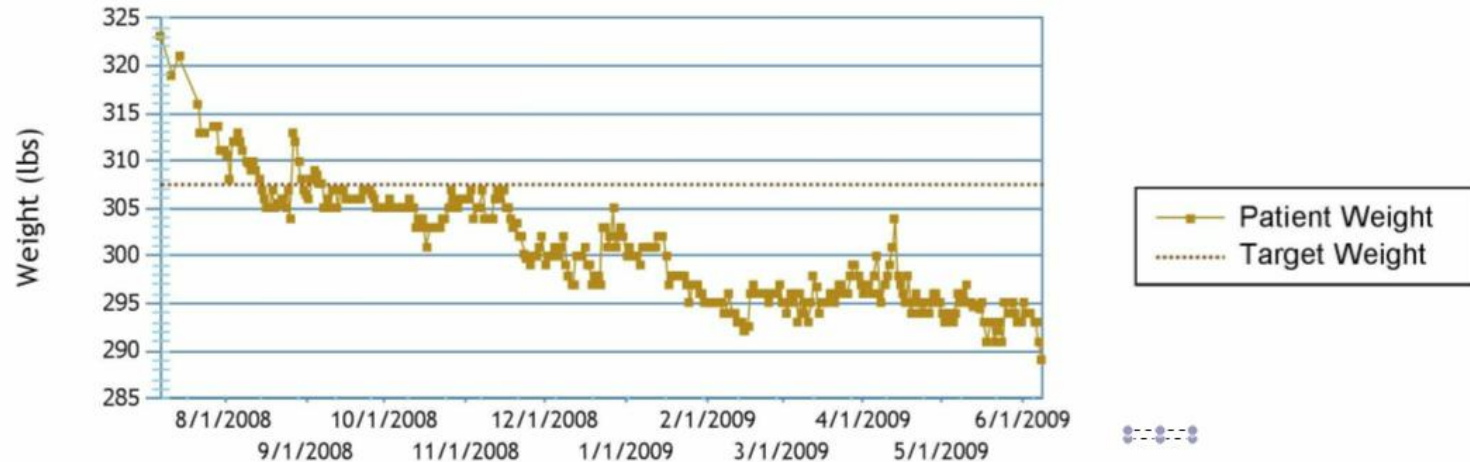
# Interventions

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	<b>Remote</b>	<b>In-Person</b>
Mode of Delivery	Telephone only	Group meetings Individual meetings Telephone
Coach	Healthways	Hopkins
Coach support	Case management	
Study website	Educational modules Self-monitoring tools Tailored emails	
Physician Roles	Supportive Review weight progress reports	

# Weight Progress Report

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## Comments to participant

Comments to patient:

Basic (HELP):

- \* Help by acknowledging that losing weight is challenging.
- \* Encourage keeping scheduled contacts with coach, logging in to record weight, exercise, food.
- \* Let patient know program is based on scientifically verified (tried and true) principles.
- \* Point out individual benefits of weight loss (e.g. BP, glucose control). Even a small weight loss will help your.

Additional (if time allows):

- \* Comment on weight change (e.g. It's great that you have been losing weight, or It's great that you are sticking with the program).
- \* Reinforce tracking: The more you track your behavior and log in the more likely you are to achieve weight loss success.

# Intervention Goals and Behaviors

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- ❑ Weight loss goal
  - 5% weight loss
  
- ❑ Behaviors
  - Reduce caloric intake
  - Consume healthy dietary pattern, DASH diet
  - Exercise  $\geq$  180 min/week
  - Self-monitor weight, calorie intake and exercise
  - Log-in study website at least weekly

# Participants

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- ❑ Obese individuals with hypertension, hypercholesterolemia, or diabetes
  
- ❑ Other major inclusion criteria
  - Patient at one of six primary care practices
  - Internet access at least 4 days per week
  - Ability to use internet and email
  
- ❑ Approach to enrollment
  - Minimize barriers and exclusion criteria to increase generalizability

# Characteristics (n=415)

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Age	54 yrs
Women	64%
White	56%
Black	41%
Weight	103 kg
Body Mass Index	37 kg/m <sup>2</sup>

