

# **Assembling the Care Team:**

**...but what is the evidence that it is effective?**

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

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# Context of the Problem

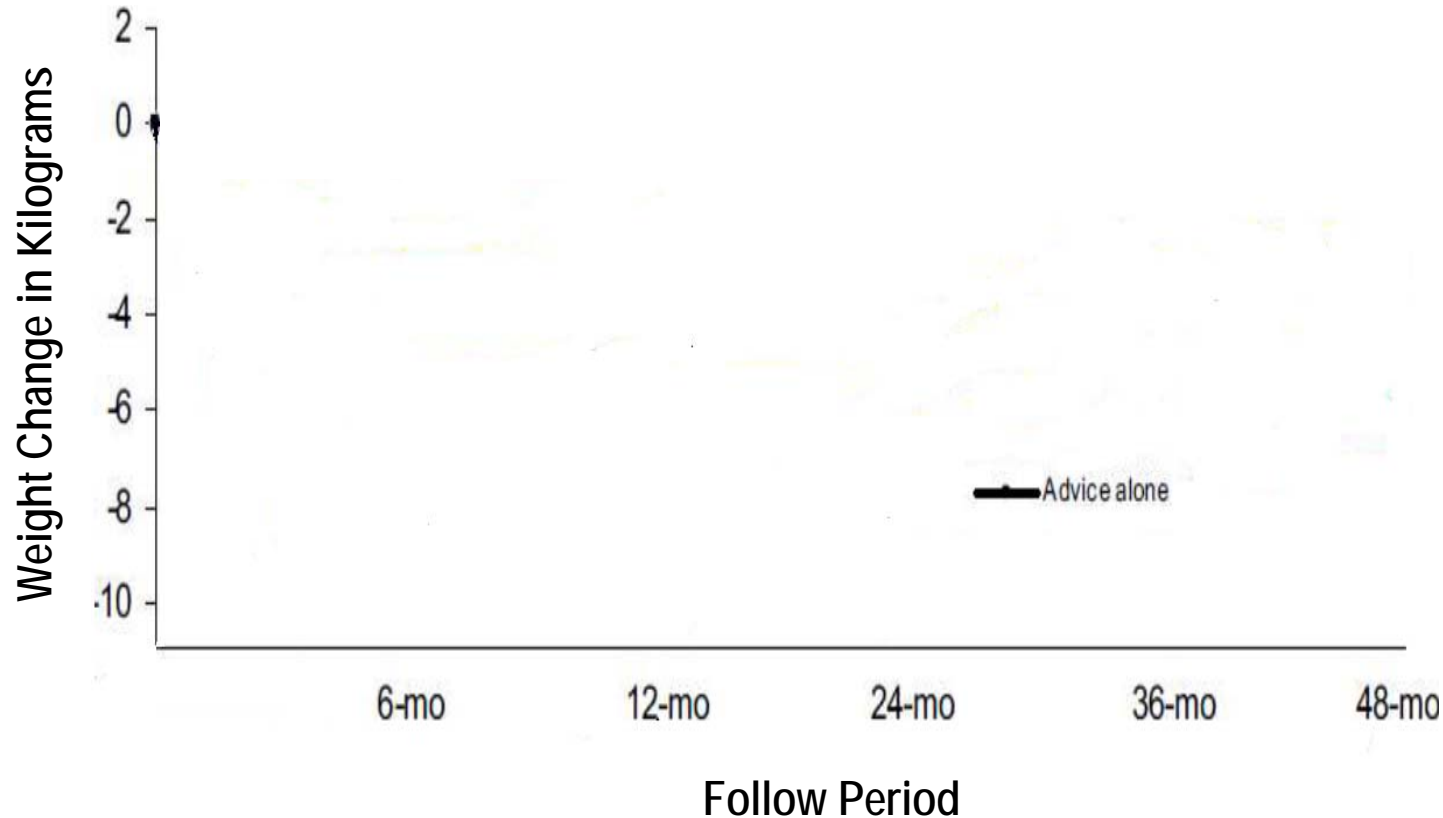


- Obesity is an extremely common problem with ~ 2/3 of adult Americans overweight or obese
- Obesity is associated with a multitude of adverse health outcomes
- Patients commonly ask physicians for advice on weight loss, yet evidence is sparse about what will achieve sustained weight loss in the setting of routine clinical practice

