Evidence Table 1. Objective of health risk appraisals

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Alexander[112] 2010 United States	Type of study: RCT Length of followup: 12 mths Method of followup: online, e-mail Intervals within followup period: 3	n=2,540/1,761 Mean age: 46 years 69% female Dropouts: 779 Reasons for dropouts: 500 lost to followup, 54 excluded due to conflicting demographics, 199 with implausible data, 26 with missing data Recommendations for dropouts: NR	Group 1: HRA + program + incentives (Control group) vs. Group 2: HRA + repeated program + incentives vs. Group 3: Same as Group 2 + 4 sets MI counseling via e-mail (following Web sessions) Where administered: clinic Personnel: research assistants trained as counselors Types of feedback: written results, written educational, email counseling Timeliness: contact 1 wk post 1st Web session visit Targeted health condition: general health Medicare population: no	Two measures of fruit and vegetable intake: 16 item fruit and vegetable food frequency questionnaire 2 item short questionnaire	Sig increase fruit and vegetable servings Group 3 vs. control (2.80 vs. 2.34 p=0.05) MD = 0.46 2-Item at 12 mths Sig increase fruit and vegetable servings Group 2 (2.55 p=0.05) and Group 3 (2.55 p=0.042) vs. control (2.38) MD = 0.17 Durability: it is believed that "dramatic, rapid, and prolonged improvement can be attained through the use of a well-designed, contemporary, and appealing Web-based program." (p 325)

ABBREVIATIONS: co=company, HRA=health risk assessment, mth=month; MVPA=mean minutes of moderate to vigorous physical activity, n/a=not applicable, NR=not reported, NS=not significant, PA=physical activity, re-eval=re-evaluation, Sig=significant, VFC=virtual fitness center, wk=week

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Angotti[39] 2000 United States	Type of study: Cohort Length of followup: 108 mths Method of followup: Clinical examination Intervals within followup period: up to 9	n=1,821/1,583 Mean age: NR % female: NR Dropouts: 238 Reasons for dropouts: did not have total serum cholesterol levels measured at beginning and end of 8 wk intervention Recommendations for dropouts: NR	Group 1: HRA + Cardiovascular Risk Reduction Program for 8 wks (personalized dietary counseling and education, exercise) vs. Group 2: HRA + usual activities (some may later have received the interventions) Where administered: workplace Type of feedback: face to face Personnel: NR Targeted health condition: cardiovascular health (total serum cholesterol) Medicare population: no	Total serum cholesterol HDL cholesterol levels	Within group -significant reduction in total serum cholesterol over 9 years in Group 1 MD = 218.2mg/dl - 254.7mg/dl= -36.5 mg/dl No between group results were reported Durability: can be accomplished by implementing a combined dietary and exercise intervention program

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Aronow[105] 2005 United States	Type of study: feasibility study/ RCT Length of followup: variable 18 to 581 days Method of followup: questionnaire, in-person interview, mail Intervals within followup period: 3	n=201/201 Mean age: 41 years 47% female Dropouts: 0 Reasons for dropouts: n/a Recommendations for dropouts: n/a	Group 1: HRA + assigned to an advanced practice nurse intervention of in-home multidimensional assessment, targeted recommendations and followup; initial visit + up to 3 followup visits vs. Group 2: HRA + written feedback Where administered: clinic or home Personnel: advance practice nurse (Group 1) and trained non-professional interviewer (Group 2) Types of feedback: one-on-one with advanced practice nurse and written Timeliness: NR Targeted health condition: ageing persons with intellectual disabilities Medicare population: no	Burden of health risks Health strengths Use of ER & acute med services	Stay Well and Healthy pilot results: no randomized study results published up to 2010-09-08 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Baer[106] 2001 United States	Type of study: RCT Length of followup: 48 mths Method of followup: mailed followup assessments, telephone interviews Intervals within followup period: 4	n=348/328 Mean age: NR 55% female Dropouts: 20 Reasons for dropouts: NR Recommendations for dropouts: NR	Group 1: yearly questionnaires vs. Group 2: yearly individualized feedback session + mailed annual assessments + 6 mth followup + 1 page list of tips for reducing risks associated with drinking Where administered: at university Personnel: trained interviewers Types of feedback: verbal, written Timeliness: feedback given during annual individualized feedback session Targeted health condition: alcohol intake Medicare population: no	Quality frequency peak occasions Daily drinking questionnaire Rutgers alcohol problem inventory Alcohol dependency scale	Measure of negative drinking consequence: $F_{4321} = 45.65$ $p<0.001$ Measure of drinking quantity: $F_{4321} = 28.22$ $p<0.001$ Drinking frequency: $F_{4321} = 7.58$ $p<0.001$ Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Bergstrom[42] 2009 Sweden	Type of study: Cohort Length of followup: 42 mths Method of followup: mailed questionnaire; phone call Intervals within followup period: 10 (entire process of screening, feedback and intervention was repeated 3 times during the 42 mth study)	5 Companies @ Year.1: n=4,101 Year.2: n=4,858 Year.3: n=4,809 Year.4: n=4,894 Mean age: Co. 1=46.9 years Co. 2=45.1 years Co. 3=43 years Co. 4=36.8 years Co. 5=45.8 years 12% female Dropouts: Attrition (mean at 10 measuring points): Co. 1=16.7% Co. 2=24.7% Co. 3=29.6% Co. 4=38.3% Co. 5=26.2% Reasons for dropouts: 406 no longer with company Recommendations for dropouts: NR	The AHA method: Co.1: HRA+10 questionnaires + intervention (4 wks fulltime multidisciplinary rehab for high-risk; 2 wks rehab for some risk in any of the areas; or offered measures at OHS if not meeting criteria for rehab) started 1st quarter of 2000 Co.2: same as Co.1 (intervention at 2nd quarter of 2000) Co.3: same as Co.1 (intervention at 3rd quarter of 2000) Co.4: same as Co.1 (intervention at 4th quarter of 2000) Co.4 (reference): delayed start to 2001 + limited intervention (feedback material only) Where administered: worksite Personnel: nurse, doctor, occupational health personnel Types of feedback: written recommendations; group feedback	Smoking Physical activity	Smoking: all 4 companies display significantly negative gradients. Companies 1,2 and 4 display significant decrease in proportion of smokers ($p<0.05$; $p<0.01$; $p<0.05$) compared to reference group Physical activity: none of the companies' regression lines have a significantly different gradient compared to the reference group Durability: "During the study period all four of the companies reorganized to some degree and, partly inspired by this intervention, they also launched health promotion activities of their own….Some of these interventions can be viewed as a spin-off effect of the intervention" (p.178)

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
			Timeliness: from HRA until OHS assessment: varied by company ranged 4-104 wks Targeted health condition: CVD, general health Medicare population: no		

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Bertera[15] 1993 United States	Type of study: Cohort Length of followup: 24 mths Method of followup: meetings + educational materials Intervals within followup period: NR	n=14,279 Mean age: approximately half were 40 years or older 25% female Dropouts: NR Reasons for dropouts: NR Recommendations for dropouts: NR	Group 1: HRA + feedback + education + environmental changes + incentives vs. Group 2: usual practice Where administered: workplace Personnel: lay volunteers, medical personnel, health and fitness specialists Types of feedback: not reported Timeliness: 1 mth Targeted health condition: general health, cardiovascular health, other Medicare population: no	Serum cholesterol level Systolic blood pressure % overweight Alcohol intake Seatbelt use	Intervention within group at 2 years from baseline: At risk employees: mean total cholesterol (mg/dl) MD = -11.41 p<0.001 SBP (mmHg) MD = -10.6 mmHg p<0.01 NS mean percent overweight 15 + alcoholic drinks/wk MD = -9.93 drinks/wk p<0.001 Seat belt use MD = 28.23% p<0.001 No between group results were reported Durability: "A longer followup period would be desirable to study the durability of behavioral risk changes…" p 372

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Blair[45] 1986 United States	Type of study: Cohort Length of followup: various Method of followup: meetings, classes Intervals within followup period: multiple, one re-test	n=3,486/2,632 Mean age: 42 years 79% female Dropouts: 854 Reasons for dropouts: only 2,632 participants returned for post-testing Recommendations for dropouts: NR	Group 1: HRA + Feedback + Exercise Programs + Incentives Group 2: no intervention Where administered: workplace, health promotion centers Personnel: project staff Types of feedback: verbal Timeliness: at onset of 10 wk intensive intervention program Targeted health condition: general health, obesity/weight, cardiovascular health Medicare population: no	Absenteeism Systolic BP (mmHg) Diastolic BP (mmHg) Total cholesterol (mg/dl) HDL-C[b] (mg/dl) General well-being total	No between group results were reported Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Blair[28] 1986 United States	Type of study: Cohort Length of followup: 24 mths Method of followup: Global self-rating exercise survey; maximal oxygen uptake measurements Intervals within followup period: 2	n=2,147 (4 companies = 1,399; 3 companies = 748) Mean age: NR % female: NR Dropouts: NR Reasons for dropouts: NR Recommendations for dropouts: NR	Intervention (4 companies, 1399 employees): Health promotion program (Johnson & Johnson Live for Life) –annual health screen with medical encouragement to initiate/maintain regular exercise regime, environmental changes to support regular exercise; repeated availability of exercise programs vs. Comparison (3 companies, 748 employees): annual health screen Where administered: worksite Personnel: registered nurse Types of feedback: personalized; group Timeliness: NR Targeted health condition: physical activity Medicare population: no	Physical activity Physical fitness (maximal oxygen uptake)	Self-rating of exercise by Health promotion program employees higher than health screen-only employees at year 1 (4.69 vs. 4.44) and year 2 (4.59 vs. 4.32) ($p<0.0001$ for both years) Differences between employees of both groups were significant ($p<0.0001$) for both years. V02max: 8.4% vs.1.5% year. 1 10.5% vs. 4.7% year. 2 Durability: "This model produced exercise changes that persisted over a two-year period and were widely distributed throughout the entire work force" (p.926)

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Blalock[102] 2002 United States	Type of study: RCT Length of followup: 12 mths Method of followup: telephone Intervals within followup period: 3	n=714/547 Mean age: 47 years 100% female Dropouts: 167 Reasons for dropouts: 60 were eliminated due to low bone density; and 107 lost to followup Recommendations to dropouts: NR	Group 1: HRA + Education (tailored) + written materials (x2 packages) + 1 phone counseling session Group 2: HRA + Community Intervention (non-tailored); established resource center, conducted workshop, offered bone density screening Where administered: telephone Personnel: NR Types of feedback: not reported Timeliness: not reported Targeted health condition: physical activity, other (osteoporosis) Medicare population: no	Calcium intake* Exercise level* *stratified by stage of change Unengaged Engaged Action	Action group: -non-tailored at 12 mths vs. tailored MD = 144 p<0.05 -community intervention MD = 132 p<0.10 Unengaged group: -community intervention vs. control MD 6.4 p<0.10 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Boudreau[54] 1995 Canada	Type of study: RCT Length of followup: 2 mths Method of followup: mailed questionnaire Intervals within followup period: 1	n=227/184 Mean age: 43 years 41% female Dropouts: of the initial 227 subjects who volunteered to participate only 219 completed the baseline questionnaire; 110 from Group 1 and 109 from Group 2 Reasons for dropouts: of the 219 participants only 188 subjects returned the 2nd questionnaire; 88 from Group 1 and 96 from Group 2 and 4 were excluded due to missing data, leaving 184 participants Recommendations for dropouts: NR	Group 1: pre-intervention, questionnaire, HRA activity, cardiovascular health risk-factor assessment + Feedback + Counseling + Education vs. Group 2: post-intervention, HRA activity, cardiovascular health risk-factor assessment + Feedback + Counseling + Education, questionnaire vs. Group 3: No intervention, comparison group (made up of a separate group of 249 subjects) Where administered: workplace Personnel: medical technologist, nurse, health professional Types of feedback: NR Timeliness: NR Targeted health condition: cardiovascular health, physical activity Medicare population: no	Exercise behavior assessed by asking the following question: "since the HRA activity, how many times have you participated in one or more physical activities for 20 to 30 minutes per session during your free time?"	No between group results reported Durability: "…repeated interventions in the work place…should favor the transition of a positive intention into action" (p.1149)

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Braeckman[70] 1999 Belgium	Type of study: RCT Length of followup: 6 mths (3 mth intervention + 3 mth post-intervention followup) Method of followup: mailed survey Intervals within followup period: 1	n=770/638 Mean age: 44 years 0% female Dropouts: 32 Reasons for dropouts: NR Recommendations for dropouts: NR	Group 1: HRA + personal counseling session & feedback + 2hr group sessions + mass media activities (posters, leaflets, video, question & answer period) + environmental changes + newsletter + questionnaire (at baseline & 3 mths post-treatment) vs. Group 2 (control): HRA + written feedback Where administered: worksite Personnel: dietician Types of feedback: verbal, written Timeliness: 2 wks after health check Targeted health condition: general health, cholesterol Medicare population: no	Weight BMI Waist to hip (W/H) Serum cholesterol Lipoprotein cholesterol (HDL)	NR p<0.001 NS NS p<0.001 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Brennan[121] 2010 United States	Type of study: RCT Length of followup: 12 mths Method of followup: written, verbal, mailed request, telephone assessments Intervals within followup period: 2, mthly calls up to 10	n=638/485 Mean age: Baseline: 55 years Completion: 56 years 66.4% female at baseline 67% female at completion Dropouts: 153 Reasons for dropouts: did not provide a final BP measurement Recommendations for dropouts: NR	Group 1: HRA (baseline, 6 mth, 12 mth) + telephonic nurse disease management program + 1 time mailing of educational materials + lifestyle & diet counseling + home BP monitor + mailed request for BP measurements at 6-mths + 3-10 X 15-20min phone calls + quarterly PCP reports on member progress + incentive vs. Group 2: HRA (baseline, 6 mth, 12 mth) + home BP monitor + mailed request for BP measurements at 6-mths + incentive Where administered: home Personnel: nurse Types of feedback: verbal Timeliness: initial nurse call Targeted health condition: hypertension (blood pressure) Medicare population: yes	Blood Pressure	Control → unadjusted Systolic BP p=0.05 Diastolic BP p=0.59 Control → adjusted Systolic BP p=0.03 Diastolic BP p=0.99 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Breslow[40] 1990 United States	Type of study: Cohort Length of followup: 24 mths Method of followup: survey; medical test Intervals within followup period: 2	n=4,300/4,035 Mean age: NR % female: NR Dropouts: 265 Reasons for dropouts: NR Recommendations for dropouts: NR	Group 1: 4 companies; full Live for Life health promotion program-health profile + nurse consultation + 3hr lifestyle seminar + lifestyle improvement activities at company + incentives vs. Group 2: control, 3 companies, health profile Where administered: worksite Personnel: nurse Types of feedback: face to face; group Timeliness: NR Targeted health condition: Physical activity; smoking cessation Medicare population: no	Physical Fitness levels Smoking cessation	V02max 38.7 vs. 36.7 p<0.0001 22.6% (avg. 14.8 mths) vs. 17.4% (avg. 12.3 mths) p=0.12 Durability: "…after a relatively short time the comparison groups where the comprehensive program was not made available at the outset were lost as such because the comparison companies began to adopt the program" (p.19).

