

**Appendix Table 3. Primary outcomes and effect sizes for trials included in review.**

<b>Trial</b>	<b>Behavior Outcome</b>	<b>Effect size</b>	<b>Group difference in original units</b>	<b>Primary Physiological Outcome</b>	<b>Effect Size</b>	<b>Group difference in original units</b>	<b>Weight change effect size</b>	<b>Group difference in kg</b>	<b>Morbidity</b>	<b>Mortality</b>
<b>ACT<sup>22, a</sup></b>	Met moderate or vigorous physical activity recommendations <sup>N, S</sup>	0.4 (.03,.77)	25.7% vs 14.3%	VO2 (ml/min) <sup>B,O</sup>	0.32 (.08, .57)	80.7 ml/min	NR	NR	NR	NR
<b>Be Fit, Be Well<sup>32</sup></b>	Medication adherence scale <sup>B,S</sup>	0.38 (.13,.63)	.85units different on medication adherence scale	Weight <sup>B,O</sup>	0.25 (.01, .50)	1.05 kg	0.25 (.01, .50)	1.05 kg <sup>B,O</sup>	NR	NR
<b>BPTEACH<sup>33</sup></b>	NR	NR	NR	Systolic blood pressure <sup>N,O</sup>	0.22 (0.18, 0.61)	9.44 mmHg	NR		NR	NR
<b>DEER<sup>34</sup></b>	Caloric intake <sup>B,S</sup>	0.48 (.07,.91)	172 kcal/day	LDL-C <sup>B,O</sup>	0.62 (.19,1.05)	12 mg/dl	0.99 (.55, 1.4)	3.9 kg <sup>B,O</sup>	NR	NR
<b>DISH<sup>35, b</sup></b>	NR	NR		Weight <sup>B,O</sup>	0.83(.48,1.2)	3.5 kg	0.83(.48,1.2)	3.5 kg <sup>B,O</sup>	Remain normotensive without drugs - Benefit	NR
<b>DPP<sup>15,36</sup></b>	Energy intake <sup>B,S</sup>	0.23 (0.15,0.32)	201 kcal/day	Weight <sup>B,O</sup>	0.81 (0.73,0.90)	5.4 kg	0.81 (0.73,0.90)	5.4 kg <sup>B,O</sup>	Diagnosis of Diabetes - Benefit	NR
<b>ENRICH<sup>37</sup></b>	Depression <sup>B,S</sup>	0.33 (.25,.41)	2.8 points on Beck Depression	NR	NR	NR	NR	NR	Fatal or non-fatal myocardial infarction - Null	Yes - Null
<b>HARP<sup>38</sup></b>	Pill count <sup>N,O</sup>	0.04 (-	2% more adhered	NR	NR	NR	NR	NR	NR	NR

<b>HART</b> <sup>39</sup>	Sodium <sup>N,S</sup>	.16,.25) 0.31(.14,.49)	10% more met goal	Systolic blood pressure <sup>N,O</sup>	0.11(-.01,.24)	2.6 mm Hg	0 (-.13,.13)	0 kg <sup>N,O</sup>	Heart failure or hospitalization -Null	Yes - Null
<b>HCP</b> <sup>40</sup>	Sodium <sup>B,O</sup>	1.12(.72,1.5)	1839 mg/day	Diastolic blood pressure <sup>B,O</sup>	0.22 (0.14,0.58)	1.5 mm Hg	0.82 (.45,1.9)	3.8 kg <sup>B,O</sup>	Remain normotensive without drugs - Benefit	NP
<b>Health Literacy</b> <sup>41,42</sup>	Self-care behavior <sup>B,S</sup>	0.56 (0.38, 0.73)	1.4 points on self-care scale	NR	NR	NR	NR	NR	Hospitalizations - Null	Yes - Null
<b>Help PD</b> <sup>43,c</sup>	NR	NR	NR	Glucose mg/dl <sup>B,O</sup>	0.44 (.22,.67)	4.35 mg/dl	0.68(.45,.91)	4.2 kg <sup>B,O</sup>	Diagnosis of Diabetes - Null	NR
<b>HF-ACTION</b> <sup>44,d</sup>	6min walk <sup>B,O</sup>	0.32 (0.2, 0.41)	14 meters	VO2 (ml/kg/min) <sup>B,O</sup>	0.34 (0.25, 0.42)	0.4 mL/kg/min	NR	NR	CV event or hospitalization - Null	Yes - Null
<b>HOME_BP</b> <sup>45</sup>	NR	NR	NR	Blood pressure control <sup>N,O</sup>	0.09 (-.15,.33)	25% of tx had bp control vs 22% con	NR	NR	NR	NR
<b>HOPP</b> <sup>46</sup>	Smoking <sup>B,S</sup>	0.22 (.03,.41)	9% remained abstinent	NR	NR	NR	NR	NR	NR	NR
<b>HPT</b> <sup>47</sup>	Sodium <sup>B,O</sup>	0.32 (0.11,0.53)	5.5 mmol	Blood pressure <sup>N,O</sup>	0.21 (0.0,0.42)	1.7 mmHg	-0.11 (-0.32, 0.09)	0.27 kg <sup>N,O</sup>	Hypertension - Benefit	NP
<b>Htn Prev</b> <sup>48</sup>	Sodium <sup>B,O</sup>	-0.63 (-0.99,-0.33)	700mg/d	Blood pressure <sup>B,O</sup>	-0.31 (-0.60, -0.03)	2 mm Hg	-0.68 (-0.97, -0.39)	2.7 kg <sup>B,O</sup>	Hypertension - Benefit	NR
<b>ICAN</b> <sup>49</sup>	NR	NR	NR	Weight <sup>B,O</sup>	0.42 (0.09,0.75)	3.0 kg	0.42 (0.09,0.75)	3.0 kg <sup>B,O</sup>	NR	NR
<b>IN</b>	Completed FU	0.42	65.1% vs 46.7%	NR	NR	NR	NR	NR	NR	NR

