

Assessment of Health Risk with Feedback to Change Employee Health Behaviors

Summary Evidence Tables

Author & year (study period) Design suitability (design) Quality of execution (# of Limitations)	Location Intervention and Comparison elements	Study population description Sample size	ALCOHOL				
			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
Burton 2006 (2002-2004) Least (Before-After) Fair (4 limitations)	Location: USA (25 states) Components: AHRF + small media + self care book	Worksites of a national financial services company 73,456 eligible 17,685 returned first HRA in 2002 7,026 who returned HRA in 2002 and 2004	Percent at risk (self reporting >14 drinks per week)	NR	NR	+0.2 pct points (ns)	2 y
Edye 1989 Frommer 1990 (1977-1985) Least (Before-After arm selected from individual randomized trial) Fair (4 limitations)	Location: Sydney, Australia Components: AHRF + Screening + Small media	Participating government employees from two selected government organizations 4,607 volunteers 2,489 eligible 1,937 (78%) at followup 1,076	Mean number of self-reported drinks per week	NR	NR	1.4 (±0.3) drinks per week	3 y
Fries 1992 (1986-1991) Moderate (Time series) Fair (3 limitations)	Location: California Components: AHRF + Screening + Small media Comparison: Time Series	Clients enrolled in Healthtrac 135,093 enrolled over the study period 9,845 employees at 18-month followup	Mean ounces of self-reported alcohol intake per day	1.4	1.2	-0.2 ounces per day (-12.5%)	18 m
Hanlon 1995 (1991) Greatest (Individual randomized trial) Fair (3 limitations)	Location: Glasgow, Scotland Components: AHRF (Health Check event with biometrics; feedback during health education interview with additional written materials) Comparison: Usual Care (external comparison group)	Employees 2,600 eligible Sample of 1,600 selected 1,381 (86%) enrolled and randomized to arm AHRF (full)=263 Comparison (ext)=261 92 at risk (35% of AHRF group) 82 at risk (45.2% of external comparison)	Percent of "at risk" employees [self-reported weekly consumption >20 units (men), or >14 units (women)] who reported following recommendations to reduce consumption. Intervention Comparison	100 100	41.3 21.2	-20.1 pct pts (-98.8%) (CI:-7.7, -32.5) p<0.001	12 m
Hyner 1987 (NR)	Location: NR (Field office of large insurance company)	Insurance company employees	Percent reported initiating	NA	NA	3.9%	2 m

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			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
Least (Before-After) Fair (4 limitations)	Components: AHRF	495 employees 121 valid respondents	recommended change in alcohol use				
Richmond 1999 (NR) Greatest (Group randomized trial) Fair (3 limitations)	Location: Sidney, Australia Components: AHRF + brief counseling + incentives to attend program Comparison: Baseline and f/u screening	Selected police stations Baseline: 954 (67%) of 1424 Eligible Survey Inter 763 454 Comp 661 398 Followup: 950 (75%) of 1269 Eligible Survey Inter NR 445 Comp NR 402 Subjects with both baseline and f/u surveys N Inter 152 Comp 203	Mean number of standard drinks per week (sd) Intervention 15.1 (22.8) Comparison 16.1 (23.8)	14.7 (22.1) 18.7 (39.7)	-2.9 drinks per week (-15.7%)	NR	
			Percent of regular excessive drinkers Intervention 16.9 Comparison 18.8	17.5 19.5	-0.1 pct pts (-0.2%)		
			Percent of binge drinkers Intervention 40.4 Comparison 40.8	44.4 42.3	+2.5 pct pts (+6.0%)		
Richmond 2000 (NR) Greatest (Group randomized trial) Fair (3 limitations)	Location: Sidney, Australia Components: AHRF + Alcohol intervention (imbedded in a more general lifestyle health promotion campaign) Comparison: Baseline and f/u screening	Selected regional postal networks 8 selected postal networks with a total of 67 worksites (33 intervention, 34 comparison) Inter Comp Ntot 631 575 NBL 333 355 N9mos 336 348 (54%) (61%)	Mean number of standard drinks per week (sd) Interv. (n=289) 12.9 (25.0) Comp. (n=305) 11.1 (23.2)	8.6 (14.2) 10.5 (16.9)	-3.7 drinks per week (-29.5%)	10 m	
			Percent of regular excessive drinkers Interv. (n=292) 13.7 Comp. (n=330) 13.9	9.0 12.6	-3.4 pct pts (-27.5%)		
			Percent of binge drinkers Interv. (n=306) 20.6 Comp. (n=334) 20.7	18.7 18.5	+0.3 pct pts (+1.6%)		

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ROPC – Reduced out-of-pocket costs

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			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
Shi 1992 Shi 1993 (1988-1990) Least (Before-After arm selected from quasi-experimental with non-equivalent comparison groups) Fair (3 limitations)	Location: Northern California Components: AHRF + Screening Comparison: Before-After	Employees of PG & E divisions Level 1 1,030 in phase 1 785 in phase 2 Level 2 785 in phase 1 532 in phase 2	Percent self-reporting consuming ≥7 drinks per week Level 1 Level 2	26 25	20 20	-6.0 pct pts (-23.1%) -5.0 pct pts (-20.0%) p<.01	2 y
Stonecipher 1993 NR Greatest (Prospective Cohort) Fair (4 limitations)	Location: Indiana (small Midwestern city) Components: AHRF + Counseling + Referral Comparison: Usual care	Employees of a plastics manufacturing corporation 456 employees 227 employees completed pre- and post-screening questionnaire	Mean (sd) Likert score of those who reported not consuming alcohol on scale of 1 (never) to 5 (always): Participants Non-participants	3.53 (1.07) 3.54 (1.09)	3.61 (0.99) 3.51 (1.02)	-11 (-3.1%)	10 w

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Author & year (study period) Design suitability (design) Quality of execution (# of Limitations)	Location Intervention and Comparison elements	Study population description Sample size	DIETARY BEHAVIOR				
			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
Anderson 1999 (NR) Least (Before-After arm selected from a group randomized trial) Fair 4 limitations)	Location: Denver, CO Components: AHRF + Screening + Small media + Incentives (for participation) Comparison: Before-After	Employees from eight Colorado worksites 502 employees from 8 Colorado worksites 234 employees at baseline 118 employees in usual care	Mean self-reported fruit and vegetable servings per day	2.4	2.4	0 servings per day	12 m
			Mean self-reported fat grams per day	37.8	33.6	-4.2 grams per day	
Barrere 1994 NR Least (Before-After arm selected from an individual randomized trial) Fair (4 limitations)	Location: NR Components: Goal Setting (GS): AHRF + Screening + Goal Setting Traditional (T): AHRF + Screening + Small media	Employees voluntarily attending an annual cholesterol program 89 employees – BL 79 employees – FU 39 employees in the intervention group (GS) 40 employees in the comparison group (T)	Self-reported dietary habits converted into a Food Habits score Goal Setting	2.43	2.32	-0.11	3 m
			Traditional	2.46	2.40	-0.06	
Fries 1992 (1986-1991) Moderate (Time Series) Fair (3 limitations)	Location: California Components: AHRF + Screening + Small media Comparison: Time Series	Clients enrolled in Healthtrac 135,093 enrolled over the study period 9,845 employees at 18-month followup	Percent with high self-reported dietary-fat intake	50.2	25.4	-24.8 pct pts (-49.4%)	18 m
Fries 1994 (1990-1991) Least (Before-After) Fair (4 limitations)	Location: California Components: AHRF + Small media Comparison: Before-After	California Public Employees Retirement System employees 21,170 employees 5,421 active employees 4,374 employees over 12-month study period	Self-reported percent dietary fat intake	30.4	23.5	-6.9 pct pts p<.01	18 m
			Self-reported percent saturated fat intake	11.1	8.6	-2.5 pct pts p<.01	
Hanlon 1995 (1991) Greatest (Individual randomized trial) Fair (3 limitations)	Location: Glasgow, Scotland Components: AHRF (Health Check event with biometrics; feedback during health education interview with additional written materials) Comparison: Usual Care (use of external comparison)	Employees 2,600 eligible Sample of 1600 selected 1,381 (86%) enrolled and randomized to arm AHRF (full)=263 Ext cnt=261	Percent of those self-reporting risky dietary behaviors following recommendations to increase fruits and vegetables intake Intervention External Comparison	 100 100	 24.3 18.8	 +5.5 pct pts (ns)	5 w

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			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
	group)		...decrease fat intake Intervention External Comparison	100 100	30.0 9.4	+20.6 pct pts p<.001	
Hyner 1987 (NR) Least (Before-After) Fair (4 limitations)	Location: NR (Field office of large insurance company) Components: AHRF	Insurance company employees 495 employees 87 valid respondents	Percent reporting initiated recommended change in diet (n=121)		NR	75.8%	2 m
Kellerman 1992 (March 1988 – December 1988) Least (Before-After) Fair (4 limitations)	Location: North Carolina Components: AHRF + Screening Comparison: Before-After	Employees of a textile plant 615 employees 300 employees in the initial screening 162 employees completed the second screening	Percent reporting eating fewer high fat foods (n=136)		NR	78%	8 m
Puska 1988 (1984 – 1985) Least (Before-After) Fair (4 limitations)	Location: Finland Components: AHRF + Screening + Small Media	Employees from 16 participating worksites Number eligible NR 715 Baseline 636 Followup 225 AHRF	Percent who reported reduced fat consumption		26	26%	1 y
Sorenson 1996 Abrams 1994 Heimendinger 1995 (1990-1993) Least (Before-After arm selected from a group randomized trial) Fair (4 limitations)	Location: USA (16 states) Components: AHRF + Small Media	Employees from 111 worksites 114 worksites recruited 108 included N of AHRF group not reported	Calculated percent energy from fat based on self report Self-reported servings of fruits and vegetables per day	36.7 2.58	35.0 2.60	-1.7 pct pts +0.02 servings per day	2 y
Tilley 1997, 1999 (1993-1995) Least (Before-After arm selected from a group	Location: Michigan, Ohio, Indiana, New York, Pennsylvania	Employees of 28 automotive plants ~5,000 employees 5,042 employees at baseline	Mean percentage energy from fat cacluated from self report	36.7	35.5	-1.2 pct pts	2 y