# Characteristics

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Hypertension	76%
Hypercholesterolemia	68%
Diabetes	23%
Metabolic Syndrome	33%

# Follow-up

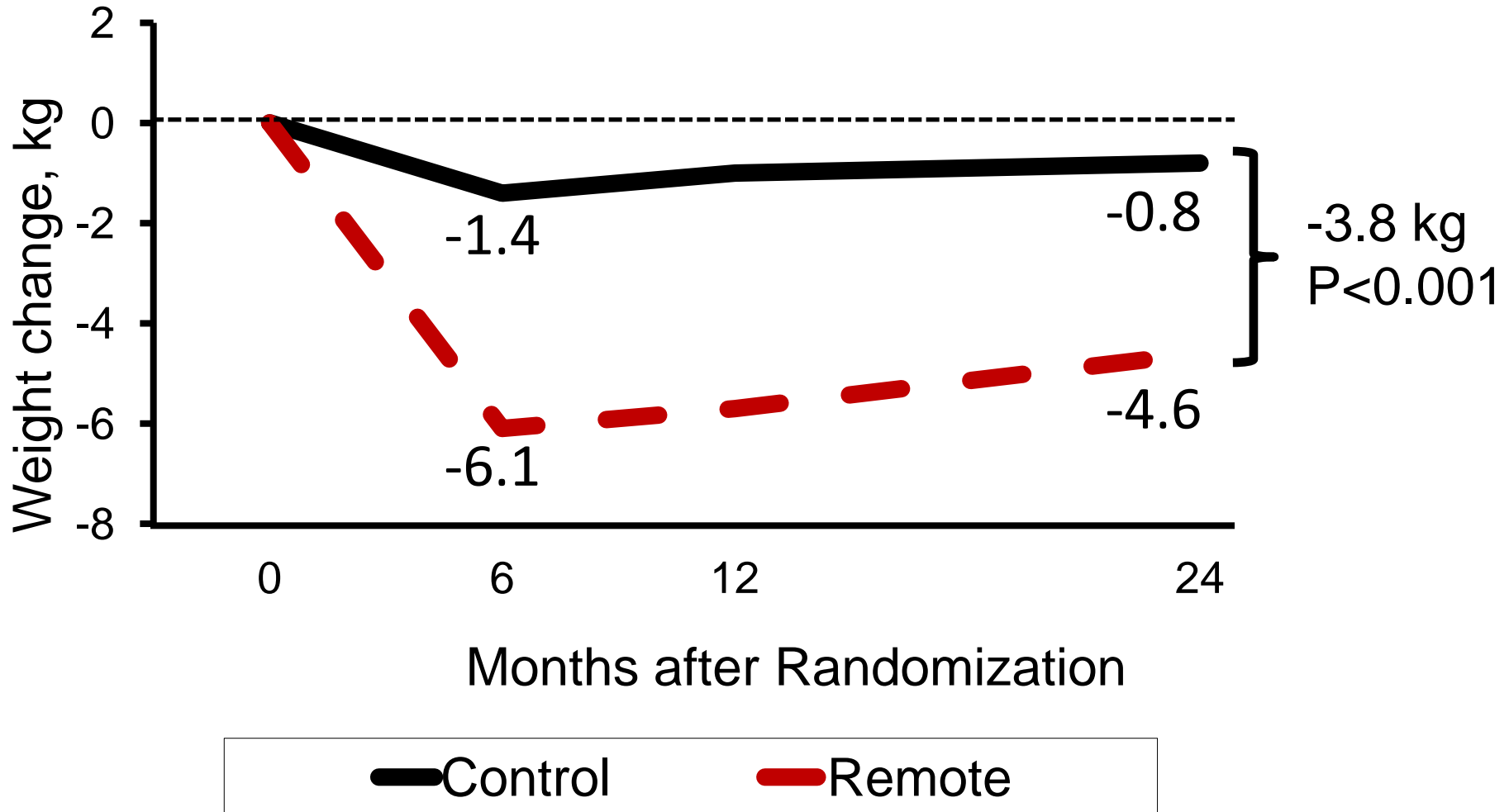
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## ☐ Measured weight

- 88% of participants at 6 months
- 86% of participants at 12 months
- 95% of participants at 24 months