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Brug[56] 1996 Netherlands	Type of study: RCT Length of followup: 5 to 6 wks Method of followup: computer-generated feedback letters Intervals within followup period: 1	n=507/347 Mean age: 39 years 17% female Dropouts: 160 Reasons for dropouts: did not return second screening questionnaire Recommendations for dropouts: NR	Group 1: HRA + tailored feedback Group 2: general nutrition info Where administered: workplace Personnel: self-administered, computer-generated questionnaire Types of feedback: not reported Timeliness: 2 wks after screening questionnaire Targeted health condition: general health (nutrition) Medicare population: no	Reactions to feedback letters; Fat, vegetable & fruit consumption measured on a 7 point scale (very high/very low)	Significant decrease in fat consumption experimental group vs. control: 26.9 to 27.2 = -0.3 $p<0.01$ Percentage increase in vegetable consumption from baseline: Tailored: 14% Non-tailored: 9% No between group results were reported Durability: "…computer tailored nutrition education appears to be a promising way to stimulate people to change…" p. 242

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Campbell[84] 1994 United States	Type of study: RCT Length of followup: 4 mths Method of followup: Mailed recommendations Intervals within followup period: 2	n=558/463 Mean age: 41 years 75% female Dropouts: 95 Reasons for dropouts: lost to followup Recommendations for dropouts: NR	Group 1: HRA + 1 time mailed tailored nutrition info package + computer-tailored nutrition messages + feedback + written recommendations/ education, followup survey at 3 mths vs. Group 2: HRA + non-tailored nutrition messages + feedback vs. Group 3: HRA, no nutrition messages, followup survey at 3 mths Where administered: doctor's office/home administration, Personnel: family practice staff Types of feedback: mailed feedback Timeliness: after initial assessment Targeted health condition: general health, other (dietary behavior) Medicare population: no	Total fat intake Saturated fat intake Psychosocial information	Total fat intake: Group 1: -10.3 g/day* Saturated fat intake: Group 1: -4.8 g/day* *p<0.05 vs. Group 3 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Campbell[55] 2002 United States	Type of study: RCT Length of followup: 6 mths, 18 mths Method of followup: questionnaire, telephone Intervals within followup period: 2	n=859/538 Mean age: 53% were 40 years or younger 100% female Dropouts: 321 Reasons for dropouts: 660 completed the 6 mth survey, 650 completed the 18 mth survey and 538 completed all 3 surveys Recommendations for dropouts: NR	Group 1: baseline survey, tailored individualized computer "magazines" + natural helpers program vs. Group 2: baseline survey, tailored individualized computer "magazines", delayed intervention, at 6 mth Where administered: workplace Personnel: project staff members Type of feedback: electronic, verbal Timeliness: NR Targeted health condition: general health, physical activity, other (nutrition) Medicare population: no	Physical activity BMI Smoking cessation Diet Cancer Screening	Differences in fruit, vegetable and fat intake: 6 mths: Group 1: 3.3; Group 2: 3.5(3.0) = -0.2 18 mths: Group 1 3.6 (3.1); Group 2: 3.4 (2.9)= 0.2 p<0.01 Differences in physical activity: Any exercise (%) Baseline: Group 1: 61%; Group 2: 67%; Diff -6 6 mths: Group 1: 68%; Group 2: 61%; Diff +7 18 mths: Group 1: 68%; Group 2: 65%; Diff +3 6 mths: p=0.09 18 mths: p=0.24 Durability: "study findings suggest that this intervention model may be feasible and effective for changing certain lifestyle behaviors…" p. 322

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Chan[21] 1988 United States	Type of study: Cohort Length of followup: 12 mths Method of followup: meetings, counseling sessions, pamphlets Intervals within followup period: 1	n=350/345 Mean age: 18 years % female NR Dropouts: 5 Reasons for dropouts: NR Recommendations for dropouts: NR	Group 1: HRA + Feedback + Counseling + Education + HRA vs. Group 2: HRA at beginning and end vs. Group 3: HRA at beginning vs. Group 4: HRA at end Where administered: university dormitories Personnel: counselors (graduate students in School of Nursing given three-day training in HRA results interpretation) Types of feedback: not reported Timeliness: not reported Targeted health condition: general health, smoking cessation Medicare population: no	Percentage of time wearing a seat belt Number of cigarettes smoked per day Number of cans of beer consumed per wk Number of times per wk drugs were used to affect mood	Stop smoking after HRA: Types of feedback: 6 / 23 (26%) No feedback: 1/17 (6%) p<0.05 Stopped OR reduced to >6/day: Types of feedback: 16 / 23 No feedback: 4 / 17 p<0.01 Durability: "…data suggests that Health Risk Appraisal, when followed by appropriate feedback, can be an effective health promotion tool…" p 558

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Charlson[85] 2008 United States	Type of study: RCT Length of followup: 24 mths Method of followup: meetings & phone Interviews Intervals within followup period: 2 in person; up to 8 by phone	n=660/595 Mean age: 62 years 27% female Dropouts: 65 Reasons for dropouts: 27 deceased, 38 lost to followup Recommendations for dropouts: NR	Group 1: HRA + physical/labs feedback + counseling + education + written material + referral to community-based behavioral change programs with different focus at delivery depending on the group, telephone contact every 3 mths vs. Group 2: Health Assessment, telephone contact every 3 mths, control group Where administered: patients enrolled while in hospital recovering from angioplasty Personnel: trained in behavioral change Types of feedback: given feedback, type not reported Timeliness: not reported Targeted health condition: cardiovascular health Medicare population: yes	Absence of the following at 24-mth followup: Mortality MI Angina Stroke Severe ischemia on non-invasive testing Physical activity Smoking Diet, weight, cholesterol, BP, Diabetes	Overall change: present: 39.1%; future 34.2% p=0.23 No between group results were reported Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Cockcroft[69] 1994 United Kingdom	Type of study: RCT Length of followup: 6 mths Method of followup: meeting, mailed questionnaire Intervals within followup period: 1	n=297/83 Mean age: 36 years 75% female Dropouts: 214 Reasons for dropouts: of the 297, 83 attended 2nd occasion, 214 chose not to Recommendations for dropouts: NR	Group 1: HRA + individualized feedback + counseling vs. Group 2: HRA alone Where administered: workplace (hospital) Personnel: staff (credentials not specified) Types of feedback: counseling, letter for GP Timeliness: within session Targeted health condition: general health, other (diet) Medicare population: no	Body Mass Index (BMI) (kg/m2) Diet score Alcohol/wk Stress (Factor 4) FEV1	No between group results were reported Durability: "…some evidence that individualized advice and target-setting can help people who have decided to change their health behavior…" p 75

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Connell[57] 1995 United States	Type of study: RCT Length of followup: 12 mths Method of followup: meeting, mailed booklet, information flyers, direct contact, telephone calls, Intervals within followup period: 1	n=2,198/ 801 Mean age: 39 years 61% female Dropouts: 1297 Reasons for dropouts: of the 2,198 enrolled at baseline only 1,432 elected to complete baseline screening; and of the 1,432, only 801 completed the followup assessments Recommendations for dropouts: NR	Group 1: intervention + HRA booklet + counseling + feedback vs. Group 2: intervention + Counseling + feedback vs. Group 3: HRA booklet + feedback vs. Group 4: Control Group, + feedback Where administered: workplace Personnel: registered nurse Types of feedback: verbal Timeliness: immediately after baseline screening Targeted health condition: general health (worksite health promotion), physical activity, other Medicare population: no	Total cholesterol Systolic BP Diastolic BP Exercise frequency BMI index	No between group results were reported Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Crouch[68] 1986 United States	Type of study: RCT Length of followup: 12 mths Method of followup: meeting, mail, telephone Intervals within followup period: 1	n=109/95 Mean age: 45 years 25% female Dropouts: 14 Reasons for dropouts: NR Recommendations for dropouts: NR	Group 1: HRA + face to face counseling in 5 sessions at wks 2, 4, 6, 10 and 14 , risk factor sessions at wks 12, 24, 36 and 52 (education, print materials, behavioral recommendations) vs. Group 2: HRA+ mail at wks 2, 4, 6, 10 and 14, + 4 visits to clinic, + phone call at wk 6 vs. Group 3: after initial session were contacted at 12 mth for re-evaluation vs. Group 4: no contact Where administered: workplace Personnel: health counselors Types of feedback: written reports, telephone call Timeliness: Group 1 at wk 12, Group 2 at wk 6, Group 3 at 12 mths, Group 4 at 12-18 mths Targeted health condition: obesity/weight, cardiovascular health Medicare population: no	Plasma cholesterol Triglycerides Weight Blood pressure (SBP, DBP)	No between group results were reported Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Dally[110] 2002 United States	Type of study: RCT Length of followup: 30 mths Method of followup: mail, written material, phone calls Intervals within followup period: 3	n=593/359 Mean age: 56 years 72% female Dropouts: 234 Reasons for dropouts: lost to followup Recommendations for dropouts: NR	Group 1: HRA + 3 disease related questionnaires 1 every 3 mths + education + written materials + personalized report vs. Group 2: HRA questionnaire at end of study Where administered: self-administered, mail, managed care organization members Personnel: research staff Types of feedback: personalized letter Timeliness: after 3 mths Targeted health condition: general health Medicare population: no	Outpatient utilization number of visits High utilization=16 visits (range 11 to 60+)	No between group results were reported Overall: intervention group had significantly lower ($p<0.05$) outpatient visits over 30 mths compared with control group Arthritis: intervention group had significantly lower ($p<0.05$) outpatient visits over 30 mths compared with control group High blood pressure: intervention group had significantly higher ($p<0.05$) outpatient visits at 12 mths compared with control group Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
De Bourdeauhuij[66] 2007 Belgium	Type of study: RCT Length of followup: 6 mths Method of followup: questionnaire Intervals within followup period: 1	n=539/337 Mean age= 39.1 years 68% female Dropouts: 202 Reasons for dropouts: of the 539 participants at baseline, only 337 completed 6 mth followup, the 37% drop out was lost to post-test Recommendations for dropouts: NR	Group 1: HRA+ interactive Web-based delivery of computer-tailored feedback vs. Group 2: HRA+ generic info vs. Group 3: control, no intervention Where administered: questionnaire, workplace, online Personnel: NR Types of feedback: electronic Timeliness: immediate Targeted health condition: general health Medicare population: no	Energy from fat (%) Total fat intake (g/day)	Energy from fat Group 1 vs. Group 2 (-1.7 %) Group 2 vs. Group 3 (-3.3 %) Group 1 vs. Group 3 (-5.0 %) p<0.001 Total fat intake: Group 1 vs. Group 2 (3.2g/day) Group 1 vs. Group 3 (-12.1g/day) p<0.05 Durability: "This study can be regarded as an effective "real-life" trial with an implementation strategy that can be useful for large scale dissemination" p 39

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
De Bourdeauhuij[108] 2010 Europe (Austria, Belgium, Crete, Germany, Greece, Sweden)	Type of study: RCT Length of followup: 3 mths Method of followup: computer survey with tailored feedback. Intervals within followup period: 2	n=49 schools n=1,053/494 students Mean age: 14.5 years 49% female Dropouts: 559 Reasons for dropouts: due to loss of data; server problems; teacher refusal to allow class time for Web use @ T2 and T3; limited computer facilities in schools (specific numbers not identified) Recommendations for dropouts: NR	Intervention Group: Computer-tailored advice at baseline and 1 mth; assessment at baseline and 3 mths. vs. Control group: Generic advice and all elements of tailored advice; Assessments at baseline and one mth HELENA-LSEI Where administered: computer Personnel: teachers Types of feedback: online Timeliness: immediate personalized computer feedback upon completion of Web-based questionnaires at T1, although slower at T2 &T3 due to technical program issues. Targeted health condition: lifestyle changes: physical activity and healthy eating Medicare population: no	Cycling for transportation (min/wk) Walking for transportation (min/wk) Walking in leisure time (min/wk) Moderate activity in leisure time (min/wk) Vigorous activity in leisure time (min/wk) Moderate activity at school (min/wk) Vigorous activity at school (min/wk) Total moderate to vigorous activity Computerized survey (Activ-O-Meter)	I: +19 min/wk C: +1 min/wk I: 15 min/wk C: 0 min/wk I: +20 min/wk C: +4 min/wk I: 21 min/wk C: -19 min/wk I: +37 min/wk C: +7 min/wk I: +6 min/wk C: 0 min/wk I: +9 min/wk C: -1 min/wk I: +33 min/wk C: -18 min/wk Durability- only possible if schools have adequate computers, time, internet connections and teacher willing to supervise (students unlikely to do this intervention on own)

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Edelman[107] 2006 United States	Type of study: RCT Length of followup: 10 mths Method of followup: meetings, phone calls Intervals within followup period: bi-wkly coaching sessions, assessments at 5 & 10 mths	n=154/116 Mean age: NR 80% female Dropouts: 38 Reasons for dropouts: 26 lost at 5 mth followup, 12 lost at 10 mth followup Recommendations for dropouts: NR	Arm 1: HRA (baseline, 5 mths, 10 mths) + personal risk education (over 1st 7 wks) + personalized health plan (small group sessions + individual telephone coaching sessions + group meetings, 28 2-hr meetings over 10 mths, wkly for 1st 4 mths, biwkly between mths 5-9, 1 at end of intervention) + calls with coach between sessions Arm 2: HRA (baseline, 5 mths, 10 mths) + usual care Where administered: university center Personnel: health coach, physician, assistant physician, research assistant Types of feedback: one-to-one verbal Timeliness: at baseline and at 5 mth assessment Targeted health condition: reduce risk of CHD, increase physical activity Medicare population: no	BMI Farmingham 10-year risk of CHD (age, gender, blood pressure, diabetes status, smoking status, lipid data)	BMI: reduction 1.2 vs. 0.6 p=0.11 Exercise increased 3.7 vs. 2.4 days p=0.002 FRS improved PHP arm p=0.006 at 5 mo p=0.04 at 10 mo Durability: "The limited time frame of our followup does not permit us to draw inference about the sustainability of this intervention beyond the year" p732-733