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			Results				
			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
randomized trial) Fair (3 limitations)	Components: AHRF + Screening + Incentives Comparison: Before-After	2,240 emplyees in the intervention group at baseline 2,802 in the comparison gorup at baseline	Self-reported fruit and vegetables servings per day	3.38	3.52	+0.1 pct pts	

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Author & year (study period) Design suitability (design) Quality of execution (# of Limitations)	Location Intervention and Comparison elements	Study population description Sample size	PHYSICAL ACTIVITY				
			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
Anderson 1999 (NR) Least (Before-After study selected from group randomized trial) Fair (4 limitations)	Location: Denver, CO Components: AHRF + Screening + Small media + Incentives (for participation) Comparison: Before-After	Employees from eight Colorado worksites 502 employees from 8 Colorado worksites 234 employees at baseline 118 employees in usual care (AHRF)	Percent reporting exercising >1 per week (n=61)	79.7	83.9	+4.2 pct pts (+5.2%) (CI:-10.96, +24.55)	12 m
Burton 2006 (2002-2004) Least (Before-After) Fair (4 limitations)	Location: USA (25 states) Components: AHRF + small media + self-care book	Worksites of a national financial services company 73,456 eligible 17,685 returned first HRA in 2002 7,026 who returned HRA in 2002 and 2004	Percent at risk (Self-reported exercise <1 per week)	28.3	29.6	+1.3 pct points (3.5%) (ns when adjusted for age)	2 y
Fitzgerald 1991 (1988) Least (Two Group Pre-Post) Fair (4 limitations)	Location: Baltimore, MD Components: AHRF Comparison: Before-After	All employees in 5 worksites 2,000 eligible Screening Participants=836 (42%)	Percent who report exercising regularly	NR	38%		
Fries 1992 (1986-1991) Least (Before-After) Fair (3 limitations)	Location: California Components: AHRF + Screening + Small media Comparison: Before-After	Clients enrolled in Healthtrac 135,093 enrolled over the study period 9,845 employees at 18-month followup	Mean self-reported minutes of exercise per week	170	194	+24.0 minutes per week (+14.1%)	18 m
Fries 1994 (1990-1991) Least (Before-After) Fair (4 limitations)	Location: California Components: AHRF + Small media Comparison: Before-After	California Public Employees Retirement System employees 21,170 employees 5,421 active employees 4,374 employees over 12-month study period	Self-reported exercise (minutes per week)	185	200	+15 minutes per week (+8.1%) p<.01	18 m
Gemson 1995	Location: New York, NY	Employees of Merrill Lynch &	Mean self-reported				

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			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
(1988-1991) Greatest (Randomized comparison trial) Fair (3 limitations)	Components: AHRF + Screening (physician periodic health exam) Comparison: AHRF + Screening (physician periodic health exam)	Company 161 baseline 90 (56%) f/u Inter: 42 Comp: 48 High Health Age (HHA) at baseline I: 13 C: 13	times physically active per week Intervention Comparison High risk subset (n=26) Intervention Comparison	1.8 2.3 NR NR	2.13 2.17 NR NR	+0.46 times per week (25.4%) +0.43 times per week	6 m
Gomel 1993 Gomel 1997 Oldenburg 1995 (18 months) Least (Before-After) Fair (4 limitations)	Location: Sydney, Australia Components: AHRF Comparison: Before-After	Employees from ambulance services companies <u>Arm</u> <u>#Sites</u> <u>12m f/u</u> AHR 10 115 AHR+E 8 70	Aerobic capacity (oxygen consumption determined from 7-min test on Repco bicycle ergometer) -Scandinavian aerobic capacity norms AHR AHR+E	 33.8 35.0	 34.5 36.5	 +0.70 (+1%) +1.5 (+3%)	12 m
Hanlon 1995 (1991) Greatest (Individual randomized trial) Fair (3 limitations)	Location: Glasgow, Scotland Components: AHRF (Health Check event with biometrics; feedback during health education interview with additional written materials) Comparison: Usual Care (external comparison group)	Employees 2,600 eligible Sample of 1,600 selected 1,381 (86%) enrolled and randomized to arm AHRF (full)=263 Comparison (ext)=261	Percent of employees who exercise ≤20 minutes aerobically at least 3 times a week who followed recommended increase. Intervention External comparison	 100 100	 57.7 61.2	 -3.5 pct pts (CI:-8.3, 15.2) (ns)	12 m
Hyner 1987 (NR) Least (Before-After) Fair (4 limitations)	Location: NR (Field office of large insurance company) Components: AHRF	Insurance company employees 495 employees 121	Percent reporting initiated recommended change	NR	22.3	22.3%	3 w
Nilsson 2001 NR	Location: Helsingborg, Sweden	Employees of 4 branches of the local public sector	Percent without self-reported sedentary	67	72	+5 pct pts (+15.2%)	18 m

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			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time																		
Least (Before-After study arm selected from randomized trial) Fair (4 limitations)	Components: AHRF	454 employees completed the questionnaire 128 employees were randomly assigned 46 comparison group at 18 months	lifestyle			(CI:-18.07, 40.96)																			
Purath 2004 (NR) Least (Before-After) Fair (4 limitations)	Location: NR (USA) Components: AHRF Comparison: Before-After	Recruited female University employees 18-65 yrs of age who attended a university-provided health screening as part of a wellness program 603 eligible 287 (48%) women enrolled 151 comparison group 130 intervention group <table border="1"> <tr> <td></td> <td><u>N</u></td> <td><u>bsline</u></td> <td><u>N</u></td> <td><u>f/u</u></td> <td><u>%</u></td> </tr> <tr> <td>Inter</td> <td>134</td> <td></td> <td>120</td> <td></td> <td>89%</td> </tr> <tr> <td>Comp</td> <td>153</td> <td></td> <td>151</td> <td></td> <td>98%</td> </tr> </table>		<u>N</u>	<u>bsline</u>	<u>N</u>	<u>f/u</u>	<u>%</u>	Inter	134		120		89%	Comp	153		151		98%	Mean self-reported minutes of vigorous and moderate physical activity Weekdays Weekends Self-reported mean (sd) total minutes walked per week	216 312 86.1 (89.0)	219.6 333.6 162.3	+3.6 minutes (+1.7%) (ns) +21.6 minutes (+6.9%) p=0.008 +76.2 minutes per week (+88.5%) p=0.001	6 w
	<u>N</u>	<u>bsline</u>	<u>N</u>	<u>f/u</u>	<u>%</u>																				
Inter	134		120		89%																				
Comp	153		151		98%																				
Rodnick 1982 (1978-1980) Least (Before-After) Fair (3 or 4 limitations)	Location: Santa Rosa, CA Components: AHRF Comparison: Before-After	Employees of Optical Coating Laboratory, Inc. ~700 employees 292 employees completed 1 st and 2 nd screenings	Number self-reporting regular exercise	NR	NR	(+2.3%)	2 y																		
Stonecipher 1993 (NR) Greatest (Prospective Cohort) Fair (4 limitations)	Location: Indiana (small Midwestern city) Components: AHRF + Counseling + Referral Comparison: Usual care	Employees of a plastics manufacturing corporation 456 employees 419 employees participated in at least 1 of the 3 assessment sessions	Mean (sd) self-reported Likert score participation in moderate activity Participants Non-participants	2.94 (0.95) 2.78 (1.12)	3.08 (0.91) 2.90 (0.80)	+0.02	10 w																		