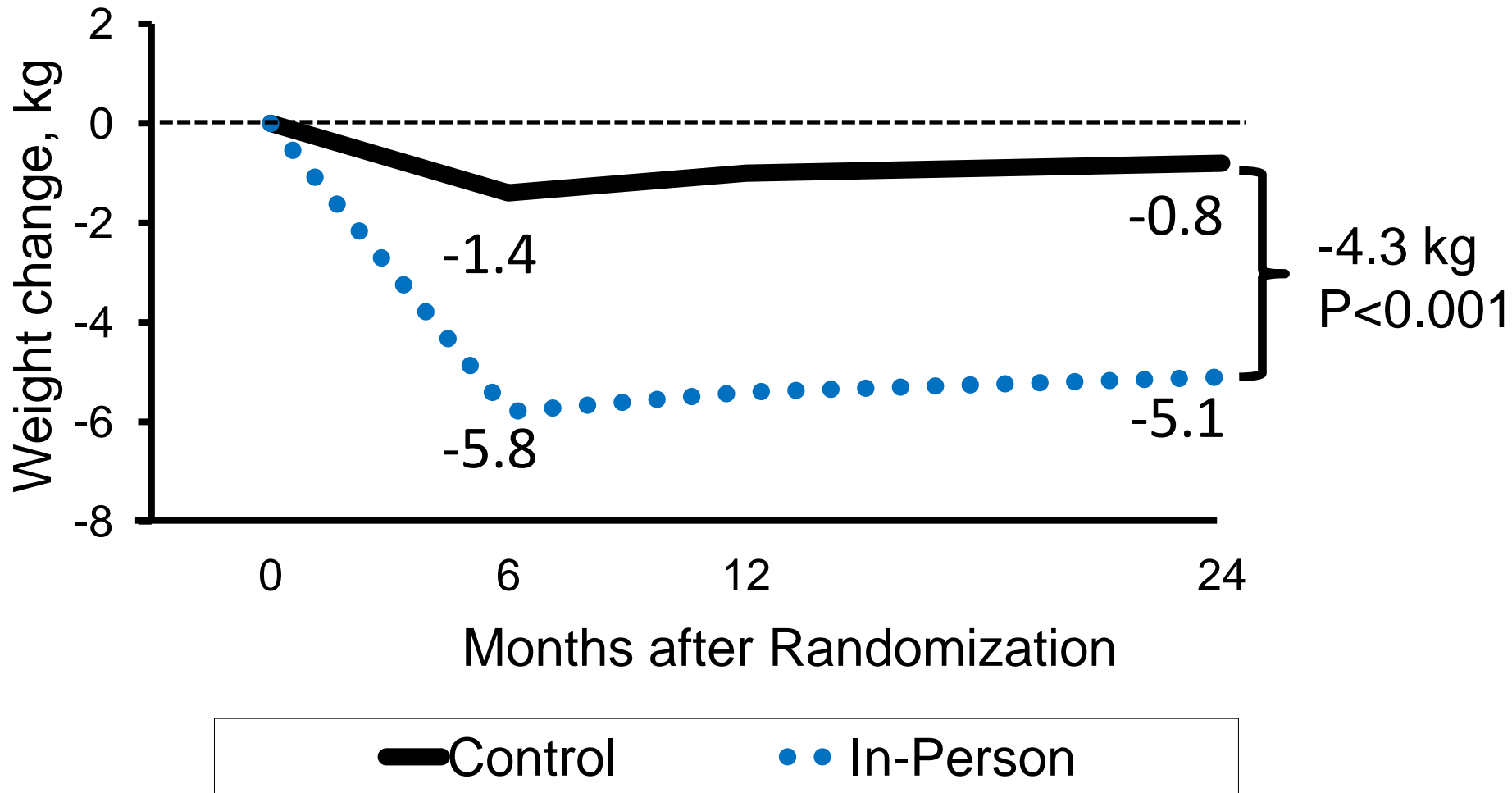
# Mean Weight Change (kg): Remote vs Control