<b>CONTROL</b> <sup>50</sup>	appointment <sup>B,O</sup>	(0.16,0.66)								
<b>iReach</b> <sup>23,e</sup>	Diet (kcal) <sup>N,O</sup>	0.03(-0.18,0.25)	18 kcal	Weight (kg) <sup>B,O</sup>	0.36 (0.14,0.58)	2.1 kg	0.36 (0.14,0.58)	2.1 kg <sup>B,O</sup>	NR	NR
<b>Look Ahead</b> <sup>2,3,51,52,f</sup>	Physical activity (kcal/week) <sup>B,S</sup>	0.34 (0.29,0.40)	768.9 kcal/wk	Change in METS from sub-max treadmill <sup>B,O</sup>	0.59 (0.53,0.64)	15.1 METS	0.78 (0.72,0.84)	7.9 % weight reduction <sup>B,O</sup>	Composite of cardiovascular events - Null	Yes - Null
<b>Mediterranean Lifestyle</b> <sup>53-55</sup>	Adherence to Mediterranean diet scale <sup>B,S</sup>	0.77 (0.52,1.02)	0.86 point increase with possibly scale range 0-7	Weight (kg at 6 mos) <sup>B,O</sup>	0.35(0.11,0.59)	1.77 kg	0.35(0.11,0.59)	1.77 kg <sup>B,O</sup>	NR	NR
<b>MRFIT</b> <sup>56-59,g</sup>	Smoking cessation <sup>B,O</sup>	0.66(0.59,0.72)	31% vs 12% quit rate	Blood pressure (Diastolic) <sup>B,O</sup>	0.41 (0.38,0.45)	3.8 mmHg	NR	NR	Definite, fatal AMI - Null	Yes - Null
<b>Optimal Exercise Regimens</b> <sup>60</sup>	NR	NR	NR	VO2 max (mL/kg/min) <sup>B,O</sup>	0.58 (0.14,1.03)	2.0 ml/kg/min	-.09 (-.53,.34)	.3kg/m <sup>2</sup> N <sup>O</sup>	NR	NR
<b>PAD_RF</b> <sup>31</sup>	Increased dose or use of med (adherence) <sup>B,O</sup>	0.94 (.61, 1.27)	53.8% vs 17.5%	LDL-C <sup>B,O</sup>	0.36 (.08,.63)	10.5 mg/dl	NR	NR	NR	NP
<b>PAD Treadmill</b> <sup>61</sup>	6 min walk (m) <sup>B,O</sup>	0.69 (0.29, 1.08)	36.2m	Brachial artery flow (mm) <sup>B,O</sup>	0.22 (-0.16, 0.61)	.06 mm	NR	NR	NR	NR
<b>POWER</b> <sup>62</sup>	NR	NR	NR	Weight <sup>B,O</sup>	-0.89 (-1.16, -.63)	4.5 kg	-0.89 (-1.16, -.63)	4.5 kg <sup>B,O</sup>	Hospitalizations - Null	NP
<b>POWER-UP</b> <sup>63,i</sup>	NR	NR	NR	Weight <sup>N,O</sup>	-0.16 (-0.40, 0.08)	1.1kg	-0.16 (-0.40, 0.08)	1.1kg <sup>N,O</sup>	NR	NP
<b>PREMIER</b> <sup>64</sup>	Fruit & Veg <sup>B,S</sup>	0.78 (0.59,0.97)	2.5 servings/day	Blood pressure (Systolic) <sup>B,O</sup>	0.47 (0.30, 0.64)	4.3 mmHg	-1.01(-1.20,-0.81)	4.7 kg <sup>B,O</sup>	NP	NR
<b>SCRIP</b> <sup>65</sup>	% Kcal Fat <sup>B,S</sup>	-1.09 (-1.36,0.82)	7.8% kcal fat	Minimal diameter change <sup>B,O</sup>	0.30 (0.05,0.55)	.069 mm	-1.02 (-1.29,-0.76)	3.9 kg <sup>B,O</sup>	Hospitalizations-Benefit	Yes - Null