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			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
Burton 2006 (2002-2004) Least (Before-After) Fair (4 limitations)	Location: USA (25 states) Components: AHRF + small media + self-care book	Worksites of a national financial services company 73,456 eligible 17,685 returned first HRA in 2002 7,026 who returned HRA in 2002 and 2004	Percent at risk (self-reported seat-belt use <90% of the time)	NR	NR	-1.6 pct points p<.05	2 y
Dunton 1990 (1984) Greatest (Group Randomized Trial) Fair (4 limitations)	Location: Illinois and Pennsylvania Components: AHRF + Screening Comparison: Usual care	Employees of manufacturing companies Illinois: 180 Intervention group 200 comparison group Pennsylvania: 107 Intervention group 588 comparison group	Percent of directly observed seat-belt use (transformed to non-use) Illinois: Intervention Comparison Pennsylvania: Intervention Comparison	 63.6 80.1 84.9 91.2	 NR 72.8 69.6 92.1	 NA -16.2 pct pts (-18.8%)	 2-3 m
Fries 1992 (1986-1991) Moderate (Time Series) Fair (3 limitations)	Location: California Components: AHRF + Screening + Small media Comparison: Time Series	Clients enrolled in Healthtrac 135,093 enrolled over the study period 9,845 employees at 18-month followup	Percent who reported using a seat belt <50 percent (%) of the time	7.7	4.2	-3.5 pct pt (-45.5%)	18 m
Fries 1994 (1990-1991) Least (Before-After) Fair (4 limitations)	Location: California Components: AHRF + Small media Comparison: Before-After	California Public Employees Retirement System employees 21,170 employees 5,421 active employees 4,374 employees over 12-month study period	Self-reported seat-belt use (%) transformed to non-use	7.0	4.8	-2.2 pct pts (-31.4%) p<.01	18 m
Gemson 1995 (1988-1991) Greatest (Group randomized trial) Fair (4 limitations)	Location: New York, NY Components: AHRF + Screening (physician periodic health exam)	Employees of Merrill Lynch & Company 161 baseline 90 (56%) f/u	Self-reported seat-belt use (transformed to non-use)				6 m

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			Results				
			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
	Comparison: AHRF + Screening (physician periodic health exam)	Inter: 42 Comp: 48 High Health Age (HHA) at baseline Inter: 13 Comp: 13	Intervention Comparison	29.0 21.0	23.2 26.3	-11.1 pct pts (-36.1%) p≤0.10	
			High Health Age (Sub-set analysis) Intervention Comparison	NR NR	NR NR	-0.40 pct pts	
Hyner 1987 (NR) Least (Before-After) Fair (4 limitations)	Location: NR (Field office of large insurance company) Components: AHRF	Insurance company employees 495 employees 87 valid respondents	Percent reporting initiated recommended change in seat-belt use	NA	15.8	+15.8%	3 w
Kellerman 1992 (March – December 1988) Least (Before-After) Fair (4 limitations)	Location: North Carolina Components: AHRF + Counseling + Referrals + Small media	Textile plant employees 615 employees 136 completed 8-month followup	Percent reporting increasing use of seat belts	NR	47	47%	8 m
Stonecipher 1993 (NR) Greatest (Prospective Cohort) Fair (4 limitations)	Location: Indiana (small Midwestern city) Components: AHRF + Referral Comparison: Usual care	Employees of a plastics manufacturing corporation 456 employees 419 employees participated in at least 1 of the 3 assessment sessions	1) Mean (sd) self-reported seat-belt use on Likert scale (1-5) from low use to high use: Participants Non-participants	 3.29 (1.56) 3.76	 3.53 (1.43) 3.9	 +0.24	10 w

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			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
Anderson 1999 (NR) Least: Before-after change in the comparison arm of a group randomized trial Fair (4 limitations)	Location: USA; Denver, CO Components: AHRF (Screening with biometrics + standard 20m counseling session to review cholesterol, BP, smoking, and exercise + small media printed materials) Comparison: Before-after change in higher risk participants assigned to the comparison arm	Higher risk subset: Subset of screening participants with baseline cholesterol \geq 200 mg/dl N=234 eligible N=118 assigned to comparison arm N=61(52%) at 12m	(Prevalence) self-reported smoking status	18.9%	16.2%	-2.78 pct points NR (relative: -14.7%)	12 m
Burton 2006 (2002-2004) Least Suitable design: Before-after Fair (4 limitations)	Location: USA; Company 25 states Components: AHRF (mailed HRA with self-reported biometrics; feedback/education provided by corporation medical department; smallmedia self-help materials) Comparison: Before-after change in high risk participants	Adult employees of the study company who participated in HRAs in 2002 and again in 2004 N=7026 (39.7% of baseline participant) Subset of participants with high risk status N=NR	(Prevalence) self-reported smoking status among high risk status participants	8.9%	7.7%	-1.2 pct points (relative -13.5%) p<0.05	2 yrs
Edye 1989 (1977-1985) Least: Before-after change in the comparison arm of an individual randomized trial Fair (4 limitations)	Location: Australia; Sydney Components: AHRF (assessment + biometrics+ feedback + small media)	Participating government employees: N=4607 screened N=2489 with higher CV risk recruited Participants assigned to comparison arm	(Prevalence) Self-reported smoking status among higher cardiovascular risk status participants	(Not reported for f/u sample at baseline: full sample at baseline)	(Not reported)	-5.1 pct points (SE \pm 0.7) (relative change estimated -13%)	3 yrs

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	Comparison: Before-after change in higher-risk participants assigned to the comparison arm	N=1371 assigned N=1076 (78%) f/u		40.1%			
Fitzgerald 1991 (Not reported) Least: Before-after change in the comparison arm of an individual randomized trial Fair (4 limitations)	Location: USA; Baltimore MD Components: AHRF (assessment + biometrics + feedback + provider referral if cholesterol level was high + small media) Comparison: Before-after change in higher risk participants assigned to comparison arm	Employees in 5 study worksites N=2000 eligible N=842 (42%) participants Participants with elevated cholesterol (>200 mg/dl) assigned to comparison arm N=126 assigned N=123 (98%) f/u	(Cessation) Self-reported smoking cessation among tobacco-using participants with elevated cholesterol	NA	2 (7%) quitters of 30 baseline smokers	7% NR	2-3 m
Fries 1992 (1986-1991) Moderate: Time Series Fair (4 limitations)	Location: USA; California Components: AHRF (mailed HRA with feedback by mail and additional client education materials) Comparison: Time Series (before-after)	Clients enrolling in Healthtrac between 1986-1991 (N=135,093) Study subset: Clients under age 65 with 18m f/u data N=9845 (loss to f/u not reported)	(Prevalence) Self-reported smoking status (we report 18m f/u subset and the 12m f/u subset) Note: Consumption change data also collected, but is not reported here	9.8% 10.8%	7.7% 9.1%	-2.1 pct points NR (relative -21.4%) NOTE: Study reported relative change as -12.4% 1.7 pct pts (relative -15.7%)	18 m 12 m
Fries 1994 (1990-1991) Least Suitable design: single arm before-after Fair (4 limitations)	Location: USA; California Components: AHRF (mailed HRA with feedback by mail and additional client education materials sent by mail) Comparison: Before-after	Active California employees within PERS N at analysis = 4374 (81% of baseline)	(Prevalence) self-reported smoking status	7.8%	5.2%	-2.6 pct points p<0.01 (relative: -33.3%)	18 m
Gomel 1993 ARM 1 (NR)	Location: Australia; Sydney	Participants in study worksites N=130	(Cessation) Biochemically verified smoking	NA	0%	0% quit NS (relative change)	12 m

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Least: Before-after change in the comparison arm of a group randomized trial Fair (4 limitations)	Components: AHRF: Assessment + biometrics + feedback (30min) Comparison: Before-after	N=115 (88%) at 12m f/u Smokers at baseline in this study arm N=31	cessation of 12months continuous duration			0%)	
Gomel 1993 ARM 2 (NR) Least: Before-after change in a "lesser" intervention arm of a group randomized trial Fair (4 limitations)	Location: Australia; Sydney Components: AHRF: Assessment + biometrics + feedback + general risk factor education (50min) + small media (videotapes) Comparison: Before after	Participants in study worksites N=82 N=70 (85%) at 12m f/u Smokers at bsline in this study arm N=34	(Cessation) Biochemically verified smoking cessation of 12months continuous duration	NA	0%	0% quit NS (relative change 0%)	12 m
Hanlon 1995 (1991) Greatest: Individual randomized trial Fair (3 limitations)	Location: Scotland; Glasgow Components: AHRF (Health Check event with biometrics; feedback during health education interview with additional written materials) Comparison: Usual Care (internal and external comparison groups)	Employees N=2600 eligible Sample of 1600 selected N=1381 (86%) enrolled and randomized to arm <u>AHRF (full) UC (int) Bsl</u> 263 233 F/U 219 200 (83%) (86%) Intention to treat	(Prevalence) Self-reported smoking status (Calculated from available data) (Cessation) Self-reported making a positive change in smoking	I 35.4% C 36.9% C 3.2%	I 34.2% C 35.6% I 3.5%	+0.1 pct points NS (relative +0.3%) -0.3 pct pts (p=1.00; 95% CI - 5.5, 4.9)	5 m 5 m
Heirich 1993 Efurt 1991 results (1985-1988) Least: Before-after change in the comparison arm of a group randomized trial Fair (4 limitations)	Location: USA; NR Components: AHRF (wellness screening with biometrics + feedback) Comparison: Before-after	Higher risk subset Participants with one or more risk factors for CV disease N bslne=1653 Sample f/u N=600 selected N=505 (84%) f/u Panel baseline smokers in 1985: n=228	(Prevalence) Self-reported smoking status (Cessation) Baseline smokers in 1985 self-reporting quit status in 1988 f/u	45% NA	41.6% Estimated from baseline panel 39 (17.1%) of 228 baseline tobacco users	-3.4 pct points (relative -7.6%) p<0.01 17.1% quit rate NR	3 yrs 3 yrs
Hyner 1987	Location: USA; NR	Participating employees	(Cessation Proxy)	NA	0 (0%) of	0% quit rate	3 w