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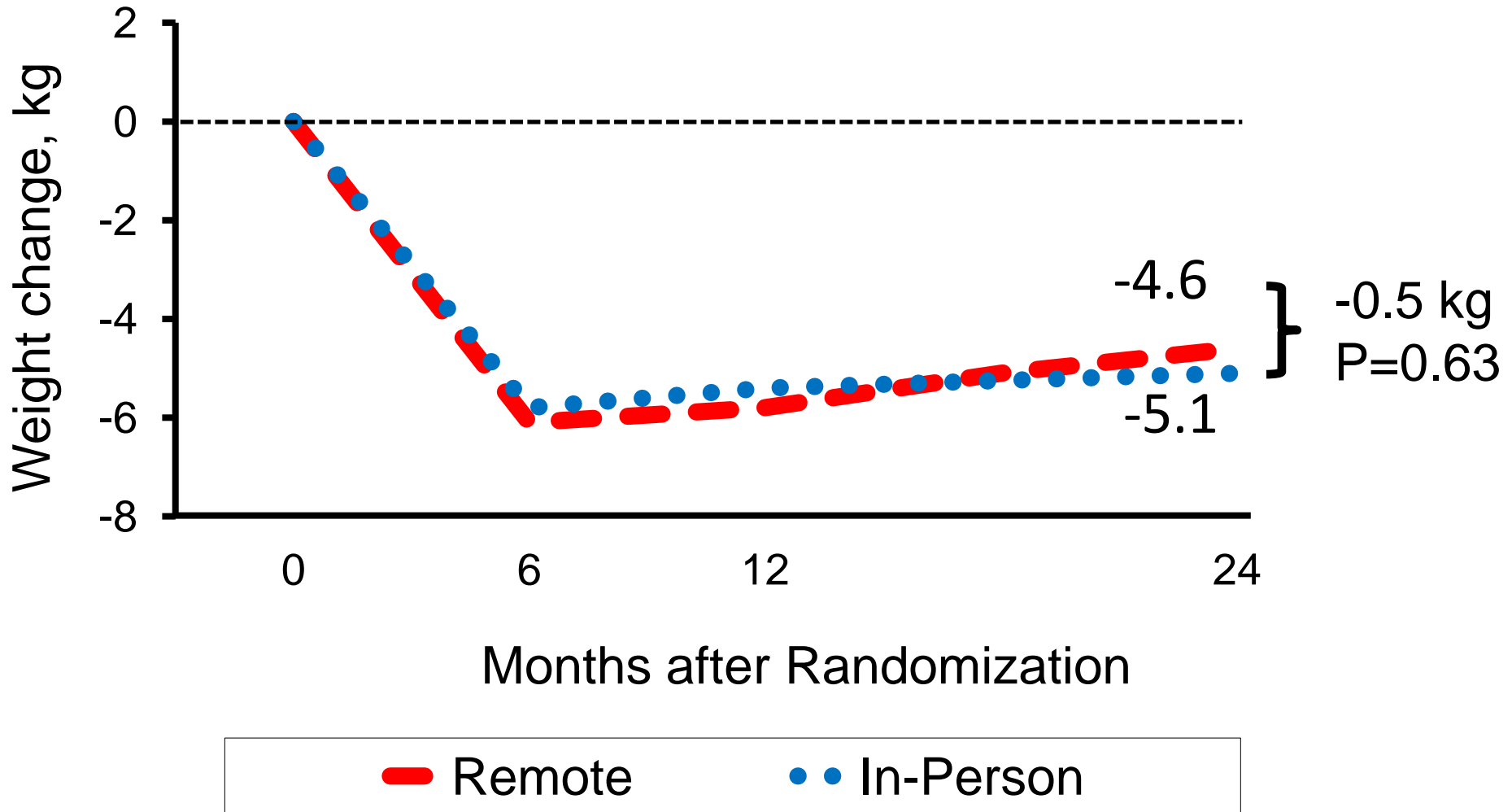
# Mean Weight Change (kg): In-Person vs Control

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# Mean Weight Change (kg): In-Person vs Remote

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# Percent of Participants at Various Weight Thresholds at 24 months

	Control	Remote	In-Person
$\leq$ Baseline weight	52%	77%**	74%**

\*P <0.05 (vs control), \*\*P <0.001 (vs control)