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Elliot[59] 2004 United States	Type of study: RCT (pilot study) – Promoting Health Lifestyles: Alternative Models' Effects (PHLAME) Firefighters' Study Length of followup: 6 mths Method of followup: Worksite & phone meetings, in-person contacts, written educational & coaching material, health and fitness guide Intervals within followup period: 1	n=33/33 Mean age: NR (range 40 to 48 years) % female NR Dropouts: 0 Reasons for dropouts: n/a Recommendations for dropouts: n/a	Group 1: HRA + Team-centered, 10 X 45 min peer-led scripted team curriculum (team) vs. Group 2: HRA + 4 X 60 min individual meeting/explanation of results w/ physician (one-on-one), followup + 4.5 additional hrs of contact vs. Group 3: HRA + results (control) Where administered: workplace Personnel: peers, team-leader & trained health coaches, counselor Type of Types of feedback: verbal Timeliness: after initial meeting Targeted health condition:, physical activity, obesity/weight, cardiovascular health, general health Medicare population: no	Healthy eating: Fruit & Vegetable intake Fat intake (% <30%) LDL Cholesterol reduction Negative affect or depression Physical activity Sit ups / min. Body weight effect of shiftwork	LDL cholesterol: both team and one-on-one different than control p<0.05 Depression one-on-one different than control p<0.05 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Elliot[58] 2007 United States	Type of study: RCT (pilot study) – Promoting Health Lifestyles: Alternative Models' Effects (PHLAME) Firefighters' Study Length of followup: 12 mths Method of followup: worksite & phone meetings, health and fitness guide Intervals within followup period: 2	n=696/480 Mean age: 41 years 3% female Dropouts: 119 Reasons for dropouts: 50 lost to termination of employment, 60 withdrew, 9 lost to job transfer Recommendations for dropouts: NR	Group 1: HRA + Team-centered, 11 X 45 min peer-led Scripted team curriculum + workbook (Team), at 3, 2, 3 & 3 wkly sessions vs. Group 2: HRA + 4 X individual meeting/explanation of results w/ physician) + up to 5 additional hours of phone or in person counseling (Individual) vs. Group 3: HRA + results (Control) Where administered: workplace Personnel: peers, team-leader & trained health coaches, counselor Types of feedback: verbal, written Timeliness: during initial meeting (Group 1), after initial meeting (Group 2) Targeted health condition: general health, physical activity, obesity/weight Medicare population: no	Healthy eating: Fruit & Vegetable intake Peak oxygen uptake (ml/kg/min) Body weight (lbs) BMI Overall Well-being	Fruit and vegetable intake: $p<0.001$ team vs. control $p<0.05$ individual vs. control Body Weight, BMI, overall well-being improved in both the Team and the Individual groups compared to the control condition ($p<0.01$ for each) Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Erfurt[18] 1991 United States	Type of study: Cohort Length of followup: 36 mths Method of followup: guided self-help, individual counseling, mini and full group classes, mailing, phone calls Intervals within followup period: 6	n=7,804/1,883 Mean age: 45 years Approximately 10% female Dropouts: 5,921 Reasons for dropouts: NR Recommendations for dropouts: NR	Group 1: HRA + feedback + Rescreening at 3 year mark, (control group) vs. Group 2: HRA + feedback + Health education + health improvement classes 2 times/year vs. Group 3: HRA + feedback + Health education + out-reach once every 6 mths and followup counseling vs. Group 4: HRA + feedback + Health education + out-reach every 6 mths and followup counseling + peer support Where administered: worksite Personnel: RNs, trained para-professionals, wellness counselors, health educator Types of feedback: verbal, written Timeliness: during followup Targeted health condition: smoking, obesity/weight, cardiovascular health Medicare population: no	Blood pressure (mmHg) -SBP -BP Weight loss (lbs) Smoking prevalence	SBP: Group 1:+3.5 Group 2: -3.2 Group 3: -6.3 Group 4: -8.2 p<0.001 DBP: Group 1:-3.8 Group 2: -2.3 Group 3: -4.8 Group 4: -6.9 p<0.05 Weight loss (lbs) Group 1:+3.1 Group 2: +0.6 Group 3: -1.2 Group 4: -4.7 p<0.001 Smoking prevalence: Group 1:41.6% Group 2: 40.6% Group 3: 36.1% Group 4: 31.0% p<0.01 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Faghri[16] 2008 United States	Type of study: Cohort Length of followup: 6 mths Method of followup: questionnaire, interview Intervals within followup period: 1	n=60/60 Mean age: 47 years 77% female Dropouts: 0 Reasons for dropouts: n/a Recommendations for dropouts: n/a	Group 1: HRA + feedback + tailored individual consultation vs. Group 2: HRA only Where administered: workplace Personnel: health professional/educator Types of feedback: verbal Timeliness: right after initial HRA Targeted health condition: general health, physical activity Medicare population: no	Fitness Nutrition Overall health	No between group results were reported Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Ferrer[86] 2009 United States	Type of study: RCT Length of followup: 12 mths Method of followup: meetings & phone Intervals within followup period: multiple	n=864/474 Mean age: 46 years 74% female Dropouts: 390 Reasons for dropouts: lost to followup Recommendations for dropouts: NR	Group 1: HRA & goal setting from 4 targeted risk behaviors + referral to practice, health system or community programs vs. Group 2: HRA and usual care Where administered: primary care practices Personnel: Medical assistant with program training Types of feedback: verbal Timeliness: during initial assessment Targeted Health Condition: general health, physical activity, smoking cessation Medicare population: no	Smoking Cessation Risky Drinking Cessation Eating >5 servings fruit & vegetables /day Physical activity >low [mod-high]	No between group results were reported Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Fielding[79] 1995 United States	Type of study: RCT Length of follow-up: 1 year Method of follow-up: In person Intervals within follow-up period: mthly (12) IMPACT program	N = 252/234 I = 127/118 C = 125/116 Mean age: I = 48.7 years C = 48.0 years I = 21.2% female C = 20.7% female # of drop outs: I=9; C=9 reasons for drop outs: leaving company, moving out of area, refusing to return for followup Recommendations for drop outs: NR	Intervention Subjects assigned to the IMPACT enhanced intervention group received mthly 10-minute individual sessions at the worksite, with a counselor Screening and referral subjects received no further contacts by study personnel until they were contacted for follow-up measures at the end of the one-year study period Method of admin : in person, mail Where administered: Workplace Personnel: counsellor (nutritionist, health educators) Types of feedback: education, personalized feedback, counselling, incentives, mail Timeliness: within one mth Targeted health condition: high cholesterol Medicare population: no	change in total serum cholesterol	change in total serum cholesterol: I = -16.6 mg/dL C = -10.0 mg/dL Diff 6.6 (CI -1.1, 14.3); Adjusted for age, sex, baseline total cholesterol Diff 6.9 (CI=-0.5,14.3) Adjusted for age, sex, baseline total cholesterol and medication use: Diff 6.2 (CI -1.1, 13.4)

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Fjeldsoe[103] 2010 Australia	Type of study: RCT Length of followup: 13 wks Method of followup: goal-setting, education, reinforcement through text messages, final assessment by phone or in person Intervals within followup period: 2	n=88 /61 Mean age: 30 years 100% female Dropouts: 27 Reasons for dropouts: NR Recommendations for dropouts: NR	Intervention Group: face-to-face consultation and goal-setting; standard print-based physical activity information pack; two goal-setting consultations with behavioral counselor; goal-setting fridge magnet, personally-tailored text messages, 11 wkly 'goal-check' text messages requiring a response; instructions to nominate a support person vs. Control group: face-to-face consultation and goal-setting; standard print-based physical activity information pack; reminder calls for assessments at 6 and 13 wks. Where administered: NR Personnel: research assistant; behavioral counselor Types of feedback: text, written, face to face Timeliness: wkly feedback Targeted health condition: physical activity Medicare population: no	Frequency of wkly physical exercise of 30 minutes or more, and achievement of the personally-set goals for each wk Self-report	Mean minutes of moderate to vigorous physical activity: F=4.46 p=0.04 Walking for exercise: F=5.38 p=0.02 Durability: Use of text may have impact due to potential for automated dissemination, wide reach, low cost, and equal accessibility to disadvantaged populations (p.109)

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Fouad[43] 1997 United States	Type of study: Cohort - retrospective Length of followup: 12 mths Method of followup: personalized letter; reminder card; personalized phone calls Intervals within followup period:15	n=162/158 Mean age: 63% <45 years 14% female Dropouts: 4 Reasons for dropouts: signed up but did not attend; only attended once Recommendations for dropouts: NR	Group 1: annual med exam + health newsletters/tip sheets + exposure to mthly health poster program + 12 mth hypertension intervention program + incentives Group 2 control: same as above minus the 12 mth hypertension intervention program Where administered: worksite Personnel: nurse Types of feedback: face to face; group Timeliness: NR Targeted health condition: CVD Medicare population: no	Blood pressure SBP & DBP	Overall, intervention had decrease of 4.5 mmHg in mean SBP; control decrease of 2.4 (p=0.03) Intervention had decrease of 2.7 mmHg in mean DBP; control decrease of 1.0 (p=0.06) Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Fries[7] 1993 Leigh[11] 1992 United States	Type of study: RCT Length of followup: 24 mths Method of followup: Mailings Intervals within followup period: 4	n=2,106/1,452 Mean age: 68 years 53% female Dropouts: Year 1: 304 Year 2: 350 Reasons for dropouts: largely attributable to death, loss of eligibility or moving from the state. Recommendations for dropouts: NR	Group 1: HRA (x2) + Feedback (x2) + education (x2), full program, questionnaires + program materials vs. Group 2: HRA questionnaire + intervention Group 3: Control Where administered: mailed questionnaires Personnel: NR Types of feedback: NR Timeliness: NR Targeted Health Condition: general health, physical activity, smoking cessation Medicare population: yes	SBP Cholesterol (mg/dL) High salt intake High dietary fat Cigarette smokers Alcohol use Exercise (min/wk) Exercise program Computed health risk score	Computed health risk score: -2.0 $p<0.01$ between groups at 12 mths Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Fries[123] 1993 United States	Type of study: RCT Length of followup: 12 mths (following which time control subjects also provided intervention for following year) Method of followup: mailed HRA, individual reports, recommendations letters Intervals within followup period: 2	n=15,899/12,838 Mean age: Employees: 50.9 years Seniors: 73.5 years Retirees: 63.6 years % female: NR Dropouts: 3,061 (see below) Reasons for dropouts: 3,061 of initial active group (n=15,899) did not return questionnaires at 6 mth interval-these were considered 'passive' participants (i.e. Group 2) Recommendations for dropouts: NR	Group 1: mailed HRA (at 6 & 12 mths) + individualized reports + recommendation letters + quarterly newsletters vs. Group 2: HRA + mailed printed materials only Where administered: home Personnel: self-administered HRA; insurance personal for claims info Types of feedback: personalized reports Timeliness: NR Targeted health condition: general health Medicare population: yes	Major health risks BMI Seat belt use Dietary fat Saturated fat Cigarette smoking Exercise (min/wk)	No between group results reported Durability: "The present study adds to a growing literature which documents the ability to reduce health care costs trends by reducing need and demand for medical services through appropriately designed health education programs'(p.223)

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Gagnon[104] 2010 Canada	Type of Study: RCT Length of followup: 12 mths Method of followup: Online questionnaire, Computerized message Intervals within followup period: 3	260/174 mean age: 34.9 years 31% female Dropouts: attrition rate of 33% Reasons for drop-outs: NR Recommendations for dropouts: NR	Intervention Group: standard intervention + Audiovisual message given in response to a computerized questionnaire. At wk 2, 3, and 4, a reinforcement message was also given vs. Control Group: needle exchanges, psychosocial support and social and health service referrals. Where administered: clinic Personnel: community workers delivered the standard intervention and an additional community worker was trained and employed specifically for data collection Types of feedback: audiovisual messages Timeliness: NR Targeted health condition: lifestyle changes: use of clean needles and other safe practices to prevent HIV infection? Medicare population: no	Intention and actual behavior around use of dirty needles and prevalence of safe behaviors. Measurement of number of times the individual injected compared to the number of times the individual used a dirty needle.	Intervention effect proved to be non-significant (RR:1.06 CI-95% 0.91-1.35; p=0.29) Injected p=0.46 Dirty needles p=0.69 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Gallagher 1996 [124] Canada	Type of study: RCT Length of followup 6 mths Method of followup: interview Intervals within followup period: postcards every 2 wks with telephone interview at each reported fall	n=100/100 Mean age: Control: 73.8 years Treatment: 75.4 years 80% female Dropouts: 0 Reasons for drop-outs: n/a Recommendations for dropouts: n/a	Group 1: home risk assessment + individual risk feedback + motivational video and education booklet vs. Group 2: no intervention Where administered: at home Personnel: n/a Type of feedback: face-to-face and written Timeliness: immediate when fall reported Targeted health condition: general health Medicare population: yes	Fall incidence Falls self-efficacy Fear of falling Social functioning Health services utilization QoL	F=2.385 (p=0.13) F=0.082 (p=0.87) F=0.425 (p=0.52) F=1.484 (p=0.28) F=0.174 (p=0.78) F=0.316 (p=0.58) Durability: intervention program did not have a statistically significant impact