# Meta Analysis of 80 Weight Loss Trials



## Average Weight Loss of Individuals Completing a Minimum 1-Year Intervention



Adapted from Franz et al., Weight-loss outcomes: a systematic review and meta-analysis of weight-loss clinical trials with a minimum 1-year follow-up; *J Am Diet Assoc.* 2007 Oct;107(10):1755-67.



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

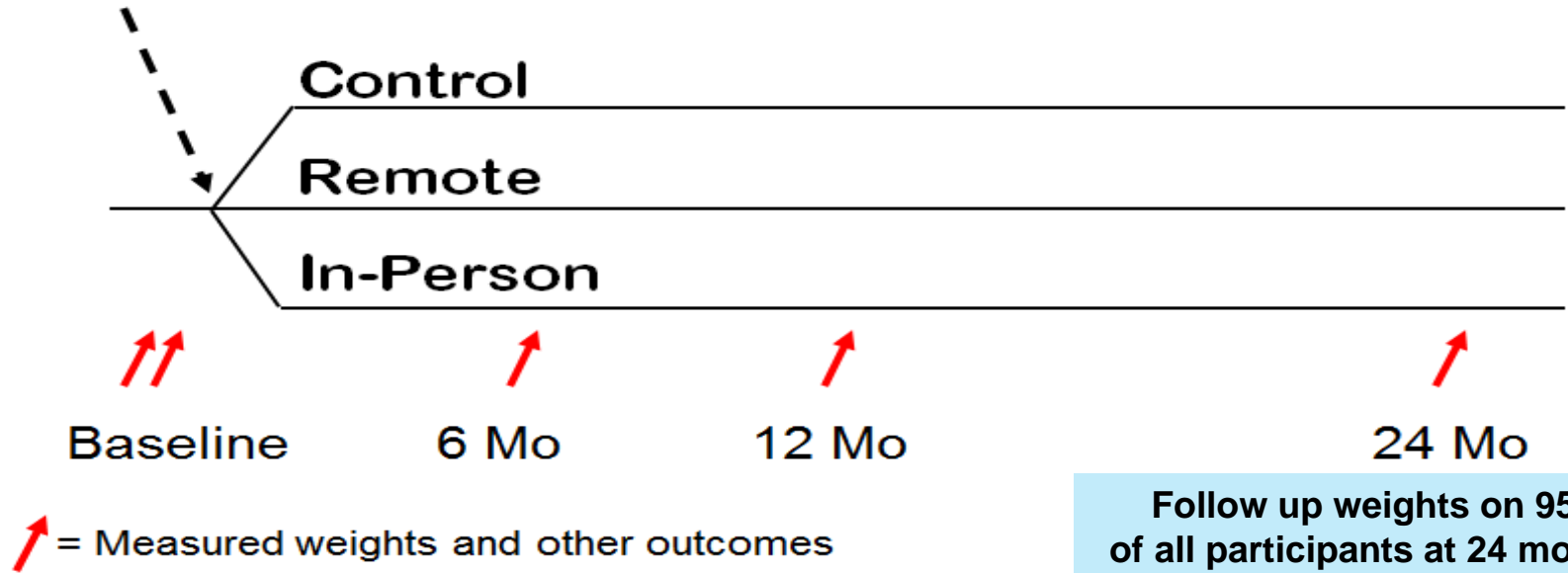
- NHLBI funded effectiveness trials of weight loss interventions
  - Each study was conducted as an independent trial at a separate institution
  - Aspects of the trials were coordinated and standardized to improve comparability.
- POWER Hopkins and POWER-UP (University of Pennsylvania)
  - Results recently published in the New England Journal of Medicine\*.