# Percent of Participants at Various Weight Thresholds at 24 months

	Control	Remote	In-Person
$\leq$ Baseline weight	52%	77%**	74%**
$\geq$ 5% Weight loss (goal)	19%	38%**	41%**

\*P <0.05 (vs control), \*\*P <0.001 (vs control)

# Percent of Participants at Various Weight Thresholds at 24 months

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	Control	Remote	In-Person
$\leq$ Baseline weight	52%	77%**	74%**
$\geq$ 5% Weight loss (goal)	19%	38%**	41%**
$\geq$ 10% Weight loss	9%	18%*	20%*

\*P <0.05 (vs control), \*\*P <0.001 (vs control)

# Coach Contacts

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**First 6 Months\***

**Recommended    Actual**

**Remote Intervention**

Phone

15

14

\*Actual = Median

# Coach Contacts

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**First 6 Months\***

**Next 18 Months**

**Recommended**

**Actual**

**Recommended**

**Actual**

**Remote Intervention**

Phone

15

14

18

16

\*Actual = Median

# Coach Contacts

---

**First 6 Months\***

**Next 18 Months**

**Recommended**

**Actual**

**Recommended**

**Actual**

## Remote Intervention

Phone

15

14

18

16

## In-Person Intervention

Group

12

6.5

Individual

6

4

Phone

3

4

\*Actual = Median

# Coach Contacts

---

**First 6 Months\***

**Next 18 Months**

**Recommended**

**Actual**

**Recommended**

**Actual**

## **Remote Intervention**

Phone

15

14

18

16

## **In-Person Intervention**

Group

12

6.5

18

1

Individual

6

4

6

1

Phone

3

4

12

11

\*Actual = Median

# Coach Contacts

---

**First 6 Months\***

**Next 18 Months**

**Recommended**

**Actual**

**Recommended**

**Actual**

## **Remote Intervention**

Phone

15

14

18

16

## **In-Person Intervention**

Group

12

6.5

18

1

Individual

6

4

6

1

Phone

3

4

12

11

\*Actual = Median

# Web and PCP Contacts

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**First 6 Months\***

**Next 18 Months**

**Recommended**

**Actual**

**Recommended**

**Actual**

## **Remote Intervention**

Web Log-In

26

23

\*Actual = Median

# Web and PCP Contacts

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**First 6 Months\***

**Next 18 Months**

**Recommended**

**Actual**

**Recommended**

**Actual**

## **Remote Intervention**

Web Log-In

26

23

72

35

\*Actual = Median

# Web and PCP Contacts

---

**First 6 Months\***

**Next 18 Months**

**Recommended**

**Actual**

**Recommended**

**Actual**

## **Remote Intervention**

Web Log-In

26

23

72

35

PCP Visit

1

1

\*Actual = Median

# Web and PCP Contacts

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## First 6 Months\*

## Next 18 Months

Recommended    Actual    Recommended    Actual

### Remote Intervention

Web Log-In	26	23	72	35
PCP Visit		1		1

### In-Person Intervention

Web Log-In	26	20.5	72	35
PCP Visit		1		1

\*Actual = Median

# Conclusions

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In this comparative effectiveness trial,

- ❑ Two behavioral interventions achieved and sustained clinically significant weight loss over 24 months in obese medical patients
- ❑ The *Remote* and *In-Person* interventions were similarly effective

# Implication

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- The *Remote* intervention that consists of:
  - phone counseling
  - interactive website
  - physician support

has the potential for widespread implementation and should be applicable to management of other chronic conditions

# Acknowledgements

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- ❑ Participants
- ❑ Physicians and staff at six medical practices
- ❑ Investigative team
- ❑ Primary sponsor
  - National Heart, Lung and Blood Institute
- ❑ Support and advice
  - Healthways
  - National Center for Research Resources
  - National Institute for Diabetes, Digestive and Kidney Diseases
  - Colleagues from U. Penn and Harvard

# For More Information

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- ❑ POWER Website: [www.powertrials.org](http://www.powertrials.org)
- ❑ Online publication: [www.nejm.org](http://www.nejm.org)

*The NEW ENGLAND JOURNAL of MEDICINE*

ORIGINAL ARTICLE

## Comparative Effectiveness of Weight-Loss Interventions in Clinical Practice

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