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Gemson[71] 1995 United States	Type of study: RCT Length of followup: 6 mths Method of followup: mailed Intervals within followup period: 1	n=161/90 Mean age: 46 years 19% female Dropouts: 71 Reasons for dropouts: lost to followup Recommendations for dropouts: NR	Group 1: HRA (at baseline & followup) + physical examination + physician review of 2-pg HRA report + counseling based on HRA report + copy of report vs. Group 2 (control): HRA (at baseline & followup) + physical examination + general counseling Where administered: worksite Personnel: physician, , registered nurse, board-certified internist Types of feedback: written report, verbal Timeliness: after initial physical examination Targeted health condition: general health Medicare population: no	Cholesterol Physical activity Seatbelt Use Cholesterol Physical activity Seatbelt Use	*Among HRA group No sig at p≤0.10 p≤0.10 No sig *Among High health age group p≤0.05 p≤0.05 No sig. at p≤0.10 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Godin[96] 1987 Canada	Type of study: RCT Length of followup: 3 mths Method of follow up: in person and telephone Intervals within followup period: 2	n=200/130 Mean age: 39 years 22% female Dropouts: 70 Reasons for dropouts: of the 200 participants at baseline, 140 began the study and only 130 completed all steps Recommendations for dropouts: NR	Group 1: Physical fitness test + Feedback vs. Group 2: Health age calculation + Feedback vs. Group 3: Physical fitness test + Health age calculation + Feedback vs. Group 4: Control Where administered: laboratory Personnel: research assistants Type of Types of feedback: computer print outs Timeliness: after initial assessment Targeted health condition: physical activity Medicare population: no	Exercise	No between group results were reported Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Goetzel[19] 2002 United States	Type of study: Cohort Length of follow-up: Minimum 1 year Mean 32.3 mths Method of follow-up: In person Intervals within follow-up period: 2 Johnson & Johnson Health & Wellness Program (HWP)	N = 4,586 PTC=2,301 Non PTC=2,285 Mean age: 42.37 years 45% female # of drop outs: None reasons for drop outs: N/A Recommendations for drop outs: N/A	Types and frequency of contact: focus on providing appropriate intervention services before, during, and after major health-related events occur To assess program impact on employee health, the responses of participants who completed the Insight HRA® assessment at least twice, with an appropriate time interval between assessments (minimum 1 year) Where administered: workplace Personnel: on-site program managers Types of feedback: personalized, education, interview, referral to health care programs, special testing, incentives, mail Timeliness: minimum 1 year between screenings Targeted health condition: general health and wellness including smoking, weight Medicare population: no	- aerobic exercise - cigarette smoking - pipe smoking - body weight - blood pressure - cholesterol level - drinking and driving - seatbelt use - fat intake - fibre intake seatbelt use	High fat intake: Better in PTC <0.0001 High body weight: Better in PTC <0.0001 Too little aerobic exercise: Better in PTC <0.0037 Diabetes risk: Better in PTC <0.0001 High total cholesterol: Better in PTC <0.0001 High blood pressure: Better in PTC <0.0001 Cigar smoking, Chewing tobacco or snuff use: Equivocal Low fiber intake, Cigarette smoking, pipe smoking, fails to use seat belts, drinking and driving: Worse

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Goetzel[51] 1994 United States	Type of study: Cohort Length of follow-up: up to 5 years Method of follow-up: In person Intervals within follow-up period: 1 "A Plan for Life" program Voluntary Health Assessment (VHA)	N = 9,162 Mean age: NR % female: NR # of drop outs: 0 Reasons for drop outs: NA Recommendations for drop outs: NA	Participants: VHA (high risk) + IBM 'A Plan for Life' (APFL) Program Non-participants: VHA (high risk) only Frequency of contact: 2 VHA, most employees observed had follow-up at or after 5-yr interval; substantial minority completed follow-up VHA before 5 yrs. Where administered: workplace; community organizations Personnel: VHA health professional (usually a nurse); community organization course instructors Types of feedback: health education resources, personalized feedback, counselling on health risk status, APFL program , Timeliness: Feedback after completion of HRA	Follow-up Health Risk Measures: Systolic BP Diastolic BP Total cholesterol HDL cholesterol Non-HDL cholesterol BMI (kg/m2) Cigarettes per day	Adjusted* Difference (95% CI) 4.8 (2.1,7.5) 1.3 (0, 2.6) 5.0 (1.5, 8.5) -1.1 (-2.5, 0.3) 5.6 (2.2, 9.0) 0.5 (0.1, 0.9) 0.3 (0, 0.7) *Adjusted for age, sex, time to follow-up, and baseline value Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
			Targeted health condition: general health: blood pressure, cholesterol, weight, smoking Medicare population: Age NR		
Gold[46] 2000 United States	Type of study: Cohort Length of followup: 20 mths for participants 26 mths for controls Method of followup: mail and telephone Intervals within followup period: 1	n=1,741/607 Mean age: Participants: 45 Non-Participants: 46 43% female Dropouts: 1,134 Reasons for dropouts: did not respond to initial invite Recommendations for dropouts: NR	Group 1: HRA + Education + feedback + telephone counseling + other (programs) vs. Group 2: control Where administered: mail, telephone Personnel: health educator Types of feedback: telephone, verbal, group Timeliness: NR Targeted health condition: general health (multiple) Medicare population: no	Compared total # of risks. (total risk = sum of risks from 13 categories) Back care Cholesterol Eating habits Exercise and activity Stress Management Tobacco Use Weight control	No between group results were reported Durability: " This study seems to suggest that targeted interventions using stage-based protocols delivered via the telephone can have a significant, positive, long-term impact on health risks" p 105

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Gomel[12] 1993 Gomel[8] 1997 Australia	Type of study: Cluster RCT Length of followup: 12 mths Method of followup: in person Intervals within followup period: 3	n=431/431 Mean age: 32 years 17% female Dropouts: indication of a <10% attrition rate, + that data from dropouts was not excluded Reasons for dropouts: NR Recommendations for dropouts: NR	Group 1: HRA at 3, 6 & 12 mths + feedback vs. Group 2: same as Group 1 + advice & education + educational resource manual with videos vs. Group 3: same as Group 2 + 6 life-style counseling sessions over 10 wks + self-instruction life-style change manual + on-going assessment, HRA vs. Group 4: same as Group 2 + life-style change manual + monetary incentives + goal-setting and followup counseling + HRA session Where administered: workplace meetings Personnel: research staff Types of feedback: written Timeliness: after initial assessment Targeted health condition: cardiovascular health, smoking cessation, obesity/weight Medicare population: no	BMI (kg/m^2) Body fat (%) Blood pressure (mmHg) Smoking quit rates (%) Mean cholesterol Aerobic capacity	BMI: increase Group 1 + Group 2 vs. Group 3 + Group 4 t=2.12 p=0.04 BP: Decline Group 3 vs. Group 4 at 12 mths t=4.3 p=0.002 Smoking Cessation: Group 3 + Group 4 (7%) vs. Group 1 + Group 2 (0%) at 12 mths p=0.05 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Haerens, 2009[109] Belgium	Type of study: RCT Length of followup: 3 mths Method of followup: Intervals within followup period: 2	n=1,171/881 Mean age: 14.6 years 55% female Dropouts: 290 Reasons for dropouts: 117 lost to 4-wk followup, 173 lost to 3-mth followup Recommendations for dropouts: NR	Group 1: tailored intervention + assessment + feedback vs. Group 2 (control): generic non-tailored intervention Where administered: in classroom, at school Personnel: NR Types of feedback: tailored and non-tailored Timeliness: at baseline Targeted health condition: physical activity Medicare population: no	Physical activity scores	No sig between groups (all $F \leq 2.3$) Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Hanlon[72] 1995 Scotland	Type of study: RCT Length of followup12 mths Method of followup: assessments Intervals within followup period: 2	n=1,371/1,107 Mean age: NR 21% female Dropouts: 264 Reasons for dropouts: 214 lost to 5 mth followup, 50 lost to 12 mth followup Recommendations for dropouts: NR	Group 1: health education + without feedback on cholesterol concentration or risk score; Group 2: health education + feedback on cholesterol concentration but without feedback on risk score; Group 3: health education + feedback on risk score but no feedback on cholesterol concentration; Group 4: full health check + health education + feedback on cholesterol concentration & risk score; Group 5: internal control + intervention delayed Group 6: external control + intervention delayed Where administered: work site Personnel: counselors Types of feedback: Groups 1-4 written report Groups 5 &6 no feedback Timeliness: immediate Targeted health condition: coronary heart disease Medicare population: no	Mean cholesterol concentration BMI Exercise Dundee Risk Score	At five mths: Group 4 vs. Group 5: p=0.21 Group 4 vs. Group 6: p=0.001 Group 4 vs. Group 5: p=0.16 Group 4 vs. Group 6: p=0.98 Group 4 vs. Group 5: p=0.41 Group 4 vs. Group 6: p=0.56 Group 4 vs. Group 5: p=0.21 Group 4 vs. Group 6: p=0.56 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Harari[87] 2008 United Kingdom	Type of study: RCT Length of followup: 12 mths Method of followup: mailed surveys Intervals within followup period: 1	n=2,503/2,006 Mean age: 74 years 54% female Dropouts: 497 Reasons for dropouts: did not return questionnaire at 12 mths Recommendations for dropouts: NR	Group 1: HRA + computer generated individualized written feedback to patients & GPs, HRA questionnaire at 12 mth vs. Group 2: usual care, HRA questionnaire at 12 mth Where administered: doctor's office, community-based Personnel: trained GPs & office staff, practice nurses Types of feedback: computer generated, written individualized report Timeliness: after initial assessment Targeted health condition: general health, physical activity Medicare population: yes	Adherence >5x/wk moderate or strenuous physical activity(PA) Adherence >3x/wk moderate or strenuous PA Preventative care uptake Pneumococcal vaccination (ever) Influenza vaccination previous year Consumption of ≤2 high fat food items/day Consumption of ≥5 fruit/fiber items/day No current tobacco use Seat belt use Alcohol use	Adherence >5 wks to moderate or strenuous physical activity: Group 1: 10.8% vs. Group 2: 7.8% p=0.03 OR = 1.4 (1.0, 2.0) Durability: "Supplementary reinforcement involving contact by health professionals with patients over and above routine clinical encounters may be a prerequisite to the effectiveness of IT-based delivery systems for health promotion.." p 565

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Hedberg[41] 1998 Sweden	Type of study: Cohort Length of followup: 18 mths Method of followup: in person, telephone Intervals within followup period: 3	n=97/88 Mean age: 43 years 0% female Dropouts: 9 Reasons for dropouts: did not complete questionnaire Recommendations to dropouts: NR	Group 1: HRA + education + contract + health profile + individual and group activities, phone call at 3 mths, questionnaires at 6 (interview) & 18 mths vs. Group 2: HRA + health examination + education, phone call at 3 mths, examinations at 6 (interview) & 18 mths Where administered: meetings in the workplace, telephone interviews Personnel: healthcare consultant, medical technician Types of feedback: verbal Timeliness: after initial assessment Targeted health condition: cardiovascular health, general health, smoking cessation, obesity/weight, physical activity Medicare population: no	Total cholesterol (mmol/l) HDL cholesterol (mmol/l) BMI Estimated Maximal oxygen uptake (l/min) Systolic blood pressure (mmHg) Diastolic blood pressure (mmHg) Exercise habits Diet Tobacco use	No between group results were reported Durability: it is important that collaboration takes place between the person, health professionals, and the personnel at the working site when changing unhealthy behavior"

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Heirich[73] 1993 United States	Type of study: RCT Length of followup: 36 mths Method of followup: one-to-one counseling Intervals within followup period: 1	Total n=1,880 Site A n=493 Site B n=503 Site C n=481 Site D n=403 Mean age: NR % female: NR Dropouts: NR Reasons for dropouts: NR Recommendations for dropouts: NR	Site A (control): HRA + health education classes Site B: HRA + established fitness facility Site C: HRA + direct outreach & one-to-one counseling (for participants with cardiovascular risks) + encouraged to create own exercise plan (counselors present ½ time) Site D: direct outreach & one-to-one counseling (for all participants) + organized physical fitness activities + followup counseling Where administered: work site Personnel: Wellness Committee, athletic trainers, exercise physiologist Types of feedback: NR Timeliness: NR Targeted health condition: CVD Medicare population: no	blood pressure weight loss exercise	p<0.01 p<0.01 p<0.001 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Herman[44] 2006 United States	Type of study: Cohort Length of followup: 3 mths Method of followup: activity graphs on line Intervals within followup period: 2	n=126,372 / 24,996 Mean age: 44 years 34.5 % female Dropouts: 1,418 Reasons for dropouts: 12 deceased; 191 retired; 74 left the company; 1141 declined (e.g. too busy, not interested, poor health) Recommendations for dropouts: those not involved still had opportunity to learn about health-related issues at the worksite through programs offered by community or private services	Group1 (VFC participants): Web-based VFC, 12 wk seasonal programs + progress reports + on-line support + logged >0 physical activity minutes Group 2 (VFC + rebate recipients) – same as group 1 + logged 20 min 3 days/wk for 10-12 consecutive wks physical activity Group 3 (VFC + non-rebate): same as Group 1 + logged in for insufficient # of physical activity minutes Group 4 (non-participants): did not enroll in VFC plan + 0 activity minutes Where administered: worksite Personnel: certified wellness professionals, employees and volunteers Types of feedback: written, email Timeliness: participants can log on 24hr/day Targeted health condition: general health; physical activity, smoking, weight Medicare population: no	Physical activity Cholesterol B|P Smoking Weight	Group 2 vs. Group 3 -8.4 vs. -7.3 p<0.05 not significant not significant not significant -0.2 vs. 1.2 p<0.05 Durability: "Results from this study suggest successful participation in an incentive-based online intervention that encourages consistent physical activity is associated with the improvement of health risk status of employees" (p.895)