\* Appel, LJ., et al, NEJM. Nov 23, 2011; Wadden, TA., et al, NEJM Nov 23, 2011

# POWER Hopkins: Study Design



*Randomization*





## Patients referred by PCP and randomized

	<b>Control</b>	<b>Remote</b>	<b>In-Person</b>
Mode of counseling	At PCP office	Telephone only	Group meetings Individual meetings Telephone
Coach	PCP	Healthways	Hopkins
Website/Internet	Static web site with weight loss information	Healthways Web site <ul style="list-style-type: none"><li>•Educational modules</li><li>•Self monitoring tools</li><li>•Tailored emails</li></ul>	
Physician Roles	Primary coach	Supportive Review weight progress reports	

# Intervention Goals and Behaviors



- 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

# Trial Participants



- Obese individuals with hypertension, hypercholesterolemia, or diabetes
- Major Inclusion Criteria
  - Internet access at least 4 days per week
  - Ability to use internet and email
  - Patient at one of six primary care practices

***Goal was to minimize barriers and exclusion criteria to increase generalizability***

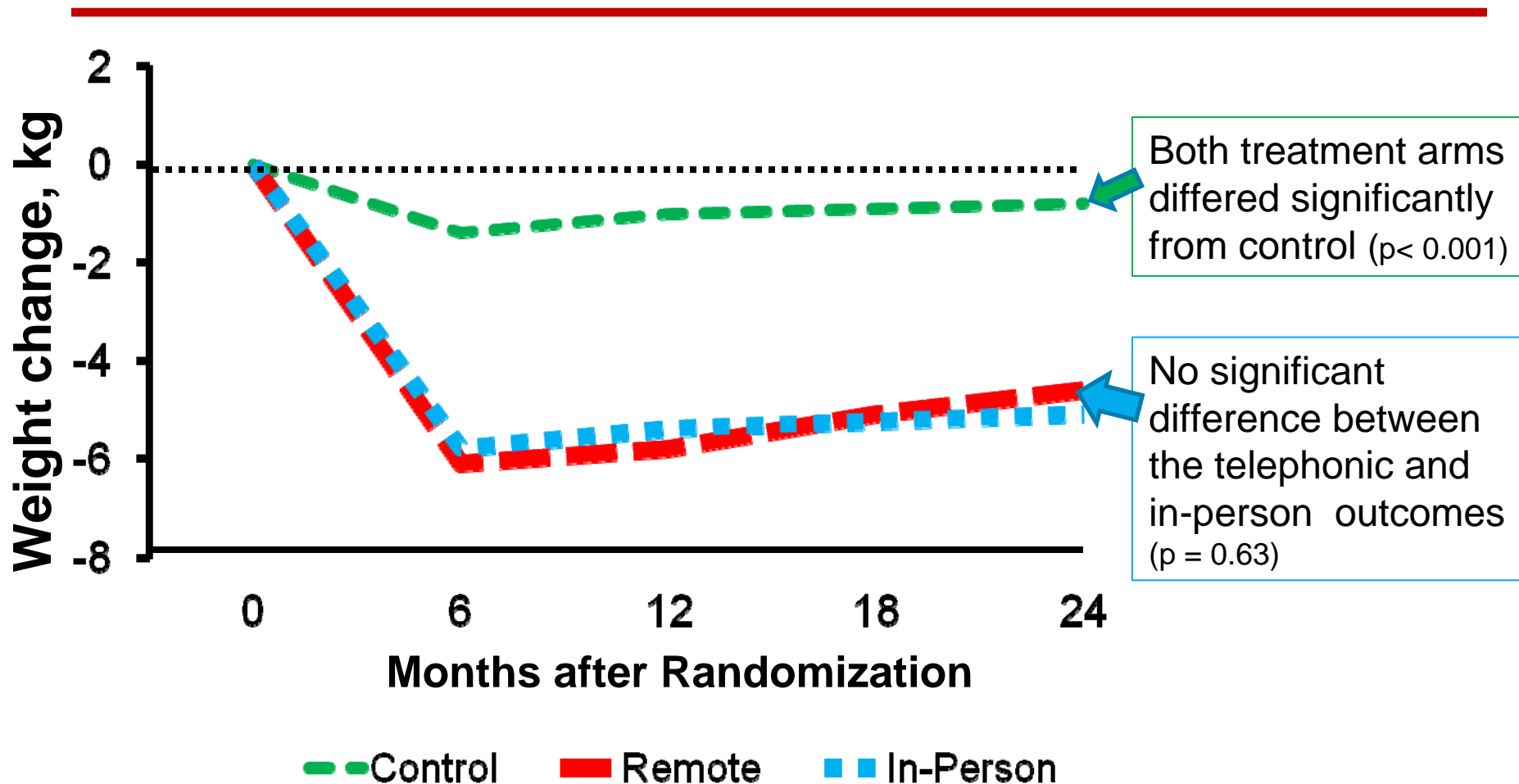


# Study Population Characteristics



<b>Age</b>	<b>54 yrs</b>	<b>Hypertension</b>	<b>76%</b>
<b>Women</b>	<b>64%</b>		
<b>White</b>	<b>56%</b>	<b>Hypercholesterolemia</b>	<b>68%</b>
<b>Black</b>	<b>41%</b>		
<b>Weight</b>	<b>103 kg</b>	<b>Diabetes</b>	<b>23%</b>
<b>BMI</b>	<b>37 kg/m<sup>2</sup></b>	<b>Metabolic Syndrome</b>	<b>33%</b>

# Hopkins Power Trial Outcomes



# Extent of Weight Loss Results at 24 Months

Percent of Participants at Various Weight Thresholds



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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)