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(NR) Least: Single group before-after Note: Study collapsed intervention arms Fair (4 limitations)	Components: AHRF (Assessment+ + feedback) Comparison: Before-after	N=495 eligible N=200 (40%) participants N=121 (60%) f/u N=51 smokers	Baseline smokers self-reporting the initiation of (any) smoking related behavior change		51		
Kellerman 1982 (1988) Least: Before-after Fair (4 limitations)	Location: USA; North Carolina Components: AHRF (assessment + biometrics+feedback + referrals) Comparison: Before-after	Participating employees in the single study plant N=600 eligible N=300 participants in assessment N=240 (40%) participated in feedback session	Proxy outcome for cessation only Self-reported quit or cut back on tobacco use among baseline tobacco users (N=NR)	NA	10% quit or cut back	(not a cessation outcome)	6 m
Nilsson 2001 (NR) Least: Before-after change in the comparison arm of an individual randomized trial Fair (4 limitations)	Location: Sweden; Helsingborg Components: AHRF (HRA + exam with biometrics+ client education) Comparison: Before-after change in the comparison arm of an individual randomized trial	Higher Risk (CVD) subset of screened employees N=128 assigned N=65 intervention N=63 comparison N=46 (73%) at 18m f/u Subset identified at screening N=568 eligible N=454 (80%) bsline	(Prevalence) Self-reported daily smokers	65%	59%	-6 pct points (relative -9.2%) ANOVA 0.519 NS	18 m
Prior 2005 (1992-2002) Least: Before-after Fair (4 limitations)	Location: Switzerland Components: AHRF (15 min screening with biometrics and feedback [counseling for smoking]) Comparison: Before-after	Participants with both baseline and f/u data N=24,041 participants N=4,198 (17%) with complete data N=1150 (27.4%) of 4198 participants were smokers at baseline	(Prevalence) Self-reported smoking status Men Women (Cessation) Self-reported cessation	27.4% 27.2% 27.9% NA n=1150 baseline smokers)	25.4% 25.5% 25.1% 234 (20.3%) of 1150	-2.0 pct pts NR (relative -7.3%) -1.7 pct pts p=0.254 -2.8 pct pts p=0.124 20.3% quit rate NR	Mean 3.7 yrs (SD 0.9 yrs) 1-6 years Mean 3.7 yrs (SD 0.9 yrs) 1-6 years

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			in baseline smokers				
<p>Puska 1988 (1984-1985) Least: Before-after change in comparison arm of a group non-randomized trial Fair (4 limitations)</p>	<p>Location: Finland</p> <p>Components: AHRF (assessment+ biometrics + feedback+ small media) Note: This group may have been exposed to national media campaign</p> <p>Comparison: Before-after change in comparison group participants</p>	<p>Participating employees in 8 matched comparison worksites N=258 bsline N=225 (87%) at f/u</p> <p>We estimated N smokers at baseline =85</p>	<p>(Prevalence) Self-reported smoking status with biochemical verification of cessation</p> <p>(Cessation) Biochemically verified smoking cessation among baseline smokers</p> <p>Note: Sufficient information is provided to estimate number of smokers N baseline: 85 N f/u: 80</p>	<p>33%</p> <p>NA</p>	<p>33%</p> <p>5 (6%) of 85 baseline smokers</p>	<p>0 pct pts NS</p> <p>6% quit rate NS</p>	<p>1 yr</p>
<p>Richmond 1999 (NR) Greatest: Group nonrandomized trial Fair (4 limitations)</p>	<p>Location: Australia; Sydney</p> <p>Components: AHRF [Assessment+ biometric screening +Feedback + small media self-help materials; Alcohol focus]</p> <p>Comparison: Usual Care</p>	<p>Participating employees of study police stations (n=19 sites)</p> <p><u>Bsline</u> <u>F/u</u> Inter 454 445 Comp 398 402</p>	<p>(Prevalence) Self-reported cigarette smoking</p>	<p>I 26.2% C 30.5%</p>	<p>I 21.0% C 26.8%</p>	<p>-1.5 pct points (relative -4.9%) NS</p>	<p>6 m</p>
<p>Rodnick 1982 (1978-1979) Least: Before-after Fair (4 limitations)</p>	<p>Location: California; Santa Rosa</p> <p>Components: AHRF (assessment+ biometrics+ feedback in a group format)</p> <p>Comparison: Before-after</p>	<p>Participating employees N=(700) N=292 with complete data</p> <p>Baseline smokers N=108 (62 men and 48 women)</p>	<p>(Prevalence) Self-reported smoking status</p> <p>(Cessation) Self-reported quits in baseline smokers</p>	<p>37%</p> <p>NA</p>	<p>33.5%</p> <p>10 (9.2%) of 108 baseline smokers</p>	<p>-3.5 pct pts NS (Relative -9.5%)</p> <p>9.2% quit rate NS</p>	<p>12 m</p>

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<p>Serxner 2001a (1990-1998) Least: Before-after Fair (4 limitations)</p>	<p>Location: USA; 28 different worksites</p> <p>Component: AHRF (HRA with feedback booklet, self-help booklets): Note: Individual worksites may have provided additional health promotion programs</p> <p>Comparison: Before-After</p>	<p>Participating worksites: N=28</p> <p>Participating employees in study worksites N=35,451 at bsline N=5829 tobacco users N=6820 (19%) with mean f/u of 1 yr</p>	<p>(Cessation) Self-reported change to "do not use tobacco" among baseline tobacco users</p> <p>(Prevalence) We estimated change in the overall prevalence of self-reported tobacco use based on change in the subset (6820) with f/u data</p> <p>Note: Unclear if this was an intention to treat analysis for tobacco outcomes (the number of tobacco users providing f/u is unrealistically high)</p>	<p>NA</p> <p>5829 (16.4%) of 35,451</p>	<p>104 (1.8%) quitters of 5829 bsline tobacco users</p> <p>5705 (16.1%) of 35,451</p>	<p>1.8% quit NR</p> <p>-0.3 pct points NR (relative change -1.8%)</p>	<p>1 yr</p>
<p>Shi 1992 ARM 1 (1988-1990) Least: Before-after change in the comparison arm of a group randomized trial Fair (3 limitations)</p>	<p>Location: USA; Northern California</p> <p>Components: AHRF (Assessment+ biometrics + feedback + newsletter)</p> <p>Comparison: Before-after</p>	<p>Participating employees-overall N=1,372 eligible N=1030 bsline N=735 (71% of bsline)</p>	<p>(Prevalence) Self-reported smoking status</p>	<p>18%</p>	<p>12%</p>	<p>-6 pct points p<0.01 (Relative -33%)</p>	<p>2 yrs</p>
<p>Shi 1992 ARM 2 (1988-1990) Least: Before-after change in a "lesser" intervention arm of a group randomized trial Fair (3 limitations)</p>	<p>Location: USA; Northern California</p> <p>Components: AHRF (Assessment+ biometrics + feedback + health resource center + self-care book)</p> <p>Comparison: Before-after</p>	<p>Participating employees-overall N=1,372 eligible N=785 bsline N=532 (68 % of bsline)</p>	<p>(Prevalence) Self-reported smoking status</p>	<p>17%</p>	<p>14%</p>	<p>-3 pct points p<0.1 NS (relative -17.6%)</p>	<p>2 yrs</p>
<p>Shipley 1988 (1983-85)</p>	<p>Location: USA; Companies in NJ and PA</p>	<p>Participating employees in 3 comparison group worksites</p>	<p>(Cessation) Self-reported smoking</p>	<p>NA</p>	<p>17.4% quit</p>	<p>17.4% quit rate NR</p>	<p>Mean</p>

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<p>Least: Before-after change in the comparison arm of a group non-randomized trial Overall trial was of Good Execution (1 limitation)</p>	<p>Components: AHRF (assessment + biometrics + feedback with a 3 hour seminar) Comparison: Before-after change in the comparison arm of a group non-randomized trial</p>	<p>N=748 participants at f/u (94.3% of bsline) N smokers=NR</p>	<p>cessation at f/u among baseline smoking participants (some effort at biochemical verification with 56% tested at f/u) (Cessation) Higher CV risk participant subset: Self-reported smoking cessation</p>	<p>NA</p>	<p>NR 12.9% quit NR</p>	<p>12.9% quit rate NR</p>	<p>12.3 m</p>
<p>Sorensen 1996 (1990-1993) Least: Before-after change in the comparison arm of a group randomized trial Fair (4 limitations)</p>	<p>Location: USA; Worksites in 16 states Components: Assessments + feedback (summary results) + small media educational materials Comparison: Before-after change in the comparison arm of a group randomized trial</p>	<p>Participating permanent employees in the comparison worksites in this trial N=20,081 overall N comparison=NR Results based on worksite as the unit of analysis</p>	<p>(Prevalence) Self-reported smoking status (Cessation) Self-reported 6m duration abstinence at f/u among baseline smokers and recent quitters</p>	<p>25.8% NA</p>	<p>21.8% 12.3% of bsline smokers and recent quitters</p>	<p>-4 pct points NR (relative change -16%) 12.3% quit rate NR (no estimate of relative change)</p>	<p>2 yrs</p>
<p>Stonecipher 1993 (NR) Moderate (retrospective cohort comparison) Fair (4 limitations)</p>	<p>Location: USA; a midwestern city Components: AHRF (health screening with HRA and biometrics + feedback in written format with group discussion) Comparison: AHRF participants vs non-participants</p>	<p>Employees of study manufacturing corporation N=456 eligible N=419 (92%) participating N=246 (53.9%) at screening N=242 (53.1%) at 10 wk f/u</p>	<p>(Prevalence Proxy) Likert-type scale self-reported health practice "Do not smoke" Participants Non participants</p>	<p>Scale score (SD) 3.72 (1.56) 3.45 (1.68)</p>	<p>Scale score 3.72 (1.60) 3.38 (1.72)</p>	<p>Not a prevalence outcome Scale score duff +0.07 scale pts NS</p>	<p>10 w</p>