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Holt[47] 1995 United States	Type of study: Cohort Length of followup: 60 mths post initial intervention Method of followup: phone; mail Intervals within followup period: 1	n=2,047/629 Mean age: 39.5 years 57.7% female Dropouts: 1,418 Reasons for dropouts: 12 deceased; 191 retired; 74 left the company; 1,141 declined (e.g. too busy, not interested, poor health) Recommendations for dropouts: those not involved still had opportunity to learn about health-related issues at the worksite through programs offered by community or private services	Group 1: HRA + wellness planning session + opportunity to participate in lifestyle change modules (TLC program-see details under 'design') + environmental modifications Group 2: HRA + wellness planning session Where administered: worksite Personnel: outside health professionals; full-time professional staff members Types of feedback: written educational; counseling; group Timeliness: CV/exercise module 3x/wk for 12 wks, Healthy Back module 2x/wk for 6 wks, Interpersonal communication/smoking cessation/stress management/weight control modules all 1x/wk between 4-12 wks Targeted health condition: general health Medicare population: no	SBP* DBP* Smoking* Risk calculations: Heart attack morbidity* Heart attack mortality* Stroke morbidity* Stroke mortality* Cancer morbidity Cancer mortality* Total mortality*	Group 1 vs. Group 2 121.98 vs. 119.72 (p<0.001) 79.34 vs. 77.14 (p<0.001) 0.11 vs. 0.19 (p<0.0001) 0.59 vs. 0.79 p<0.001 0.59 vs.0.80 p<0.001 0.80 vs. 1.01 p<0.001 0.80 vs. 1.02 p<0.001 0.93 vs. 0.98 0.87 vs. 0.95 p<0.05 0.88 vs. 0.96 p<0.001 Durability: "The low rate of response to followup study and the dissolution of the original comparison group made it impossible to conclude that the changes among the study participants were caused by the TLC program" (p.425)

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Karlehagen[30] 2003 Sweden	Type of study: Cohort Length of followup: 12-13 mths Method of followup: in person Intervals within followup period: 3	n=181/169 Mean age: 47 years 45% female Dropouts: 12 Reasons for dropouts: 11 due to reorganization and downsizing at one company; one for health reasons Recommendations for dropouts: NR	Group 1: standardized questionnaire, Enhanced HRA [physical + labs + advice + setting goals] oral & written counseling on physical activity & healthy diet* @ baseline & 6 mths or 7-8 mths* vs. Group 2: standardized questionnaire, Enhanced HRA [physical + labs + advice + setting goals] control/reference Where administered: worksite Personnel: occupational RN & dietician Types of feedback: verbal and written Timeliness: after initial assessment Targeted health condition: cardiovascular health Medicare population: no	Plasma Cholesterol mmol/l BMI; Plasma Triglycerides, HDL-cholesterol, Glucose Triglycerides Plasma Glucose	Plasma Cholesterol Group 1 vs. Group 2 mmol/l: MD = 0.32 [4.97%] p<0.001 Durability: "…risk factors for cardiovascular disease can be reduced by interventions at the worksite. However, such a reduction in risk requires an intensive strategy with repeated check-ups of risk group." P 225

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Kemper[48] 2002 United States	Type of study: longitudinal Length of followup: 20 years Method of followup: Group MM - measured yearly from 13 to 16 years, participated at least once at 21, 27, or 29 years, and at last observation, 33 years Group BM – measured once at baseline, 13years, and once at last observation, 33 years Intervals within followup period: 1 to 8	n=400/260 Mean age: 33 years 47% female Dropouts: 140 Reasons for dropouts: NR Recommendations for dropouts: NR	Group MM (multi-measured): 5 to 8 medical check-ups + structured interviews + provision of personalized health information (measured yearly from 13 to 16 years, participated at least once at 21, 27, or 29 years, and at last observation, 33 years) Group BM (bi-measured): 2 medical check-ups + interviews with personalized health information (once at baseline, 13 years, and once at last observation, 33 years) Where administered: NR Personnel: project team members, including a general physician Types of feedback: verbal, written results, written educational material Timeliness: immediate during measurements; written risk results several mths after measurement period Targeted health condition: physical activity Medicare population: no	Determinants of physical activity behavior	No effects of repeated medical check-ups with health information over a period of 20 years Durability: "Repeated health information with medical examinations over a period of 20 years did not induce an increase in daily physical activity during youth and in early adulthood" (p.455)

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Kim [98] 2010 United States	RCT Length of followup: 6 mths Method of followup: HRA; Education materials; telephone counseling Intervals within followup period: 1	n=2,470/1,376 Mean age: SH: 43.6 years SH+C: 43.5 years SH: 79.3% female SH+C: 81.4% female Dropouts: 1,094 Reasons for dropout: 909 failed to contact, 185 refused followup at 6 mths, 3 participants excluded from analysis because daily reporting of F&V consumption exceeded realistic ranges; 3 participants excluded from analysis because physical activity values exceeded realistic ranges at baseline Recommendations for dropouts: NR	Self-Help and Counseling (SH+C): same materials as the SH group, plus 9 individually-tailored counseling calls (6 every two wks of 30-minute length, then up to 3 'booster' calls of 10-minute length during the last two mths of the study. vs. Self-Help (SH): Three books of self-help materials; a pedometer delivered within 10 business days of completing the questionnaire Where administered: NR Personnel: training not reported Type of feedback: telephone; written Timeliness: biwkly Targeted health condition: lifestyle changes: fruit and vegetable consumption, physical activity, weight, BMI Medicare population: no	F&V consumption (servings) Physical activity (minutes) Self-reported weight (kg) BMI Method of measurement: self-report	The SH+C increased 1.13, SH increased 0.88 ($p<0.04$) No Sig difference between groups; Longer physical activity and less education at baseline sig to 6 mth follow up ($p<0.01$) No Sig difference between groups Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Korolewski[29] 1984 United States	Type of study: Cohort Length of followup: 3 mths Method of followup: In person, mail Intervals within followup period: 1	n=110/110 Mean age: NR % female: NR Dropouts: 0 Reasons for dropouts: n/a Recommendations for dropouts: n/a	Group A: Screening Phase only (6%): HRA[LAQ] + physical + labs + brief individual counseling vs. Group B: Screening + Results session (60%): enhanced individual/group feedback vs. Group C: Screening + Results + Education or Health Promotion Activities (34%): exercise, NTC, smoking cessation, weight control & stress management Where administered: worksite (hospitals) Types of feedback: verbal Timeliness: after initial assessment Personnel: health educator Targeted health condition: general health Medicare population: no	Pre vs. Post-test LAQ scores [behavior change] Behavior change %	No between group results were reported Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Kreuter[88] 1996 United States	Type of study: RCT Length of followup: 6 mths, 6 mths + 2 wks Method of followup: questionnaire at doctor's office, mailed questionnaire, telephone interview Intervals within followup period: 1	n=1,317/1,131 Mean age: 40 years 65% female Dropouts: 186 Reasons for dropouts: of the 1,317 participants at baseline 1,131 participants completed the followup questionnaire Recommendations for dropouts: NR	Group 1 (EHRA): enhanced HRA + feedback (risk information + tailored behavior change information) mailed after 2-4 wks, at 6 mths followup questionnaire vs. Group 2 (THRA): typical HRA + feedback (just risk information) mailed after 2 to 4 wks, at 6 mths followup questionnaire vs. Group 3 (Control): HRA only, no feedback, at 6 mths followup questionnaire Where administered: doctor's office, telephone Personnel: telephone interviewers were graduate students Types of feedback: written Timeliness: 2 to 4 wks from completion of baseline questionnaire Targeted health condition: general health, smoking cessation Medicare population: no	Quitting Smoking Fat consumption	Patients receiving EHRA were 18% more likely to change at least one risk behavior than were patients receiving THRA or no feedback (OR = 1.18, 95% CI = 1.00 to 1.39) Durability: "…the addition of theory-based, individually-tailored behavior change information may improve the effectiveness of HRA" p. 97

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Kroeze[99] 2008 Netherlands	Type of study: RCT Length of followup: 1 mth and 6 mths Method of followup: questionnaires, and for those who did not return questionnaires they received and email and phone call Intervals within followup period: 2	n=611/537 Mean age: 44 years 55% female Dropouts: 74 Reasons for dropouts: of the 611 participants at baseline 571 returned 1 mth post-test questionnaire and 537 returned 6 mth post-test questionnaire Recommendations for dropouts: NR	All groups received information packages and the screening questionnaire by mail Group 1 (P): computer-tailored personal feedback on dietary control vs. Group 2 (PN): personal + normative feedback vs. Group 3 (PNA): personal + normative + action feedback + practical suggestions vs. Group 4 (C): control (generic information) Where administered: home, workplace Personnel: NR Types of feedback: written Timeliness: 2 wks after returning screening questionnaire Targeted health condition: general health, obesity/weight Medicare population: no	Post-test differences & effect sizes between groups Perceived fat intake; daily fat intake of total & saturated fat	Risk consumers: Fat intake: 3.382 (p=0.019) PNA <C Saturated Fat intake: 3.768 (p=0.011) PNA <C Under estimators: Intention to reduce fat: 4.309 (p=0.006) P, PN, PNA >C Fat intake: 4.474 (p=0.005) PNA <C Saturated Fat intake: 4.910 (p=0.003) PNA <C Durability: "the combination of personal, normative and action feedback is required for inducing change" p 880

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Lalonde[114] 2006 Canada	Type of study: RCT Length of followup: from 4.6 to 32.4 wks Method of followup: telephone interviews pre-intervention; 2 wks post-intervention; 3 mths after, mailed educational tool Intervals within followup period: 2	n=26/24 Mean age: DA: 55 years PRP: 57 years 46% female (DA) 62% female (PRP) Dropouts: 2 Reasons for dropouts: of the 26 participants at baseline, 24 completed the followup Recommendations to dropouts: NR	Group 1: decision aids (DA) + community pharmacist consultation on CVD + medical report + supplemented by education tool vs. Group 2: personal risk profile (PRP) + community pharmacist consultation on CVD + medical report + supplemented by education tool Where administered: community-based pharmacy Personnel: pharmacist, pharmacy student, research nurse Types of feedback: mailed Timeliness: after medical report Targeted Health Condition: CVD Medicare population: no	Total Cholesterol BP BMI CVD Risk	No between group (i.e. PRP / DA) results presented for health outcomes (only for satisfaction with educational tool) Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Lauritzen[89] 2008 Denmark	Type of study: RCT Length of followup: 60 mths Method of followup: meetings, medical consultation, mail Intervals within followup period: 3	n=1,946/1,213 Mean age: 40 years 48% female Dropouts: 733 Reasons for dropouts: Group 1 of the 439 at baseline, 120 participated in 5 year followup health test Group 2 of the 504 at baseline, 369 participated in 5 year followup health test Group 3 of the 502 at baseline, 378 participated in 5 year followup health test Group 4 of the 501 at baseline, 346 participated in 5 year followup health test Recommendations for dropouts: NR	Group 1: HRA questionnaire vs. Group 2: HRA + health test at baseline and 1 year + written feedback + patient-centered consultation + pamphlets vs. Group 3: HRA + health test at baseline and 1 year + written feedback + advised to make an appointment for a normal consultation + pamphlets vs. Group 4: Control Where administered: doctor's office, mailed written feedback & educational material Personnel: trained laboratory technicians, GP's trained in program Types of feedback: written, verbal Timeliness: 2 to 3 wks after health test Targeted health condition: cardiovascular health Medicare population: no	Cardiovascular risk score (CVRS)-estimated based on sex, family history, smoking history, blood pressure, cholesterol and BMI. Higher number is more risk Life years gained	At 5 years: 19% CVRS control group vs. 10% CVRS intervention groups p<0.01 Life years gained per participant: 0.24 years for Group 2 and 0.3 years for Group 3 vs. 0.16 years for Group 4 (control) p<0.01 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Lawler[122] 2010 Australia	Type of study: RCT Length of followup: 12 mths Method of followup: baseline questionnaire, feedback, educational materials mailings, telephone counseling Intervals within followup period: at 4 & 12 mths, 18 phone calls over 12 mths; quarterly mailing of newsletters and brochures.	n=434/426 mean age: 58.2 (11.8) 61.1% Female Dropouts: 8 Reasons for dropouts: Group 1: of the 228 at baseline, 175 completed followup assessments Group 2: of the 206 at baseline, 166 completed followup assessment Recommendations for dropouts: NR	Group 1: Assessment at baseline and 12 mths; mailed a workbook and a pedometer; phone calls; telephone counseling followed the 4 A's approach: Assessment, Advice, Assistance, Arranging (followup) vs. Group 2 (control): Usual care: assessment at baseline and at 12 mths; mailed brief feedback after each assessment; mailed quarterly project newsletters and off-the-shelf brochures Where administered: home Personnel: telephone counselors (masters-level graduates), GPs Types of feedback: mailed reports & letters Timeliness: after initial assessment Targeted health condition: increasing amount of physical activity, fruit and vegetable intake, reducing fat intake Medicare population: no	150 minutes/wk of moderate physical activity 5 servings/day of vegetables 2 servings/day of fruit <30% of energy intake from total fat <10% of energy intake from saturated fat 30g of fiber/day	Sig reduction in multiple behaviors, (OR=2.17; 95% CI 1.31, 3.57) with P<0.01. Adjustment for the number of behaviors not being met at baseline. (OR=2.42; 95% CI 1.43, 4.11) with P<0.01. No between group results reported Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Lingfors[49] 2008 Sweden	Type of study: Cohort Length of followup: 36 mths Method of followup: meetings, mailed surveys Intervals within followup period: 1	n=3,321/1,925 Mean age: 30 & 35 at baseline, 35 at followup 60% female Dropouts: 1,396 Reasons: NR Recommendations for dropouts: NR	Group 1: Intervention program (Health Curve) in 4 community health centers + 30 and 35 year olds invited to a health dialogue Group 2: intervention program in 4 community health centers + only 35 year olds invited to dialogue Where administered: primary health care centers Personnel: nurse Types of feedback: invitation to participate, no reminders, education Timeliness: NR Targeted health condition: Ischemic heart disease Medicare population: no	Smoking Unfavorable diet Insufficient physical activity BMI>25 Cholesterol SBP DBP	Absolute change -8.3 vs. -9.4 -4 vs. -10.8 (a) +0.5 vs. +3.7 (n.s.) +9.6 vs. + 0 (b) +10.4 vs. -2.5 (b) +0.5 vs. -3.7 (b) -4.4 vs. -7.7 (b) (n.s. = no difference of statistical significance when comparing proportions; a and b means not-overlapping confidence intervals (95% and 99% respectively), when comparing differences in changes between reference and target communities) Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Lowensteyn[93] 1988 Canada	Type of study: RCT Length of followup: 3 mths Method of followup: doctor's visits Intervals within followup period: 2 2 wks after initial visit, 3-6 mths later	Physicians n=253/129 Patients n=958/291 Mean age: Physicians: Group 1: 46.9 years, Group 2: 50.6 years; Patients: Group 1: 50.5 years + Group 2: 50.7 years % female Physicians: Group 1: 13.5% + Group 2: 26.5%; Patients: Group 1: 25.2% + Group 2: 25.2% Dropouts: Physician: 124 Patients: 667 Reasons for dropouts: only 129 physicians actually enrolled patients in the program Recommendations for dropouts: NR	Group 1 (profile): mthly newsletter (to physician's office) + feedback 2 wks later + 2nd questionnaire vs. Group 2 (control): mthly newsletter (to physician's office) + feedback 3-6 mths after initial visit + 2nd questionnaire Where administered: GP's office Personnel: family doctor Types of feedback: written report, verbal Timeliness: to physician: within 10 working days to patient: about 2 wks after initial visit Targeted health condition: coronary heart disease; CVD Medicare population: no	Patients: *Total C (mmol/L) HDL-C (mmol/L) *LDL-C Blood Pressure SBP DBP BMI Smokers *8-year coronary risk *Cardiovascular age (years)	Profile vs. control difference (ANCOVAs) -0.238 p=0.05 0.013 p=0.55 -0.226 p=0.05 0.834 p=0.61 0.014 p=0.99 0.154 p=0.31 0.8% p=0.64 -1.426 p<0.01 -0.571 p<0.01 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Maes[26] 1992 Netherlands	Type of study: Cohort Length of followup: 36 mths, but data only for first 12 mths is available Method of followup: NR Intervals within followup period: 1	n=552/309 Mean age: NR Age range: 20 to 65 years % female: NR Dropouts: 56% Reasons for dropouts: lost to followup Recommendations for dropouts: NR	Group 1: HRA + personal feedback + 1 High risk employees: individual & small group counseling sessions + self-help program + 2 All employees: physical exercise sessions + health education classes + information groups + 3 For upper & middle management staff: stress management & communication training Communication means: Personal letters, sessions, newsletters, video films, health promotion corner in cafeteria vs. Group 2: (Control): delayed intervention Where administered: worksite Personnel: occupational physician, psychologist, dietician, physical trainer, volunteers Types of feedback: NR Timeliness: NR Targeted health condition: general health Medicare population: yes	Depression BMI Systolic blood pressure Smoking Serum cholesterol Alcohol consumption	Group 1 vs. Group 2: Depression: MD = -0.9, p≤0.05 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Makrides[80] 2008 Canada	Type of study: RCT Length of followup: 6 mths (intervention 3 mths + 3 mth followup) Method of followup: telephone, coronary risk assessments at baseline, 3 mths, and 6 mths Intervals within followup period: 2	Group 1 n=282/178 Group 2 n=284/ 219 Mean age: 44 years % female = NR Dropouts: 169 Reasons: did not want to continue or would not return calls for followup Recommendations for dropouts: NR	Group 1: coronary risk screening + 12 wk health promotion program vs. Group 2 (control): coronary risk screening (offered health promotion program at study completion) Where administered: workplace, home Personnel: physiotherapist, exercise specialist, RN, registered dietician Types of feedback: NR Timeliness: NR Targeted health condition: CVD Medicare population: yes	BP systolic BP diastolic Cholesterol mmol/L Cigarettes smoked p/w Framingham 10-year cardiac risk Framingham 10-year stroke risk BMI Activity (# of exercise sessions p/w) Coronary Risk Score	At six mth followup -1.2 (-3.2, 0.8) 0.2 (-1.2, 1.5) -0.12 (10.26, 0.03) -34.3 (-55.3, -15.2) p<0.0001 -0.74 (-1.34,-0.14) p<0.05 -0.35 (-0.60, -0.11) p<0.01 -0.57 (-0.83, -0.31) p<0.0001 -0.8 (-1.1, -0.5) p<0.0001 5.9 (1., 10.0) p<0.01 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Maron[60] 2008 United States	Type of study: RCT Length of followup: 12 mths Method of followup: Counseling sessions+ written+ audiotapes Intervals within followup period: approximately 24	n=126/ 77 Mean age: 48 years 73% female Dropouts: 49 Reasons for dropouts: 23 were lost due to job constraints, 6 moved from the area, 1 lost due to illness & 31 lost to followup (there was some overlap) Recommendations for dropouts: NR	Group 1: HRA + summary report + general consultation with project nurse + use of health promotion facilities vs. Group 2: HRA + targeted disease management including feedback + individualized consultation with nurse + use of health promotion facilities + incentive + tailored risk factor intervention counseling sessions, written material, audiotapes, educational vignettes, counseling session Where administered: workplace Personnel: trained RN Types of feedback: verbal, written summary report Timeliness: after initial assessment Targeted health condition: cardiovascular health Medicare population: no	Framingham risk score (composed of age, LDL cholesterol, HDL cholesterol, blood pressure, smoking, Diabetes, BMI)	Group 2 significant decrease vs. Group 1 -1.33 (22.6%) vs. +0.2 (4.3%) p=0.013 Durability: "We do not know if the difference we observed between groups is durable, although evidence although evidence suggests that over a 5-year period, nearly half the transition from medium or high-risk status to low among employees… occurs during the first year of the program" p. 517