Appel, LJ., et al (2011). Comparative Effectiveness of Weight-Loss Interventions in Clinical Practice. NEJM. 365(20).

# Conclusions



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- 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

# What is the Impact of a 5% Weight Loss?



## *Diabetes Prevention Program (DPP)*

- Lifestyle changes demonstrated **similar 2 year weight loss** as observed in POWER - Hopkins.
- Lifestyle intervention **reduced the development of diabetes by 58%** in at-risk individuals
- Lifestyle intervention was
  - beneficial regardless of ethnicity, age, BMI, or sex
  - effective in all age groups, including those > 60 years of age



# Coach Contacts



	1 to 6 Months*		7 to 24 Months	
	Recommended	Actual	Recommended	Actual

## Remote Intervention

Phone

15	14	18	16
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## In-Person Intervention

Group

12	6.5	18	1
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Individual

6	4	6	1
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Phone

3	4	12	11
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\*Actual = Median

Appel, LJ., et al (2011). Comparative Effectiveness of Weight-Loss Interventions in Clinical Practice. NEJM. 365(20).

JOHNS HOPKINS  
**POWER**  
TRIAL

# Web and PCP Contacts



1 to 6 Months*		7 to 24 Months	
Recommended	Actual	Recommended	Actual

## Remote Intervention

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

Once every other week  
during maintenance phase

## In-Person Intervention

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

\*Actual = Median

Appel, LJ., et al (2011). Comparative Effectiveness of Weight-Loss Interventions in Clinical Practice. NEJM. 365(20).