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			Results				
			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
Anderson 1999 (NR) Least (Before-After study arm selected from group randomized trial) Fair (3 limitations)	Location: Denver, CO Components: AHRF + Screening + Small media + Incentives (for participation) Comparison: Before-After	Employees of eight Colorado worksites 234 participants at baseline 118 usual care group	Mean (n=61): Diastolic BP (mm Hg) Systolic BP (mm Hg)	77.4 119.0	78.2 121.2	+0.8 mm Hg (+1.0%) +2.0 mm Hg (+1.7%)	12 m
Burton 2006 (2002-2004) Least (Before-After) Fair (4 limitations)	Location: USA (25 states) Components: AHRF + small media + self-care book	Worksites of a national financial services company 73,456 eligible 17,685 returned first HRA in 2002 7,026 who returned HRA in 2002 and 2004	Percent at risk (Self-reported BP >139/89)	NR	NR	+2.5 pct points (ns when adjusted for age)	2 y
Edye 1989 Frommer 1990 (1977-1985) Least (Before-After study arm selected from individual randomized trial) Fair (4 limitations)	Location: Sydney, Australia Components: AHRF + Screening + Small media	Participating government employees from two selected government organizations 4,607 volunteers 2,489 eligible 1,937 (78%) at followup 1076 for AHRF group	Edye: Mean change (±SE) in systolic BP (n=1,076) Mean change (±SE) in diastolic BP (n=1,076) Frommer: Mean (±SE) systolic BP (mm Hg) change by baseline level (+=reduction; - =increase) Low risk<120 mmHg Med risk 120-150 High risk>150mmHg Mean (±SE) diastolic BP (mm Hg) change by baseline level (+=reduction; -	NR NR NR NR NR	NR NR NR NR NR	1.82 (±0.27) mm Hg -0.02 (±0.24) mm Hg -0.65(±0.43) mmHg +3.16(±0.35)mmHg +7.03(±1.49)mmHg	5 y

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			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
			=increase) Low risk=<85 mmHg Med risk=85-94 High risk=>95	NR NR NR	NR NR NR	-1.08(±0.26) mmHg +3.41(±0.53)mmHg +7.13(±1.32)mmHg	
Fries 1992 (1986-1991) Moderate (Time Series) Fair (3 limitations)	Location: California Components: AHRF + Screening + Small media Comparison: Time Series	Clients enrolled in Healthtrac 135,093 enrolled over the study period 5,316 employees at 18-month followup	Mean systolic BP (mm Hg) Mean diastolic BP (mm Hg)	120.6 75.7	120.3 74.8	-0.3 mmHg (-0.2%) -0.9 mm Hg (-1.2%)	18 m
Gemson 1995 (1988-1991) Greatest (Randomized comparison trial) Fair (4 limitations)	Location: New York, NY Components: AHRF + Screening (physician periodic health exam) Comparison: AHRF + Screening (physician periodic health exam)	Employees of Merrill Lynch & Company 161 baseline 90 (56%) f/u Inter: 42 Comp: 48 High Health Age (HHA) at baseline I: 13 C: 13	Systolic BP (mm Hg) Intervention Comparison High Health Age Systolic BP(mm Hg) Intervention Comparison Diastolic BP(mm Hg) Intervention Comparison	122 123 NR NR NR NR	118.4 122.6 NR NR NR NR	-3.2 mm Hg -5.6 mm Hg -1.9 mm Hg	6 m
Gomel 1993, 1997 Oldenburg 1995 NR Least (Before-After) Fair (4 limitations)	Location: Australia, Sydney Components: AHRF Comparison: Before-After	Employees of ambulance services 130 employees recruited 115 employees at 12-month followup	Mean blood pressure (mmHg) Group 1 Group 2	96.5 97.6	96.3 95.9	-0.2 (ns) -1.7 (sig)	12 m
Hanlon 1995 (1991) Greatest (Individual randomized trial) Fair (3 limitations)	Location: Glasgow, Scotland Components: AHRF (Health Check event with biometrics; feedback during health education interview with additional written materials)	Employees 2,600 eligible Sample of 1,600 selected 1,381 (86%) enrolled and randomized to arm Baseline AHRF (full)=1,311	Change in diastolic BP mm Hg Intervention Comparison	82.41 79.31	NR NR	-0.6 mm Hg (ns)	5 w

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			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
	Comparison: Usual Care (external comparison group)	Comparison (ext)=261 Followup AHRF (full)=1157 Comparison (ext)=246					
Nilsson 2001 (NR) Least (Before-After arm selected from a randomized trial (individual)) Fair (4 limitations)	Location: Helsingborg, Sweden Components: AHRF	Employees of 4 branches of the local public sector 454 employees completed the questionnaire 128 employees were randomly assigned 46 comparison group at 18 months	Mean (sd) systolic BP (mm Hg) Mean diastolic (sd) BP (mm Hg)	132.9 (17.1) 75.9 (9.3)	131.7 (18.6) 75.5 (9.8)	-1.2 mm Hg (CI:-8.5, 6.1) -0.4 mm Hg (CI:-4.3, 3.5)	18 m
Puska 1988 (1984 – 1985) Least (Before-After) Fair (4 limitations)	Location: Finland Components: AHRF + Screening + Small Media	Employees from 16 participating worksites Number eligible NR 715 Baseline 636 Followup 225 AHRF	Mean systolic BP (mm Hg) Mean diastolic BP (mm Hg)	139 81.8	135 82.2	-4.0 mm Hg p<.001 +0.4 mm Hg (ns)	1 y
Rodnick 1982 (1978-1980) Least (Before-After) Fair (3 limitations)	Location: Santa Rosa, CA Components: AHRF Comparison: Before-After	Employees of Optical Coating Laboratory, Inc. ~700 employees 292 employees completed 1 st and 2 nd screenings	Percent with increase or decrease of at least 15 mmHg SBP or 10 mmHg DBP. Increase Decrease Net decrease			13.4% 23.9% 10.5%	1 y
Shi 1992 Shi 1993 (1988-1990) Least (Before-After arm selected from a Quasi experimental with non- equivalent comparison groups) Fair (3 limitations)	Location: Northern California Components Level 1: AHRF + Screening Level 2: AHRF + screening + resource center + self-care book Comparison: Before-After	Employees of PG & E divisions Level 1 1,030 employees participated in phase 1 Level 2 785 employees participated in phase 2 Level 2 785 employees participated in phase 1 532 employees participated in phase	Prevalence of employees with systolic BP ≥140 or diastolic BP ≥90 Level 1 Level 2	27 17	23 16	-4.0 pct pt (-14 %) p<.05 -1.0 pct pt (-3%) p>.10	2 y

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			Results				
			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
		2					
Syzmanski 1991 (NR) Least (Before-After) Fair (4 limitations)	Location: Greenville, SC Components: Serial AHRF Counseling + Screening + Group HE (Occasional) Comparison: Before-After	Employees of the Liberty Corporation 723 employees 717 (99%) participants	Mean systolic BP (mm Hg) Females Males Total Mean diastolic BP (mm Hg) Females Males Total	98 109.3 73.7 80.1	109.5 121.9 73.7 79.2	11.5 mm Hg p=.0001 12.6 mm Hg p=.0001 11.9 mm Hg (11.7%) (CI:10.7, 13.1) 0 mm Hg (ns) -0.9 mm Hg (ns) -0.3 mm Hg (-0.39%) (CI:-1.2, 0.6)	10 y
Williams 2001 (1995-1998) Least (Before-After) Fair (4 or 5 limitations)	Location: Southern Region, USA Components: AHRF + Small media Comparison: None	Employees of a non-profit day care center corporation with multiple sites 84 staff members in 1995 29 (34%) participants completed the HPHRA form in 1995 22 (26%) completed the CVD screening program in 1995 61 (73%) completed all phases of the HPHRA-CVD screening program in 1997 14 had participated in 1995 57 participants in 1998 post-test	Mean (sd) systolic BP (mm Hg) Mean (sd) diastolic BP (mm Hg)	18.04 (20.58) 76.01 (12.04)	NR NR	Decrease at the .05 p-level Decrease at the .05 p-level	3 y