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Maruyama[74] 2010 Japan	Type of study: RCT Length of followup: 4 mths Method of followup: lifestyle data collected at baseline and post-intervention, goal-setting sessions, mthly individual review meetings, one counseling session via Web site Intervals within followup period: 2	n=101/87 Mean age: Group 1: 36 years Group 2: 43 years 0% female Dropouts: 49 Reasons for dropouts: Group 1: of the 49 participants at baseline 2 excluded & 8 did not return for measurements leaving 39 participants Group 2: of the 52 at baseline, 4 didn't return for measurements leaving 48 participants Recommendations for dropouts: NR	Group 1 (control): questionnaires done at baseline and 4 mths + no intervention vs. Group 2: questionnaires done at baseline and 4 mths; individually tailored goal and action-planning session at baseline; plan reviewed at 1 and 2 mths; counseling sessions with dietician and physical trainer; counseling session through Web site completed at end of 3rd mth; encouraged to visit Web site and enter data throughout study Where administered: worksite Personnel: dietician, physical trainer, both certified health counselors Types of feedback: verbal Timeliness: after baseline assessment Targeted health conditions: physical activity, nutrition (habitual food intake) Medicare population: no	Weight Changes in consumption of two food groups: Group A: foods to be increased and Group B: foods to be decreased Number of steps taken BMI Blood tests Method of measurement: self-report, blood tests, physical examination	 e0.31 (p=0.00) e0.35(p=0.00) e 0.91 (p=0.16) -0.47 (p0.01) Durability: "…refinement of both personal contact and interactive technology based interventions is necessary to confirm long-term effects" p 16

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Mayer[97] 1994 United States	Type of study: Control Length of followup: 24 mth intervention, 12 mth followup Method of followup: counseling, group educational workshop, written material, 2X phone calls/year Intervals within followup period: 2	n=1,800/1448 Mean age: 73 years 56% female Dropouts: 352 Reasons for dropouts: "non-compliance" Recommendations for dropouts: NR	Group 1: HRA + regular care (control) vs. Group 2: HRA + preventative care + face-to-face counseling + phone counseling + written feedback + clinical tests + immunizations + individual counseling + series of group health promotion sessions, manuals + 8 wk health promotion series + outcome measures at mths 1 (baseline), 12 (24, 36 & 48, not reported here) Where administered: NR Personnel: trained health counselors Types of feedback: face-to-face counseling, comprehensive individualized report Timeliness: 2 wks after baseline assessment Targeted health condition: general health, physical activity Medicare population: yes	BMI (kg/m2) Systolic BP Diastolic BP Cruciferous vegetable intake	No between group results were reported Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
McClure[111] 2009 United States	Type of study: RCT Length of followup: 12 mths Method of followup: questionnaire, interview Intervals within followup period: 2 (6 mths, 12 mths)	n=536/466 Mean age 51 years 52% female Dropouts: 70 Reasons for dropouts: 13 refused post treatment; at 1 mth followup 6 refused and 15 were unreachable; at 6 mth followup 17 refused, 27 were unreachable and 2 were deceased; at 12 mth followup 24 refused, 43 were unreachable and 3 were deceased Recommendations for dropouts: NR	Group 1 (Experimental): HRA + 20 min personally tailored counseling sessions + spirometry + tailored counseling + incentives (free enrolment to phone counseling program if decided to quit smoking) vs. Group 2 (Control): generic smoking-risk info + personalized counseling re diet, BMI, PA, motivation (free enrolment to phone counseling program if decided to quit smoking) Where administered: community Personnel: health educator Types of feedback: Experimental group: personalized written report Control group: generic Timeliness: after initial assessment Targeted health condition: smoking cessation Medicare population: no	Treatment utilization & abstinence	Controls used significantly more psychopharmacotherapy at 6 mths: 37.8% vs. 28.0% p=0.02 (0.03 adjusted) Controls report greater motivation to quit at 12 mths: 3.42 vs. 3.20 p=0.03 MD = -0.22 Adjusted MD = -0.21 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
McKee[32] 2010 United States	Type of study: Cohort Length of followup: 24 mths Method of followup: telephone surveys, interviews Intervals within followup period: baseline interview, preventive visits in next 6 mths, followup interview 6-9 mths later	n=321/196 Mean age: 30 years % female: NR Dropouts: 125 Reasons for dropouts: lost to followup Recommendations for dropouts: NR	Group 1: HRA + parents engaged in brief goal setting + 1hr motivational interviewing-based counseling with lifestyle counselor + health behavior survey pre- & post-intervention vs. Group 2 (control): HRA + chose not to participate intervention Where administered: clinic Personnel: physician, health educator, nurse, nursing assistant Types of feedback: verbal Timeliness: after initial health behavior assessment Targeted health condition: children at risk of obesity Medicare population: no	Child nutrition Adult nutrition Adult physical activity Child outdoor activity	0.12 vs. 0.94 (-0.2, 2.1) p=0.11 0.14 vs. 0.46 (-.04, 0.96) p=0.07 0.07 vs. 12.5 (-20.9, 45.9) p=0.46 -0.04 vs. -0.18 (-.87, 1.2) p=0.73 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Meng[115] 2010 United States	Type of study: RCT Length of followup: 22 mths Method of followup: Face to face interviews, mthly home visits Intervals within followup period: approximately 25	n=766/452 Group 1: n=382 Group 2: n=384 Mean age: 75.8 years 71% female Dropouts: 314 Reasons for dropouts: by the end of 24 mths: 139 had died and a further 175 had dropped out Recommendations to dropouts: NR	Group 1 (disease management & health promotion): HRA + education (mthly home visits) + individualized health promotion & self-management coaching (home visits and telephone communications) + medication & physician care management vs. Group 2 (control): regular Medicare benefits Where administered: home Personnel: nurse Types of feedback: verbal Timeliness: at home visits Targeted health condition: general health, other Medicare population: yes	ADL and IADL dependencies measured using Outcome and Assessment Information Set (OASIS) - higher scores show worsening ability	Average ADL score Intervention group: +0.25 Control: +0.49 MD = -0.24 p=0.04 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Mills[50] 2007 United Kingdom	Type of study: Cohort Length of followup: 12 mths Method of followup: e-mail, workplace seminars/ workshops, mailed packages Intervals within followup period: 4	n=519/266 Mean age: 38 years 57% female Dropouts: 253 Reasons for dropouts: NR Recommendations for dropouts: NR	Group 1: HRA at baseline & followup + unlimited access to a tailored health improvement Web portal + wellness literature (4 packages sent in the mail) & seminars (4 on-site seminars) + workshops, received tailored e-mails every 2 wks vs. Group 2: HRA at baseline & followup Where administered: workplace (HRA administered online) Personnel: NR Types of feedback: via e-mailed report Timeliness: after initial assessment Targeted health condition: general health, other Medicare population: no	Health Risk (12 item composite: alcohol, smoking, body weight, physical activity, nutrition, medical health, pain, stress, sleep, perception of general health, job satisfaction, seat belt usage) Absenteeism	Health risk factors Group 1 = -0.48 Group 2 = -0.05 MD = -0.43 p<0.001 Absenteeism Group 1 = -0.03 Group 2 = 0.18 MD = -0.21 p=0.007 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Moy[17] 2006 Malaysia	Type of study: Cohort Length of followup: 24 mths Method of followup: NR Intervals within followup period: 4	n=186/146 Group 1: n=102 Group 2: n=84 Mean age: 44 years 0% female Dropouts: 40 Reasons for dropouts: NR Recommendations for dropouts: NR	Group 1: HRA + intensive individual (at least 2X/year) & group counseling (motivation & encouragement) (3-4X/year) + group education, alterations of environment at work-site, medical assessment at baseline & every 6 mths for 2 years vs. Group 2: HRA + minimal education through email and group counseling, distribution of standard brochures, group sessions 1X/year, medical assessment at baseline & every 6 mths for 2 years Where administered: workplace Personnel: NR Types of feedback: verbal Timeliness: sometime after initial assessment Targeted health condition: physical activity, general health, smoking cessation Medicare population: no	Cholesterol level BMI SBP DBP HDL Triglycerides Fasting blood glucose Smoking cessation	No between group results were reported Durability: "The adoption of the new lifestyle behaviors should be supported and sustained through modification of work policies" p 301