<b>SWCP</b> <sup>66</sup>	Energy intake <sup>B,S</sup>	-0.92 (-1.38,-.45)	2213 kJ/day	CHD risk (using Framingham equations) <sup>B,O</sup>	-1.11 (-1.58,-.64)	-22.4 events/1000 persons(	-1.98 (-2.51, -1.44)	10.4 kg <sup>B,O</sup>	NR	NR
<b>TCYB</b> <sup>67,h</sup>	NR	NR	NR	Bp controlled <sup>B,O</sup>	NR	11% more of tx group had controlled blood pressure	NR	NR	NR	NP
<b>TELE-HF</b> <sup>68</sup>	NR	NR	NR	NR	NR	NR	NR	NR	Readmission - Null	Yes - Null
<b>TOHP</b> <sup>69, j</sup>	NR	NR	NR	Blood pressure(Systolic) <sup>B,O</sup>	NR	-2.7 mmHg	-0.92 (-1.04, -0.80)	4.5 kg <sup>B,O</sup>	Onset of hypertension - Benefit	NR
<b>TOURS</b> <sup>70</sup>	Self-monitoring records <sup>B,O</sup>	0.32 (0.01, 0.63)	29 more days of self-monitoring	Weight regain <sup>B,O</sup>	0.43 (0.12, 0.74)	2.5 kg	0.43 (0.12, 0.74)	2.5 kg <sup>B,O</sup>	NR	NR
<b>TLC</b> <sup>71</sup>	NR	NR	Attendance	VO2 max (mL/kg/min) <sup>N,O</sup>	0.38 (-0.2, 0.77)	0.8 ml/kg/min	0.08 (-0.25, 0.41)	1.0 kg <sup>N,O</sup>	NR	NR
<b>WHI-DM</b> <sup>72</sup>	% fat intake <sup>B,S</sup>	1.51 (1.49,1.53)	10.7%	Blood pressure (Diastolic) <sup>B,O</sup>	0.03 (0.01, 0.05)	-0.31 mmHG	0.14 (0.12, 0.16)	1.29 kg <sup>B,O</sup>	Fatal & non-fatal CHD, CVD, stroke - Null	Yes - Null
<b>WLM</b> <sup>73, k</sup>	% Kcals <sup>N,S</sup>	NR	-33 Kcal/day	Weight <sup>B,O</sup>	0.27 (0.12,0.42)	1.5 kg	0.27 (0.12,0.42)	1.5 kg <sup>B,O</sup>	NR	NR

Data in cells are the primary outcome, calculated effect sizes and reported change in original trial units for the behavioral, physiological and weight outcomes. Super-scripted letters represent whether measure was objective or self-reported and whether outcome was a significant benefit or null. For morbidity outcomes, we include the specific outcome measure and whether null or significant benefit. If the trial was powered to analyze all-cause mortality, we included whether there was a significant benefit or not.

NR = Not reported; N = Null; B = Significant Benefit; H = Harm; O = Objective; S = Self-reported

a. ACT – Behavior effect size calculated from proportions – percent of participants meeting moderate or vigorous physical activity recommendations post-intervention

b. DISH –Two intervention arms – weight control and sodium control. Outcomes for weight control arm reported in table. For sodium control arm, behavioral outcome was urinary sodium output which was significantly improved in treatment versus controls and more of the intervention group remained normotensive but not statistically different than controls.

c. Help-PD – Intensive intervention was the first 6 months. Main outcome paper reports data every 6 month but conducted statistical analyses for the 18 & 24 month data. Data reported for weight and physiological outcome (glucose) was the adjusted means over 18 and 24 month follow-up.

d. HF action – The main outcome paper reported median and IQR for the behavior (distance walked) and physiological variable (peak oxygen consumption). We calculated effect sizes based on a normal