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Author & year (study period) Design suitability (design) Quality of execution (# of Limitations)	Location Intervention and Comparison elements	Study population description Sample size	BODY COMPOSITION				
			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
Anderson 1999 (NR) Least (Before-After) Fair (4 limitations)	Location: Denver, CO Components: AHRF + Screening + Small media + Incentives (for participation) Comparison: Before-After	Employees from eight Colorado worksites 502 employees from 8 Colorado worksites 234 employees at baseline 118 employees in usual care (AHRF)	Mean (n=61) Body Mass Index	25.6	25.7	+0.1	12 m
			Mean (n=61) weight (lbs)	163.4	163.6	+0.2 lbs	
Burton 2006 (2002-2004) Least (Before-After) Fair (4 limitations)	Location: USA (25 states) Components: AHRF + small media + self-care book	Worksites of a national financial services company 73,456 eligible 17,685 returned first HRA in 2002 7,026 who returned HRA in 2002 and 2004	Percent at risk (Self- reported BMI ≥30, if unknown, considered low risk)	NR	NR	+ 2.2 pct pts (ns when adjusted for age)	2 y
Edye 1989 Frommer 1990 (1977-1985) Greatest (Individual randomized trial) Fair (4 limitations)	Location: Sydney, Australia Components: AHRF + Screening + Small media Comparison: AHRF + Screening + Small media	Participating government employees from two selected government organizations 4,607 volunteers 2,489 eligible 1,937 (78%) at followup	Mean change in weight (lbs)	NR	2.76	2.76 (+0.39)	3 y
Fitzgerald 1991 (1988) Least (Two Group Pre- Post) Fair (4 limitations)	Location: Baltimore, MD Components: AHRF Comparison: Before-After	All employees in 5 worksites 2,000 eligible Screening Participants=836 (42%)	Percent who reported losing ≥5lbs Comparison	NA	21	+13 pct pts	NR
Fries 1992 (1986-1991) Moderate (Time Series) Fair (3 limitations)	Location: California Components: AHRF + Screening + Small media Comparison: Time Series	Clients enrolled in Healthtrac 135,093 enrolled over the study period 45,186 employees at 6-month followup 21,075 employees at 12-month followup 9,845 employees at 18-month	Mean pounds over ideal weight	12.3	12.6	+0.3 lbs	18 m

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			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow- up time
		followup 1,193 employees at 30-month followup					
Fries 1994 (1990-1991) Least (Before-After) Fair (4 limitations)	Location: California Components: AHRF + Small media Comparison: Before-After	California Public Employees Retirement System employees 21,170 employees 5,421 active employees 4,374 employees over 12-month study period	Mean self-reported BMI	24.9	25.0	+0.1	18 m
Gemson 1995 (1988-1991) Greatest (Group randomized trial) Fair (4 limitations)	Location: New York, NY Components: AHRF + Screening (physician periodic health exam) Comparison: AHRF + Screening (physician periodic health exam)	Employees of Merrill Lynch & Company 161 baseline 90 (56%) f/u Inter: 42 Comp: 48 High Health Age (HHA) at baseline I: 13 C: 13	Mean body weight Intervention Comparison Health-risk subset analysis Intervention Comparison	184.0 179.0 NR NR	179.6 177.5 NR NR	-2.9 lbs -9.0 lbs	6 m
Gomel 1993, 1997 Oldenburg 1995 (NR) Least (Before-After) Fair (4 limitations)	Location: Sydney, Australia Components I1: AHRF I2: AHRF + risk factor education Comparison: Before-After	Employees of ambulance services 28 stations with 12 or more employees I1=143 eligible I2=106 eligible I1=130 at 12 months I2=82 at 12 months	Mean calculated BMI from physiologic measurements Intervention 1 Intervention 2 Mean percentage of body fat from physiologic measurements Intervention 1 Intervention 2	24.85 25.2	25.3 25.35	+0.5 +0.2	18 m
Hanlon 1995 (1991) Greatest (Individual)	Location: Glasgow, Scotland Components: AHRF (Health	Employees 2600 eligible	Change in mean BMI				5 w

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Author & year (study period) Design suitability (design) Quality of execution (# of Limitations)	Location Intervention and Comparison elements	Study population description Sample size	BODY COMPOSITION				
			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
randomized trial) Fair (3 limitations)	Check event with biometrics; feedback during health education interview with additional written materials) Comparison: Usual Care (internal and external comparison groups)	Sample of 1600 selected 1,381 (86%) enrolled and randomized to arm AHRF (full)=263 Comparison (ext)=261	AHRF External comparison	25.9 25.65	26.01 25.76	0.0 (ns)	
Hartman 1993, 1995 McCarthy 1991, 1992 (NR) Least (Before-After arm selected from an other design with a concurrent comparison condition)	Location: Pheonix, AZ Components: AHRF + biometric screening + referral Comparoson: Before-After	Employees in 15 worksites (6 in AHRF) 1,900 eligible 1,193 baseline 586 with cholesterol > 5.2mmol/liter 116 in AHRF group	Mean BMI	26.98	27.12	+0.1 (+0.5%)	8 w
Kellerman 1992 (March 1988 – December 1988) Least (Before-After) Fair (4 limitations)	Location: North Carolina Components: AHRF + Screening Comparison: Before-After	Employees of a textile plant 615 employees 300 employees in the initial screening 162 employees completed the second screening	Percent reporting losing weight		NR	47%	8 m
Nilsson 2001 NR Least (Before-After study arm selected from randomized trial) Fair (4 limitations)	Location: Helsingborg, Sweden Components: AHRF	Employees of 4 branches of the local public sector 454 employees completed the questionnaire 128 employess were randomly assigned 46 comparison group at 18 months	Mean BMI	26.7	26.7	0 (CI:-2.01, 2.01)	18 m
Rodnick 1982 (1978-1980) Least (Before-After) Fair (3 limitations)	Location: Santa Rosa, CA Components: AHRF Comparison: Before-After	Employees of Optical Coating Laboratory, Inc. ~700 employees 292 employees completed 1 st and 2 nd screenings	Mean change in weight (lbs): (Weighted mean for men and women)	157.5	158.5	+1.0 lb (CI:-3.09, 5.11)	1 y

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Author & year (study period) Design suitability (design) Quality of execution (# of Limitations)	Location Intervention and Comparison elements	Study population description Sample size	BODY COMPOSITION				
			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
Shi 1992 Shi 1993 (1988-1990) Least (Before-After) Fair (3 limitations)	Location: Northern California Components: AHRF + Screening Comparison: Before-After	Employees of PG & E divisions 1,030 employees participated in phase 1 785 employees participated in phase 2	Prevalence of overweight employees (20 percent over ideal body weight for height) Group 1 Group 2	38 36	38 37	0 (-1.0%) (ns) +1.0 pct pts (+3.0%) (ns)	2 y
Williams 2000 (NR) Least (Before-After) Fair (2 limitations)	Location: Georgia Components: AHRF	One rural and one urban worksite 37 rural employees 34 urban employees (combined)	Mean BMI	NR	NR	Non-significant change	1 y
Williams 2001 (1995-1998) Least (Before-After) Fair (4 limitations)	Location: Southern region, USA Components: AHRF + Small media Comparison: None	Employees of a non-profit day care center corporation with multiple sites 84 staff members in 1995 29 (34%) participants completed the HPHRA form in 1995 22 (26%) completed the CVD screening program in 1995 61 (73%) completed all phases of the HPHRA-CVD screening program in 1997 14 had participated in 1995 57 participants in 1998 post-test	Mean BMI	NR	NR	BMI does not change	3 y

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Author & year (study period) Design suitability (design) Quality of execution (# of Limitations)	Location Intervention and Comparison elements	Study population description Sample size	CHOLESTEROL				
			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
Anderson 1999 (NR) Least (Before-After arm selected from a randomized trial (Group)) Fair (4 limitations)	Location: Denver, CO Components: AHRF + Screening + Small media + Incentives (for participation) Comparison: Before-After	Employees from eight Colorado worksites 502 employees from 8 Colorado worksites 234 employees at baseline 118 employees in usual care (AHRF)	Mean cholesterol levels for participants with serum cholesterol levels ≥ 200 mg/dL (n=61)	235.3	213.1	-22.2 mg/dL	12 m
Burton 2006 (2002-2004) Least (Before-After) Fair (4 limitations)	Location: USA (25 states) Components: AHRF + small media + self-care book	Worksites of a national financial services company 73,456 eligible 17,685 returned first HRA in 2002 7,026 who returned HRA in 2002 and 2004	Percent at risk (Self-reported total cholesterol >239, HDL <40, or taking cholesterol medication)	NR	NR	+3.3 pct pts p<.05	2 y
Edye 1989 Frommer 1990 (1977-1985) Greatest (Individual randomized trial) Fair (4 limitations)	Location: Sydney, Australia Components: AHRF + Screening + Small media Comparison: AHRF + Screening + Small media	Participating government employees from two selected government organizations 4,607 volunteers 2,489 eligible 1,937 (78%) at followup	Mean change in serum cholesterol level (mg/dL)	NR	-13.5 mg/dL	-13.5 mg/dL (CI:-12.8, -14.3)	3 y
Fries 1992 (1986-1991) Moderate (Time Series) Fair (3 limitations)	Location: California Components: AHRF + Screening + Small media Comparison: Time Series	Clients enrolled in Healthtrac 135,093 enrolled over the study period 45,186 employees at 6-month followup 21,075 employees at 12-month followup 2,359 employees at 18-month followup 1,193 employees at 30-month followup	Cholesterol (mg/dL)	203.0	194.0	-9.0 mg/dL	18 m
Gemson 1995 (1988-1991) Greatest (Randomized)	Location: New York, NY Components: AHRF +	Employees of Merrill Lynch & Company	Mean total cholesterol (mg/dL) Intervention	229.0	220.8	-0.7 mg/dL	6 m