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Nice[125] 1990 United States	Type of study: RCT Length of followup: 12 mths Method of followup: mailed feedback Intervals within followup period: 1	n=270/93 Mean age: 29 years 9.2% female Dropouts: 177 Reasons for dropouts: 177 participants did not respond to followup assessment Recommendations for dropouts: NR	Group 1: HRA + printed feedback + questionnaire (at baseline & 12 mths) vs. Group 2 (control): no HRA + questionnaire (at baseline and followup) Where administered: home Personnel: n/a Types of feedback: mailed printed Timeliness: after initial HRA Targeted health condition: general health Medicare population: no	Health behavior: Smoking Alcohol consumption Exercise activity	6.59 vs. 6.29 p<0.01 5.42 vs. 5.44 p<0.01 1,616 vs. 1,883 p<0.01 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Nisbeth[67] 2000 Denmark	Type of study: RCT Length of followup: 12 mths Method of followup: questionnaire, meetings Intervals within followup period: 2	n=85/74 Mean age: 33 years 0% female Dropouts: 11 Reasons for dropouts: Group1 (control) : (3 left the company) Group 2: 6 left the company, 1 due to illness & 1 didn't complete testing Recommendations for dropouts: NR	Group 1: HRA + Physical + 2x labs in a wk vs. Group 2 IA to IC: Same as Group 1 + Enhanced feedback + counseling at baseline & after 5 mths (15 min followup conversation) + Group 2 IA- PA 3x/wk or Group 2 IB- Healthy Diet or Group 2 IC- Smokers cessation Where administered: workplace Personnel: exercise physiologist Types of feedback: verbal Timeliness: at 5 mths Targeted health condition: cardiovascular health Medicare population: no	Changes in risk factors: total cholesterol, HDL, LDL, triglycerides, BP, HR, BMI, VO2; adherence Aerobic Power	Successfully met goal setting Group 2 IA: 76% Group 2 IB: 18% Group 2 IC: 25% Total Cholesterol Group 2 vs. Group 1: 0.14 vs. 0.38 p<0.05 HDL Group 2 vs. Group 1: 0.13 vs. 0.10 p<0.001 LDL Group 2 vs. Group 1: 0.10 p<0.001 vs. 0.31 p<0.05 Triglycerides Group 2 vs. Group 1: -0.23 p<0.05 vs. -0.09 LDL/HDL ratio Group 2 vs. Group 1: -0.19 p<0.05 vs. 0.04 DBP Group 2 vs. Group 1: 2.5 p<0.01 vs. 2.1 BMI Group 2 vs. Group 1: -0.06 vs. 0.42 p<0.05 p<0.05 2.66 p<0.001 vs. 0.54 p<0.01 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Nitzke[126] 2007 United States	Type of study: RCT Length of followup: 12 mths (intervention was 6 mths) Method of followup: assessment calls (baseline, 4-mths, 12-mths), mailed materials, educational phone calls Intervals within followup period: 2	n=2,042/1,255 Mean age: NR 61.2% female Dropouts: 787 Reasons for dropouts: 421 did not complete 4-mth survey 366 did not complete the 12-mth survey Reasons for dropouts: NR Recommendations for dropouts: NR	Group 1: mailed tailored mthly newsletters + 2 phone calls to review and enforce mailed materials + incentive vs. Group 2 (control): mailed, non-tailored 5 A Day pamphlet + incentive Where administered: at home Personnel: researchers, outreach educators, social work students, professionals Types of feedback: computer-generated reports, verbal Timeliness: after 4 wks from baseline (within mailed mthly material) Targeted health condition: fruit & vegetable intake, general health Medicare population: no	Fruit & vegetable in-take	(Group1) 4.90 vs. (Group 2) 4.60 per day $F=3.49$ $p<0.05$ Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Nurminen[61] 2002 Finland	Type of study: RCT Length of followup: 15 mths Method of followup: mail, written material, phone calls, Intervals within followup period: 4 (at 3, 8, 12 and 15 mths)	n=260/234 Mean age: 40 years 100% female Dropouts: 26 Reasons for dropouts: at 3 mths attendance was 100% by 15 mths attendance was 90% Recommendations for dropouts: NR	Group 1: HRA + individual feedback, exercise prescription & counseling vs. Group 2: HRA + individual feedback, exercise prescription & counseling + worksite guided exercise training + 1X/wk sessions over 8 mths + 2 group sessions at 14 mths Where administered: worksite Personnel: physiotherapist, occupational health nurses Types of feedback: verbal Timeliness: sometime after initial assessment Targeted health condition: general health, other Medicare population: no	Health status Sick leaves	No between group results were reported Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
O'Loughlin[36]1996 Canada	Type of study: Cohort Length of followup: 4 mths Method of followup: questionnaire Intervals within followup period: 1	n=386/260 Mean age: 42 years 85% female Dropouts: 126 Reasons for dropouts: reported as due to short-term and long-term leave Recommendations for dropouts: NR	Group 1: questionnaire at baseline and at 4 mths + cardiovascular health risk factor screening + individual feedback + counseling + educational material vs. Group 2(comparison group): questionnaire at baseline and at 4 mths, indication of screening with no explanation Where administered: workplace (schools) education material Personnel: school nurse Types of feedback: verbal Timeliness: at screening session Targeted health condition: cardiovascular health, physical activity Medicare population: no	Smoking status Fat consumption Leisure time exercise	Change in leisure time over 4 mths: Intervention: increase 62.1% Control: increase 47.3% p=0.02 MD = 14.8% Durability: "…the sustainability of behavior change over time following risk factor screening in not known" p. 666

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Papadaki[25] 2008 Greece	Type of study: Cohort Length of followup: 9 mths post baseline (6 mth intervention + 3 mth followup) Method of followup: email communication and questionnaires Intervals within followup period: 6	n=72/51 Mean age: 41 years 100% female Dropouts: 21 Reasons for dropouts: NR Recommendations to dropouts: NR	Group 1:HRA + e-mailed tailored dietary & psychosocial feedback letters + internet education + written email recommendations + goal setting + access to Mediterranean eating Web site + on-line questionnaires, 3 mths post-intervention final e-mailed feedback letter vs. Group 2: HRA + minimal tailored dietary feedback in initial e-mailed letter + general healthy-eating brochures, 3 mths post-intervention final e-mailed feedback letter Where administered: workplace/at home Personnel: NR Types of feedback: e-mailed letter Timeliness: after initial screening Targeted health condition: general health Medicare population: no	Fasting blood lipids Psychosocial questionnaire Food diary and Mediterranean diet score (MDS)	Significant increase HDL-cholesterol Group 1 vs. Group 2: 0.27mmol/l vs. 0.07mmol/l p=0.005 Greater decrease HDL-cholesterol ratio Group 1 vs. Group 2: -0.47 vs. -0.14 p=0.025 MDS: Significant increase vegetable intake Group 1 vs. Group 2: 76.5 g/d vs. 27.7 g/d p=0.05 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Pelletier[81] 1998 United States	Type of study: RCT Length of followup: 1 year Method of followup: Job Content Survey at baseline and 1 year; Healthtrac HRA at baseline, 6 mths and 1 year Intervals within followup period: 2	n=81 Mean age: NR 87% female Dropouts: NR Reason for dropouts: NR Recommendations for dropouts: NR	Group 1: Healthrac HRA + job content survey + 2 assessments + 4 written educational modules + 4 calls from health educator vs. Group 2: all of above minus phone calls vs. Group 3: (control) HRA + job content survey Where administered: home; work Personnel: healthcare educators Types of feedback: mail and telephone Timeliness: telephone contact at 2 wks after each set of materials received Targeted health condition: general health, job stress Medicare population: no	Areas of stress: Work Relationship Finances Health Total psychological stressors	 (I)-0.9 (II) -0.35 – (III) 0.2 p<0.01* -not significant -not significant -not significant -not significant Durability: pilot of intervention - overall stress scores on the general HRA did not change

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Pescatello[37] 2001 United States	Type of study: Cohort Length of followup: 48 mths Method of followup: cardiovascular screens, survey, mailed letters (when surveys not returned) Intervals within followup period: 4	n=621/278 Mean age: 41 years 87% female Dropouts: 343 Reasons for dropouts: NR Recommendations for dropouts: NR	Group 1: annual screen + counseling + feedback + structured health education & behavioral support + incentives vs. Group 2: annual screen + counseling + feedback Where administered: workplace Personnel: NR Types of feedback: verbal; individual results counseling Timeliness: after initial assessment Targeted health condition: cardiovascular disease Medicare population: no	Total blood cholesterol (mg/dL) Fasting blood glucose (mg/dL) Systolic blood pressure (mmHg) Diastolic blood pressure (mmHg) BMI (kg/m^2)	Fasting Blood glucose: -1.7 $p<0.05$ BMI: 0.5 $p<0.05$ (numbers indicate mean change over duration of intervention) Durability: " The programmatic features that contribute to these long-term… improvements cannot be determined from this study" p 19

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Peters[75] 1999 United States	Type of study: RCT Length of followup: 3 mths Method of followup: (meetings, mailed surveys, etc.) Intervals within followup period: post-treatment, 3-mths, 8 workshops, 8 counseling sessions	n=50/33 Mean age: NR 40% female Dropouts:17 Reasons for dropouts: 1 lost to work-related injury; 1 on annual leave; 1 deceased; 14 dropped out (no reasons given) Recommendations for dropouts: NR	Group 1: HRA (baseline, post-treatment and 3 mth followup) + feedback session + stress management training + large group educational workshops over 10 wks + large group counseling sessions+ self-directed behavior change program + large group educational presentation vs. Group 2 (wait-list control): HRA (baseline, post-treatment and 3 mth followup) + delayed treatment + large group educational presentation Where administered: worksite Personnel: author, therapists, research assistants Types of feedback: verbal Timeliness: small group intervention sessions Targeted health condition: general health (stress management) Medicare population: no	Healthy behavior change: % overweight* BP systolic BP diastolic Cholesterol Smoking* Exercise*	Mean(SD) 27.86(22.76) vs. 16.05(13/10) F = 7.41 127.32(15/40) vs. (126.89(21.15) ns 77.86(7.59) vs. 74.68(11.83) ns 210/96(39.37) vs. 183.74(36.73) ns 3.78(6.91) vs. 5.11(10.09) F=4.28 2.41(0.73) vs. 1.89(0.94) F=4.68 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Prochaska[62] 2008 United States	Type of study: RCT Length of followup: 6 mths Method of followup: mail, Online (interactive), phone, meetings Intervals within followup period: 1	n=1,400/738 Mean age: 41 years 78% Female Dropouts: 662 Reasons for dropouts: NR Recommendations for dropouts: NR	Group 1: received mailed and emailed letter; + HRI (enhanced HRA feedback) vs. Group 2: received mailed and emailed letter & incentive + HRI + health coaching by phone or in person vs. Group 3: received mailed and emailed letter & incentive & phone call if hadn't responded + HRI + online sessions + tailored programs Where administered: worksite Personnel: trained health coaches Types of feedback: verbal, on-line written Timeliness: after initial assessment Targeted health condition: general health, physical activity, smoking cessation Medicare population: no	Exercise 30min/day, 5 days/wk Smoking (% abstinence) BMI (% <25)	No between group results were reported Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Proper[63] 2003 Netherlands	Type of study: RCT Length of followup: 9 mths Method of followup: meetings, counseling written materials Intervals within followup period: 1	n=299/220 Mean age: 44 years 32% female Dropouts: Group 1: n=168 loss to followup was 23% loss at questionnaire, 30% loss at fitness and health test & 32% loss at interview Group 2: n=131, loss to followup was 16% loss at questionnaire, 19% loss at fitness and health test & 18% loss at interview Reasons for dropouts: refusal to continue & job changes Recommendations for dropouts: NR	Group 1: HRA (questionnaire + interview + fitness & health tests) pre & post + Educational material vs. Group 2: HRA (questionnaire + interview + fitness & health tests) pre & post + educational material + 7X20 min each individual face-to-face MI counseling sessions over 9 mths Where administered: workplace Personnel: physiotherapist, counselors Types of feedback: written Timeliness: NR Targeted health condition: physical activity, general health Medicare population: no	Body fat (%) Group 2 vs. Group 1 BMI (kg/m2) Serum cholesterol (mmol/l) Blood pressure (mmHG)	Body Fat: Group 1 vs. Group 2 = 0.75 p=0.001 Serum cholesterol 0.22 p=0.004 No other statistically significant differences between groups Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Puska[38] 1988 Finland	Type of study: Cohort Length of followup: 12 mths Method of followup: survey Intervals within followup period: 4	n=685/576 Mean age: Group 1: 34.7 years Group 2: 34.2 years Group 1: 46% female Group 2: 41% female Dropouts: 99 Reasons for dropouts: 36 invited did not participate in baseline survey 73 did not participate in the terminal survey-46 had moved to another worksite; 8 were on longer leave; 7 became pregnant; 9 for other reasons; 3 participated but had incomplete data Recommendations for dropouts: NR	Intervention: Survey + broadcast of national TV programmer with a studio group of one employee from each intervention site and two project experts advising the group and offering support to worksite + screening results with written advice and educational material Reference: baseline/terminal surveys only Where administered: worksite Personnel: trained nurse, an assistant of the project, trained employees from worksites Types of feedback: personalized, written, group Timeliness: feedback from initial screen immediate Targeted health condition: general health, smoking cessation, physical activity Medicare population: no	Smoking cessation Reduced fat consumption Changed quality of fat Increased vegetable Reduced salt Reduced sugar Increased physical activity Biological risk factors	17% vs. 6%, p<0.05 52% vs. 26%, p<0.001 25% vs. 7%, p<0.001 53% vs. 40%, p<0.05 30% vs. 19%, p<0.05 28% vs. 29%, NS No between group results. No significant change reported within either groups of worksites No between group results reported Durability: "One year was chosen because such a time period already gives a good indication of permanent health behavior changes...The results support the assumption that worksites are practical and feasible locations to deliver risk reduction and health promotion interventions..." (p.249)