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distribution assumption.

e. iReach – Study authors compared an in-person to an internet or internet in-person hybrid study. Authors evaluated how well an internet-deliver would do compared with an in person version. We coded the in person arm as the treatment arm and the internet-delivery arm as the control

f. Look Ahead – Two different follow-up periods were included. Behavior outcome VO2 and weight reported at 12 mos; Cardiovascular events and mortality reported at final follow-up (max 13.5 years, median 9.6 years)

g. MRFIT - Behavior and physiological outcomes reported at 12 mos; AMIs reported at 7 years; and mortality reported at original follow-up (max 6 years)

h. TCYB – Insufficient data presented to calculate blood pressure effect sizes.

i. POWER-UP – Comparison groups are brief lifestyle counseling versus usual care. The end of intensive intervention was considered 12 months. The enhanced brief lifestyle counseling was not considered the treatment group because it differed from lifestyle counseling by the addition of meal replacements. There were no significant differences on weight between brief lifestyle counseling and usual care, but there was a significant difference on weight between usual care and enhanced lifestyle counseling (with meal replacements). Significant differences were observed at the 6 month assessment.

j. TOHP - Insufficient data presented to calculate blood pressure effect sizes.

k. WLM - Insufficient data presented to calculate change in percent kcals effect sizes.

Trial titles from registry or publications for each acronym. Some trials did not provide a short title or acronym; therefore study authors created a condensed title: ACT<sup>22</sup> = Activity counseling trial; Be Fit, Be Well<sup>32</sup> = Evaluating a blood pressure reduction and weight loss program in a low income, ethnically diverse population; BPTeach<sup>33</sup> = Baltimore partnership to educate and achieve control of hypertension; DEER<sup>34</sup> = Diet and exercise for elevated risk; DISH<sup>35</sup> = Dietary intervention study for hypertension; DPP<sup>15,36</sup> = Diabetes prevention program; ENRICH<sup>37</sup> = Enhancing recovery in coronary heart disease patients; HARP<sup>38</sup> = Hypertension and adherence in rural practice; HART<sup>39</sup> = Heart failure adherence and retention randomized behavioral trial; HCP<sup>40</sup> = Hypertension control program; Health Literacy<sup>41,42</sup> = Health literacy and self-management in heart failure; Help PD<sup>43</sup> = Healthy living partnerships to prevent diabetes; HF-ACTION<sup>44</sup> = Heart failure: A controlled trial investigating outcomes of exercise training (HF-ACTION); HOME\_BP<sup>45</sup> = Home-based blood pressure interventions for African Americans; HOPP<sup>46</sup> = Healthy options for pregnancy and parenting; HPT<sup>47</sup> = Hypertension prevention trial; Htn Prev<sup>48</sup> = Primary prevention of hypertension by nutritional-hygienic means; ICAN<sup>49</sup> = Improving control with activity and nutrition; IN CONTROL<sup>50</sup> = Hypertension reduction in inner city Seattle; iReach<sup>23</sup> = Internet assisted obesity treatment; Look Ahead<sup>2,3,51,52</sup> = Action for health in diabetes; Mediterranean Lifestyle<sup>53-55</sup> = Effect of the Mediterranean lifestyle program on multiple risk behaviors and psychosocial outcomes; MRFIT<sup>56-59</sup> = Multiple risk factor intervention trial; Optimal Exercise Regimens<sup>60</sup> = Optimal exercise regimens for persons at increased risk; PAD\_RF<sup>31</sup> = Reducing risk factors in peripheral arterial disease; PAD Treadmill<sup>61</sup> = Improving functioning in peripheral arterial disease; POWER<sup>62</sup> = Practice-based opportunities for weight reduction; POWER-UP<sup>63</sup> = Practice-based opportunities for weight reduction trial at the University of Pennsylvania; PREMIER<sup>64</sup> = Lifestyle intervention blood pressure control; SCRIP<sup>65</sup> = Stanford coronary risk intervention project; SWCP<sup>66</sup> = Stanford weight control program; TCYB<sup>67</sup> = Take control of your blood pressure study; TELE-HF<sup>68</sup> = Yale heart failure tele-monitoring study; TOHP<sup>69</sup> = Trials of hypertension prevention, phase II; TOURS<sup>70</sup> = Treatment of obesity in underserved rural settings; Training Level Comparison<sup>71</sup> = Training level comparison Trial; WHI-DM<sup>72</sup> = Women's Health Initiative randomized controlled dietary modification trial; WLM<sup>73</sup> = Weight loss maintenance randomized controlled trial

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