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Author & year (study period) Design suitability (design) Quality of execution (# of Limitations)	Location Intervention and Comparison elements	Study population description Sample size	CHOLESTEROL				
			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
comparison trial) Fair (4 limitations)	Screening (physician periodic health exam) Comparison: AHRF + Screening (physician periodic health exam)	161 baseline 90 (56%) f/u Inter: 42 Comp: 48 High Health Age (HHA) at baseline I: 13 C: 13	Comparison High Health Age subset Intervention Comparison	225.0 NR NR	217.5 NR NR	-5.2 mg/dL	
Gomel 1993, 1997 Oldenburg 1995 NR Least (Before-After) Fair (4 limitations)	Location: Australia, Sydney Components: AHRF Comparison: Before-After	Employees of ambulance services 130 employees recruited 115 employees at 12-month followup	Mean total cholesterol (mg/dL) Group 1 Group 2	198.7 196.9	NR NR	No significant changes in mean cholesterol and no significant differences between groups	12 m
Hanlon 1995 (1991) Greatest (Individual randomized trial) Fair (3 limitations)	Location: Glasgow, Scotland Components: AHRF (Health Check event with biometrics; feedback during health education interview with additional written materials) Comparison: Usual Care (external comparison group)	Employees 2,600 eligible Sample of 1600 selected 1,381 (86%) enrolled and randomized to arm AHRF (full)=263 Comparison (ext)=261	Mean total cholesterol (mg/dL) Intervention Comparison	227.3 218.8	221.2 219.2	-6.6 mg/dL (ns)	5 m
Hartman 1993, 1995 McCarthy 1991, 1992 (NR) Least (Before-After arm selected from an other design with a concurrent comparison condition) Fair (4 limitations)	Location: Pheonix, AZ Components: AHRF + biometric screening + referral Comparoson: Before-After	Employees at 15 worksites (6 in AHRF) 1,900 eligible 1,193 baseline 586 with cholesterol > 5.2mmol/liter 116 in AHRF group	Mean total cholesterol (mg/dL)	227.3	224.6	-2.7 mg/dL	8 w
Nilsson 2001 NR Least (Before-After study arm selected from randomized trial) Fair (4 limitations)	Location: Helsingborg, Sweden Components: AHRF	Employees of 4 branches of the local public sector 454 employees completed the questionnaire 128 employess were randomly	Mean total cholesterol (mg/dL)	220.4	220.4	0 mg/dL (CI:-16.61, 16.61)	18 m

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			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
		assigned 46 comparison group at 18 months					
Puska 1988 (1984 – 1985) Least (Before-After) Fair (4 limitations)	Location: Finland Components: AHRF + Screening + Small Media	Employees from 16 participating worksites Number eligible NR 715 Baseline 636 Followup 225 AHRF	Mean total cholesterol (mg/dL) Mean serum HDL cholesterol (mg/dL)	220.4 54.5	216.5 54.1	-3.9 mg/dL p<.001 -4 mg/dL (ns)	1 y
Rodnick 1982 (1978-1980) Least Suitable (Before- After) Fair (3 or 4)	Location: Santa Rosa, CA Components: AHRF Comparison: Before-After	Employees of Optical Coating Laboratory, Inc. ~700 employees 292 employees completed 1 st and 2 nd screenings	Mean total cholesterol levels (mg/dL) Women Men Total	 223.0 226.4 225.0	 221.0 218.5 219.5	 -2.0 mg/dL -7.9 mg/dL -5.5 mg/dL	2 y
Shi 1992 Shi 1993 (1988-1990) Least (Before-After) Fair (3 limitations)	Location: Northern California Components Level 1: AHRF + Screening Level 2: AHRF + screening + resource center + self-care book Comparison: Before-After	Employees of PG & E divisions Level 1 1,030 employees participated in phase 1 Level 2 785 employees participated in phase 2 Level 2 785 employees participated in phase 1 532 employees participated in phase 2	Prevalence of employees with blood cholesterol levels >210 mg/dL Level 1 Level 2	 42.0% 35.0%	 30.0% 23.0%	 -12.0 pct pts (-29%) p<.01 -12.0 pct pts (-34.3%)	2 y
Syzmanski 1991 (NR) Least Suitable (Before- After) Fair (4 limitations)	Location: Greenville, SC Components: Serial AHRF + Screening + Group HE (Occasional) Comparison: Before-After	Employees of the Liberty Corporation 723 employees 717 (99%) participants	Mean total cholesterol (mg/dL): Total Mean HDL cholesterol (mg/dL): Females Males Total	195.9 211.0 200.8 (39.3) 55.5 48.6	199.5 212.9 203.9 (40.9) 57.3 47.9	3.6 mg/dL p=0.02 1.9 mg/dL (ns) 3.1 mg/dL (CI: -1.1, 7.2) 1.8 mg/dL -0.7 mg/dL	Mean 4.6 y

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Author & year (study period) Design suitability (design) Quality of execution (# of Limitations)	Location Intervention and Comparison elements	Study population description Sample size	CHOLESTEROL				
			Results				
			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
				53.3 (16.5)	54.2(14.0)	0.9 mg/dL (CI: -0.6, 2.6)	
Williams 2000 (NR) Least (Before-After) Fair (2 limitations)	Location: Georgia Components: AHRF	One rural and one urban worksite 37 rural employees 34 urban employees (combined)	Mean total cholesterol levels (mg/dL)	212.5	200.7	11.9 mg/dL p<.05	1 y
Williams 2001 (1995-1998) Least Suitable (Before-After) Fair (4 or 5 limitations)	Location: Southern region, USA Components: AHRF + Small media Comparison: None	Employees of a non-profit day care center corporation with multiple sites 84 staff members in 1995 29 (34%) participants completed the HPHRA form in 1995 22 (26%) completed the CVD screening program in 1995 61 (73%) completed all phases of the HPHRA-CVD screening program in 1997 14 had participated in 1995 57 participants in 1998 post-test	Mean total cholesterol levels (mg/dL)	190.5	NR	Non-significant increase at p=.06	3 y

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Author & year (study period) Design suitability (design) Quality of execution (# of Limitations)	Location Intervention and Comparison elements	Study population description Sample size	HEALTH RISKS				
			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
Burton 2006 (2002-2004) Least (Before-After) Fair (4 limitations)	Location: 25 states, USA Components: AHRF + small media + self-care book	Worksites of a national financial services company 73,456 eligible 17,685 returned first HRA in 2002 7,026 who returned HRA in 2002 and 2004	Average number of health risks per person (based on self report)	2.01	2.08	+0.07 risks (+3.5%) p=.35	2 y
			Percent medium to high risk (>3 risk factors)	33.3	35.4	+2.1 pct points (+6.3%)	
Fries 1992 (1986-1991) Moderate (Time Series) Fair (4 limitations) (Employees with health insurance coverage)	Location: California Components: AHRF (q6m) + Small media Comparison: Time series (Before-After)	Healthtrac clients under age 65 enrolling 1986-1991 135,093 Subset of enrollees with by f/u duration <u>12m</u> <u>18m</u> <u>30m</u> 21,075 9845 1193	Mean Health Risk Score- Cardiovascular (based on Framingham Study: 1=perfect, 99=bad)	20.7	16.9	-3.8 (-18.4%) p<0.0001	18m
Fries 1994 (1990-1991) Least (Before-After) Fair (4 limitations) Note: study was an individual randomized trial, but data on comparison subjects was post-only	Location: California Components: AHRF (q6m or q12m using a long form or a short form) + Small media Comparison: Before-After	California Public Employees Retirement System employees 21,170 employees 5,421 active employees at baseline 4,374 (81%) employees over 12-month study period	Mean Health Risk Score (weighted average of self-reported major risk factors modified from Framingham multiple-risk logistic function)				12m
			6 month interval-long form (n=691)	18.1	16.7	-1.4 (-7.7%) p<0.01	
			6 month interval-short form (n=630)	18.2	16.1	-2.1 (-11.5%) p<0.01	
			12 month interval-long form (n=1,462)	18.9	17.9	-1.0 (-5.3%) p<0.001	
12 month interval-short form(n=1,591)	19.1	18.0	-1.1 (-5.8%) p<0.001				
Gemson 1995 (1988-1991) Greatest (Individual randomized trial)	Location: New York, NY Components: AHRF + Screening (physician periodic)	Employees of Merrill Lynch & Company 161 baseline	Appraised Age (an estimated health age taking into account health				6m

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			Results				
			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
Fair (4 limitations)	health exam) Comparison: AHRF + Screening (physician periodic health exam)	90 (56%) f/u Inter: 42 Comp: 48 High Health Age (HHA) at baseline I: 13 C: 13	behaviors) Intervention Comparison Subset analysis: HHA Intervention Comparison	44.1 43.8 NR NR	42.1 43.4 NR NR	-1.6 years (-5.7%) p≤0.05 -5.1 years p≤0.05	
Gomel 1993, 1997 Oldenburg 1995 (NR) Least (Before-After) Fair (4 limitations) Full study is a group randomized trial	Location: Sydney, Australia Components: AHRF + Screening Comparison: Two study arms equivalent to AHRF evaluated as Before-After comparisons	Recruited employees of study ambulance service worksites 488 eligible 431 (88%) incl <u>Group N bslne N f/u</u> HRA 130 115 HRA+RFE 82 70	Framingham multiple logistic regression function (Cardiovascular) (represents log odds ratio of having coronary event in 12 years; based on cholesterol, systolic BP, relative weight, hemoglobin level, ECG or Rose questionnaire, age) HRA HRA+RFE Standardized composite risk score (unweighted; based on BMI, cholesterol, cigarettes smoked per day, blood pressure, and aerobic capacity) HRA HRA+RFE	Estimated from plots -6.14 -6.01	-6.12 -6.05	No significant change No significant change	12m
Hagihara 1992	Location: Osaka, Japan	Male bank employees	Health Practice				