**How would focused weight loss  
counseling by the patient's PCP  
compare?**





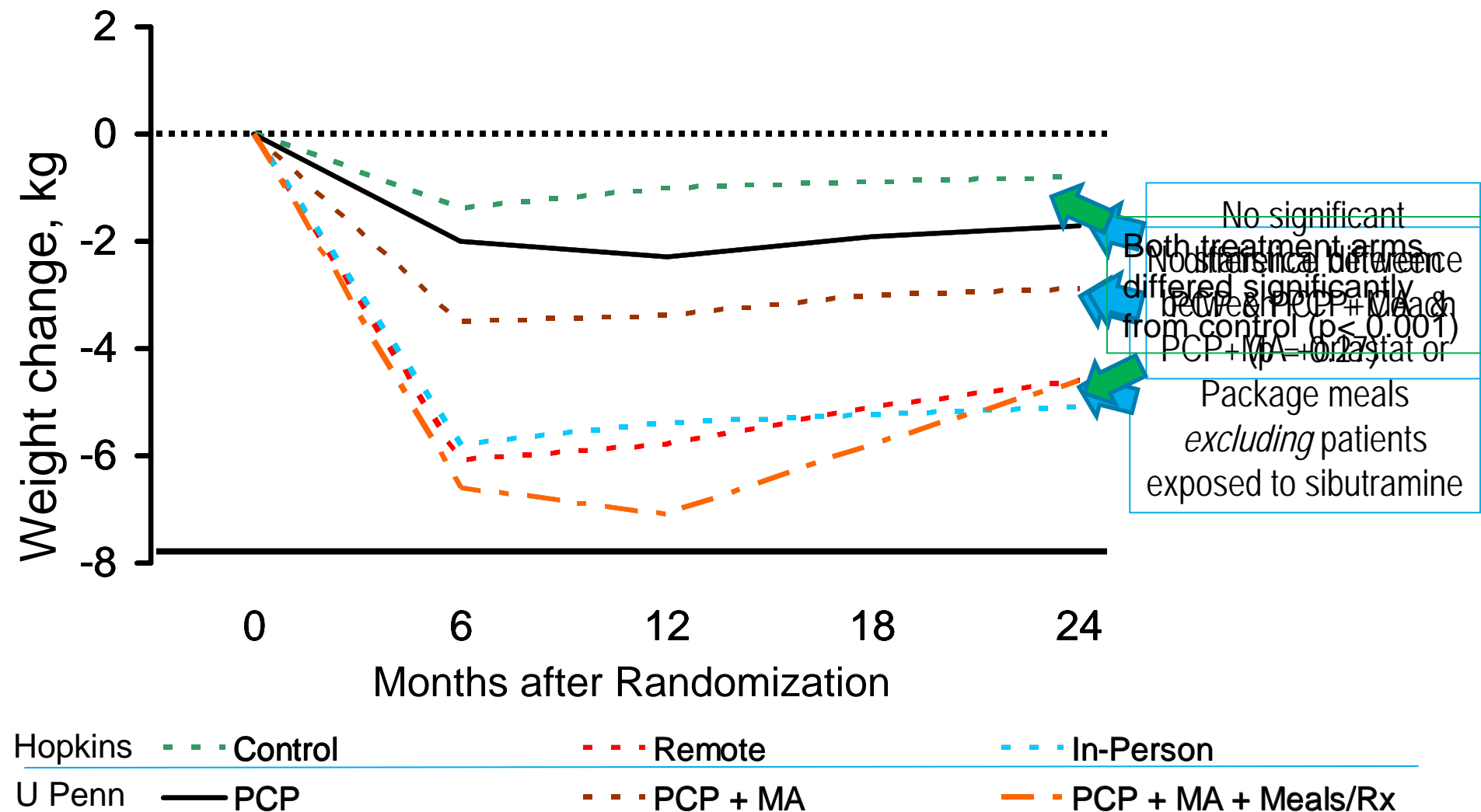
## A Two-Year Randomized Trial of Obesity Treatment in Primary Care Practice

- **PCP Instructed** (Usual Care):
  - Quarterly PCP visits that included education about weight management;
- **In-Office Coach** (Brief Lifestyle Counseling):
  - PCP Instructed - as above
  - ...plus brief monthly sessions with in-office lifestyle coaches who instructed participants about behavioral weight control;
- **Coach + Packaged Meals or Medications** (Enhanced Lifestyle Counseling):
  - In-Office Coaching – as above
  - ...plus meal replacements or weight-loss medication (orlistat or sibutramine), chosen by the participants in consultation with the PCPs and provided at no cost to participants,



# Comparing the Telephonic to In-Person and PCP

Hopkins Clinic - Healthways - PCP Instructed - PCP + Medical Assistant





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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

For more information visit **POWER Trials Collaborative Research Group**  
website at [www.powertrials.org](http://www.powertrials.org)

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