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			Results				
			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
(1900-1991) Greatest (Other Design with Concurrent Comparison Group) Fair (4 limitations)	Components: AHRF + Screening + HE Comparison: AHRF + screening	210 participants <u>Group Nbsl Nf/u</u> Inter: 102 101 Comp: 106 103 Subset analysis on participants with low baseline score (0-3) Inter: NR Comp: NR	Index Score (0-8 number of behavioral risk factors) Intervention Comparison High-risk subset analysis (those with baseline score 0-3) Intervention Comparison	 3.88±1.54 4.04±1.57 6.1± 0.35 6.29 +0.47	 3.67±1.93 3.71±1.96 5.5 ±0.85 5.87 +0.87	 +0.1 points (+3.0%) (ns) +0.2 points (+3.38%) p<.01	6 m
Hanlon 1995 (1991) Greatest (Individual randomized trial) Fair (3 limitations)	Location: Glasgow, Scotland Components: AHRF + biometrics + HE Comparison: Usual care (internal comparison group)	Recruited employees from a random sample of eligibles 2,600 eligible 1,600 sample 1,381 (86%) assigned <u>Group Bslne F/u</u> Full I 263 199 Int C 233 185	Dundee Risk Score (cardiovascular risk based on smoking status, blood pressure, and cholesterol) Intervention Comparison	 5.47+3.99 5.61+4.17	 6.00 5.95	 -0.2 (-4.8%) (CI:-0.1,0.5) p=0.21	5m
Maes 1998 (1990-1993) Least (Before-After comparison arm of trial) Fair (3 limitations) Full study was a group randomized trial	Location: Netherlands (Dutch Brabantia worksites) Components: Borderline AHRF alone (structured interview AHRF, biometrics, referral of persons with "high risk" assessment) Comparison: Before-After change in the comparison arm	Employees of study worksites N comparison arm Baseline=171 1 yr f/u 169 (99%) 2yr f/u 157 (92%) 3yr f/u 130 (76%)	Mean number of healthy lifestyle activities (0-6 score) Mean Health risk score (2-year followup) (coefficients from the Framingham Study)	4.43 (1.199) 0.055 (0.060)	4.26 (1.321) 0.065 (0.063)	-0.2 behaviors (-3.8%) (CI:-0.5,0.1) +0.01 scale points NR	3 y 2 y

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			Results				
			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
Nilsson 2001 NR Least (Before-After study arm selected from randomized trial) Fair (4 limitations)	Location: Helsingborg, Sweden Components: AHRF	Employees of 4 branches of the local public sector 454 employees completed the questionnaire 128 employees were randomly assigned 46 comparison group at 18 months	Mean Cardiovascular-risk score (range 1-20)	10.8	10.0	-0.8 (-7.4%) (ns)	18 m
Puska 1988 (1984 – 1985) Least (Before-After) Fair (4 limitations)	Location: Finland Components: AHRF + Screening + Small Media	Employees from 16 participating worksites Number eligible NR 715 Baseline 636 Followup 225 AHRF	Risk score (Based on 1-4 points for each of three risks: smoking, cholesterol, blood pressure. Range (0 – 12).	3.2	3.0	-0.2 (-6.3%) p<.001	1 y
Rodnick 1982 (1978-1980) Least (Before-After) Fair (3 or 4 limitations)	Location: Santa Rosa, CA Components: AHRF Comparison: Before-After	Employees of Optical Coating Laboratory, Inc. ~700 employees 292 participating employees with complete data Women 120 Men 172	Difference between appraised and actual age Women Men Total	-1.32 -0.60 -0.90	-1.58 -2.37 -2.05	-0.3 years (-19.7%) p=0.14 -1.8 years (-295.0%) p=0.001 -1.2 yrs (-128.3%)	1 y

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			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
Fries 1994 (1990-1991) Least (Before-After) Fair (4 limitations)	Location: California Components: AHRF + Small media Comparison: Before-After	California Public Employees Retirement System employees 21,170 employees 5,421 active employees 4,374 employees over 12-month study period	Self-reported change in hospital days per year	0.5	0.5	0.0 days	18 m
Kellerman 1992 (March – December 1988) Least (Before-After) Fair (4 limitations)	Location: North Carolina Components: AHRF + Referrals + Small media	Textile plant employees 615 employees 136 completed 8-month followup	Percent reporting having a rectal exam	0	23.0%	+23.0 pct pts	8 m
			Percent reporting having a pap smear	0	40%	+40.0 pct pts	
Rodnick 1982 (1978-1980) Least (Before-After) Fair (3 or 4 limitations)	Location: Santa Rosa, CA Components: AHRF Comparison: Before-After	Employees of Optical Coating Laboratory, Inc. ~700 employees 292 employees completed 1 st and 2 nd screenings	Percent reporting increases in breast self-exam	52.0%	74.0%	+22.0 pct pts (+42.3%) p=.07	1 y
			Percent reporting increases in annual palpation by physician	65.0%	79.0%	+14.0 pct pts (21.5%) p=.03	
Shi 1992 Shi 1993 (1988-1990) Least (Before-After) Fair (3 limitations)	Location: Northern California Components: AHRF + Screening Comparison: Before-After	Employees of PG & E divisions Level 1 1,030 employees in phase 1 785 employees in phase 2 Final 412 Level 2 785 employees in phase 1 532 employees in phase 2 Final 301	Hospitalization Days Total for group Level 1 Level 2 Mean per person Level 1 Level 2	 118 75 0.29 0.25	 106 62 0.25 0.21	 -12.0 days -13.0 days -0.03 days -0.04 days	2 y
Tilley 1997, 1999, 1999b (1993-1995) Least (Before-After study arm from a group)	Location: Michigan, Ohio, Indiana, New York, and Pennsylvania	Employees of 28 automotive plants 1,369 Intervention group 1,541 AHRF	Compliance to recommendations regarding cancer screenings (%)		35.0 (1.0)	35.0% (1.0)	24 m

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			Results				Follow-up time
			Outcome measure	Baseline value	Outcome value	Value used in summary	
randomized trial) Fair (3 limitations)	Components: AHRF + Incentives		Compliance confirmed (%)		19.0 (1.0)	19.0% (1.0)	

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			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
Fries 1994 (1990-1991) Least (Before-After) Fair (4 limitations)	Location: California Components: AHRF + Small media Comparison: Before-After	California Public Employees Retirement System employees 12-month/short questionnaire 1,591	Mean self-reported days sick/confined home per year	5.5	4.3	-1.2 days per year (-21.8%) p<.05	18 m
Maes 1998 (1990-1993) Least (Before-After) Comparison arm of trial) Fair (3 limitations) Full study was a group randomized trial	Location: Netherlands (Dutch Brabantia worksites) Components: Borderline AHRF alone (structured interview assessment, biometrics, referral of persons with "high risk" assessment) Comparison: Before-After change in the comparison arm	Employees of study worksites N comparison arm Baseline: 171 1 yr f/u 169 (99%) 2yr f/u 157 (92%) 3yr f/u 130 (76%)	Absenteeism (days)	14.3	9.5	-4.8 days (-33.6%)	3 y
Nilsson 2001 NR Least (Before-After study arm selected from randomized trial) Fair (4 limitations)	Location: Helsingborg, Sweden Components: AHRF	Employees of 4 branches of the local public sector 454 employees completed the questionnaire 128 employees were randomly assigned 46 comparison group at 18 months	Mean number of sick days	4.5	7.2	+2.7 sick days (+60%)	18 m
Puska 1988 (1984 – 1985) Least (Before-After) Fair (4 limitations)	Location: Finland Components: AHRF + Screening + Small Media	Employees from 16 participating worksites Number eligible NR 715 Baseline 636 Followup 225 AHRF	Mean number of self-reported days absent from work in preceding year due to illness	8.7	10.8	2.1 days absent (24.1%)	1 y
Shi 1992 Shi 1993 (1988-1990)	Location: Northern California Components: AHRF +	Employees of PG & E divisions Level 1	Mean self-reported days absent from work due to illness				2 y

AHRF – Assessment of Health Risk with Feedback
PA – Physical activity
ROPC – Reduced out-of-pocket costs

HE – Health education
N – Nutrition
HR – High Risk

EA – Enhanced access
Med – Medical care
CI=95% Confidence interval

NS=Not significant

Author & year (study period) Design suitability (design) Quality of execution (# of Limitations)	Location Intervention and Comparison elements	Study population description Sample size	ABSENTEEISM				
			Results				
			Outcome measure	Baseline value	Outcome value	Value used in summary	Follow-up time
Least (Before-After) Fair (3 limitations)	Screening Comparison: Before-After	1,030 employees in phase 1 785 employees in phase 2 Final 412 Level 2 785 employees in phase 1 532 employees in phase 2 Final 301	(1988-1989)				
			Level 1	5.05	4.78	-0.3 days absent (-5.3%)	
			Level 2	4.96	4.69	-0.3 days absent (-5.4%)	

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