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Racette[76] 2009 United States	Type of study: RCT Length of followup: 12 mths Method of followup: meetings, group exercise classes, seminars, team competitions Intervals within followup period: 2; behavioral questionnaire at 6 mths, assessment at 12 mths,	n=151/123 Mean age: 45 years % female: NR Dropouts: 28 Reasons for dropouts: 25 changed employment, 1 retired, 2 lost interest Recommendations for dropouts: NR	Group A: HRA (at baseline & at 12 mths) + personal health report (WOW) + nutrition components + on-site group exercise program + mthly seminars + mthly newsletter + team competitions vs. Group B (control): HRA (at baseline & at 12 mths) + Personal health report (WOW) Where administered: work site Personnel: registered dietician, exercise specialist, employee advisory committee Types of feedback: personal health report, verbal Timeliness: after initial assessment Targeted health condition: obesity, cardiovascular disease Medicare population: no	Blood pressure Lipids	p<0.01 p<0.21 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Rahe[77] 2002 United States	Type of study: RCT Length of followup: 12 mths Method of followup: small group sessions, health reports, mail Intervals within followup period: 4 (at 3, 6, 9 & 12 mths)	n=501 Mean age: 41.5 51% female Group 1: n=171 Group 2: n=166 Group 3: n=164 Dropouts: 0 Reasons for dropouts: n/a Recommendations for dropouts: n/a	Group1(full intervention): HRA + seminar + personalized self-study feedback + face-to-face small group sessions + health reports vs. Group 2 (partial intervention, self-help group): HRA + personalized feedback by mail + health reports vs. Group 3 (waitlist control): HRA (baseline, 6 mths, 12 mths) + health reports at 0, 3, 6, 9 & 12 mths Where administered: workplace Personnel: senior author, psychiatrist, nurse Types of feedback: verbal, written (sent through the mail) Timeliness: after initial assessment Targeted health condition: stress, general health, reduction of doctor's visits Medicare population: no	Anxiety Depression score Negative responses to stress	No between group report Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Richter[22] United States	Type of study: Cohort Length of followup: 6 mths Method of followup: in person re-test Intervals within followup period: 2	n=86/78 Mean age: NR 100% female Dropouts: 8 Reasons for dropouts: 1 declined invitation to participate, 7 did not participate in second phase of data collection for 'various reasons' Recommendations for dropouts: NR	Group1: Lifestyle Assessment Questionnaire (LAQ) + 10 wk course in health promotion course Group 2: LAQ + Clinic Assessment (personalized health assessment experience) Group 3: LAQ + 10-wk adult nursing course (no emphasis on health promotion) Where administered: university, nursing clinic Personnel: nurse instructors; senior year nursing students Types of feedback: personalized results, counseling, recommendations, educational materials Timeliness: NR Targeted health condition: general health Medicare population: no	LAQ Subscales: Physical exercise Nutrition BP systolic BP diastolic Pulse	 0.38 vs. 4.63 vs. 3.96 F = 5.24, p<0.01 1.04 vs. 2.57 vs. 2.11 NS 3.33 vs. 5.53 vs. 1.11 NS 1.62 vs. 1.33 vs. 1.19 NS 3.62 vs. 1.07 vs. 10.85, F = 7.35, p<0.01 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Sabti[31] 2010 Switzerland	Type of study: Cohort Length of followup: 12 mths Method of followup: mailed questionnaire, 8x meetings with GP or physiotherapist Intervals within followup period: 1 + up to another 8 meetings	n=1,239/1,075 Mean age: 44 years 58% female Dropouts: 164 Reasons for dropouts: non-participants either had not consented or had given an invalid address Recommendations for dropouts: NR	Group 1: HRA (pre & post-intervention) + 8x 2wk campaigns (1st wk received leaflet, 2nd wk receives voucher for 2x30min counseling sessions) Where administered: doctor's office Personnel: physician, physiotherapist Types of feedback: verbal Timeliness: at initial GP evaluation Targeted health condition: physical activity Medicare population: no	BMI Physical activity	No between group results Formerly inactive patient increase of 58.8 min/per wk of moderate and 34.6 min/wk of vigorous activity Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Selbst[78] 1992 United States	Type of study: RCT Length of followup: 8 mths Method of followup: classes, mailed newsletters, screenings at 4 & 8 mths [Note: Initial screen resulted in 587 with high cholesterol evenly distributed across 4 groups; 340 of these were retested at 4 mths and 258 at 8 mths. Intervals within followup period: 2	n=1,701 Mean age: NR 76% female Dropouts: NR Reasons for dropouts: NR Recommendations for dropouts: NR	Group A (control): HRA (baseline, midpoint, end) + questionnaire + cholesterol screening + individual counseling + feedback + written information + counseling session + those with cholesterol levels >200mg/dl were asked to get rechecked by their GP Group B: same as Group A + heart health promotion materials throughout 8 mths Group C: same as Group B + classes during 1st half of intervention Group d: same as Group B + mthly educational newsletters Where administered: worksite Personnel: NR Types of feedback: verbal, written, mail, group Timeliness: after initial screening Targeted health condition: CVD Medicare population: no	Blood cholesterol	No between group results Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Shephard[23] 1982 Canada	Type of study: Cohort Length of followup: 9 mths Method of followup: HHA Intervals within followup period: 3	n=326/285 Mean age: NR 57% female Dropouts: 41 (13%) Reasons for dropouts: NR Recommendations for dropouts: NR	Group 1: Invitation to participate in fitness testing + completion of health hazard appraisals + participation in 6 mth employee fitness program Group 2: Invitation to participate in fitness testing + completion of HHA Where administered: worksite Personnel: health professional Types of feedback: newsletters, individual mailings, supervised physical activity, personal prescription for home exercise Timeliness: fitness facilities and employee fitness program made available to Group 2 immediately after first testing for 6 mths Targeted health condition: general health, physical activity, smoking, other Medicare population: no	Composite Risk Score -Men Control Low adherents High adherents Composite Risk Score -Women Control Low adherents High adherents	 -0.07 ± 0.18, p<0.01 --0.12 ± 0.21, p<0.01 -0.13 ± 0.20, p<0.001 0.01 ± 0.18, NS -0.01 ± 0.15, NS -0.05 ± 0.15, p<0.05 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Shi[33] 1992 United States	Type of study: Cohort Length of followup: 24 mths Method of followup: survey, classes Intervals within followup period: 2	n=2,887/1,998 Mean age: NR % female: Level 1: 21.5% Level 2: 23% Level 3: 25.5% Level 4: 24% Dropouts: 889 Reasons for dropouts: not aware of program activities, time conflicts, declining interest Recommendations for dropouts: NR	Level 1: control; HRA + bimthly health newsletter vs. Level 2: same as Level 1 + targeted education at health resource center + self-care book vs. Level 3: same as Level 2 + regular behavior change classes/workshops + Division Health Wise training + lifestyle seminar vs. Level 4: same as Level 3 + environmental policy component (exercise space, smoking policies, incentives, health points) + targeted case management with high risk participants Where administered: worksite Personnel: professional staff, volunteers Types of feedback: verbal, written educational Timeliness: upon completion of baseline HRA Targeted health condition: general health Medicare population: no	Smoking Heavy drinking Overweight High cholesterol level High blood pressure Change in overall risk	Level 4 greatest decline (-44%), Level 3 and Level 1 (-35%, -34%) > decline than Level 2 (-18%) Level 1 and Level 2 (-22%, -20%) had > decline rates than Level 3 and Level 4 (-35%, -44%) Level 4 rate of decline (-12%) > all other levels Level 4 rate of decline (-49%) > all other levels Level 4 rate of decline (-28%) > all other levels One-way ANOVA test showed that stepped intervention levels did contribute to observed behavior changes (F = 50.756). Post-hoc means test showed only Level 4 intervention significantly greater overall risk change, p<0.001. Durability: "The greatest problem in health promotion programs…recidivism" (p.22)

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Singleton[34] 1988 United States	Type of study: Cohort Length of followup: 3 mths Method of followup: mail, telephone Intervals within followup period: 3	n=144/47 Mean age: 40 years 67% female Dropouts: 97 Reasons for dropouts: 26 with high cholesterol did not attend health session, 67 of remaining 118 did not sign health contract (n=51); 4 of 51 contract signers did not return for final assessment (n=47) Recommendations for dropouts: 67 not signing contract received educational materials + 15/20 minute brief counseling session and told they would receive letters from educator inviting them to sessions at another time	Group 1: Cholesterol screening + health counseling + written materials + behavioral contract vs. Group 2: Cholesterol screening + health counseling + written materials + no contract vs. Group 3: Cholesterol screening + written materials Where administered: urban health clinic Personnel: nurse, project health educator Types of feedback: personalized results, verbal counseling, mail, written educational, telephone, incentives Timeliness: individual interpretation/counseling session scheduled 2 wks after screen Targeted health condition: CVD Medicare population: no	Cholesterol level at baseline only (all Groups) Cholesterol level at followup (Group 1 only, by level of adherence to contract)	No between group results reported Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Smeets[101] 2008 Netherlands	Type of study: RCT Length of followup: 3 mths Method of followup: post-test questionnaires Intervals within followup period: 1	n=516/487 Mean age: 44 years 46% female Dropouts: 29 Reasons for dropouts: of the 516 at baseline, 29 were excluded as they didn't meet age inclusion criteria Recommendations for dropouts: NR	Group 1: physical activity & determinants measured at baseline & 3 mths + computer-tailored educational material on physical activity + feedback(PA) vs. Group 2: physical activity & determinants measured at baseline & 3 mths + no information given Where administered: mail Personnel: computer generated Types of feedback: emailed Timeliness: after initial assessment Targeted health condition: physical activity Medicare population: no	self-rated PA; Motivation factors Stage of change	Control group less likely to meet recommendation for physical activity 70.4% not meeting recommendations (Group 2) vs. 39.5% not meeting recommendations (Group 1) OR = 3.57 (1.35 to 9.47) p<0.05 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Smith[94] 1985 United States	Type of study: RCT Length of followup: 6 mths Method of followup: Mailed survey Intervals within followup period: 1	n=410/288 Mean age: 36 years 49% female Dropouts: 122 Reasons for dropout: NR Recommendations for dropouts: NR	Group 1: HHA + full written results + individual suggestions for lifestyle modifications to improve rating and a graphic representation of relative risks for patients' age group+ simple list of abnormal responses + invitation to see physician vs. Group 2 (control): HHA + simple list of abnormal responses + invitation to see physician (who had copies of HHA results and provided counseling and literature) Where administered: doctor's office Personnel: physician Types of feedback: written; individualized; educational Timeliness: after initial assessment Targeted health condition: general health smoking, obesity, physical activity Medicare Population: no	Obesity Alcohol Use Smoking Blood Pressure Colon Cancer Screen Breast and pap exam Serum cholesterol levels Blood Pressure Physical activity	– no statistically significant differences among 4 groups Alcohol Use- no statistically significant differences among 4 groups (for first 8 measures) Statistically significant difference b/w counseled and uncounseled ($p<0.05$) No difference b/w experimental and control Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Sorensen[64] 2008 United States	Type of study: RCT Length of followup: 6 mths Method of followup: phone, mail, written educational material Intervals within followup period: 1	n=674/582 Mean age: 40 years 6% female Dropouts: 92 Reasons for dropouts: lost to followup Recommendations for dropouts: NR	Group 1 (control): HRA + a mailed package of all targeted written materials vs. Group 2: HRA + mailed tailored feedback report & 6 targeted educational material packages, tip sheets + telephone MI counseling + extra calls for smokers Where administered: workplace targeted, home delivered Personnel: on-going trained health advisors, counselors Types of feedback: written Timeliness: within 2 wks of baseline survey Targeted health condition: smoking cessation, general health Medicare population: no	Fruit & vegetable intake (serving increase) Smoking cessation %	Fruit & Vegetable intake (serving increase) Group 2 significant increase of Group 1: MD = + 1.72 p<0.0001 Smoking cessation % Group 2 vs. Group 1 MD = + 11% p=0.03 Durability: "this study provides evidence that a telephone-delivered, tailored intervention that incorporates the social contextual framework for health behavior change can be efficacious" p 58

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Spittaels[100] 2006 Belgium	Type of study: Cluster RCT Length of followup: 6 mths Method of followup: questionnaire Intervals within followup period: 2	n=434/285 Mean age: 41 years 66% female Dropouts: 149 Reasons for dropouts: of the 434 participants at baseline, 285 completed 6-mth followup Recommendations for dropouts: NR	Group 1: HRA + Physical activity advice tailored + 7X non-tailored emails, repeated feedback, access to Web site + 3 mth post-baseline received an email for a 2nd assessment vs. Group 2: HRA + PA tailored advice + feedback + 3 mth post-baseline received an email for a 2nd assessment vs. Group 3 (Control): HRA, waiting list control group (no access to Web site or computer-tailored feedback until after followup questionnaire at 6 mths Where administered: community Personnel: computer Types of feedback: computer-tailored Timeliness: immediately following on-line baseline questionnaire Targeted health condition: physical activity Medicare population: no	Mean minutes of moderate to vigorous physical activity (MVPA) (IPAQ); frequency and duration PA (at work, as transportation, in household and in leisure time, daily sitting time). PA scores for each domain and a total MVPA minutes/wk	Transportation PA: Intent to Treat; Tx Group=2.926 p<0.05 Completers; Tx Group=5.250 p<0.01 Leisure Time PA: Intent to Treat; Tx Group=2.322 p<0.05 Completers; Tx Group=3.139 p<0.05 Wkday sitting (min/day): Intent to Treat; Tx Group=3.105 p<0.05 Completers; Tx Group=3.713 p<0.05 Durability: "…results indicate that Web site delivered PA interventions can be effectively and feasibly implemented in real=life situations" p 215

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Spoth[95] 1992 United States	Type of study: RCT Length of followup: 4 mths Method of followup: mailed information package + assessment Intervals within followup period: 1	n=52/47 Mean age: 60.2 years 36% female Dropouts: 5 Reasons for dropouts: of the 52 at baseline, 5 decided not to participate before intervention even started Recommendations for dropouts: NR	Control: mailed information package + assessment + usual family doctor monitoring + delayed intervention + mailed package + nurse assessment followup vs. MP group: same as Group 1 + time-limited or minimal intervention (MP program); 1-day workshop vs. MPP group: same as Group 2 + stress management biofeedback assisted relaxation training (MPP program) followup at 4 mths (mailed package + nurse assessment) + individual training sessions + home assignments Where administered: home, GP office Personnel: registered nurse Types of feedback: verbal Timeliness: at initial assessment Targeted condition: CVD Medicare population: no	Lifestyle behavior change scale (LBCS)	One-way ANCOVA applied to evaluation of LBCS results using pretest LBCS score and age as covariate: F (2, 36) = 3.97, p=0.028 (55.2% coefficient of determination). *A priori* contrast between combined treatment groups vs. control group was not significant *A priori* contrast between MP group vs. control group was not significant. Contrast between MPP vs. control was significant F(1, 36)=5.4 p=0.026 Contrast between MP vs. MPP was significant F(1, 36)=4.76 p=0.036 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Steptoe[90] 1999 United Kingdom	Type of study: RCT Length of followup: 12 mths Method of followup: meetings Intervals within followup period: 2	n=883/520 Mean age: 47 years 54% female Dropouts: 363 Reasons for dropouts: of the 883 at baseline, 626 completed 4-mth assessment, 520 completed 12-mth assessment Recommendations for dropouts: NR	Group 1: Intervention: HRA + targeted behavioral counseling + followup phone encouragement + questionnaire at 4 & 12 mths vs. Group 2 (Control): HRA + info provision and discussion + questionnaire at 4 & 12 mths Where administered: clinic Personnel: nurses Types of feedback: verbal Timeliness: during counseling sessions Targeted health condition: cardiovascular health, smoking cessation, general health, obesity/weight, physical activity Medicare population: no	smoking dietary fat exercise (# sessions) cholesterol (mmol/l) BMI (kg/m2) Weight (kg) Systolic blood pressure (mmHg) Diastolic blood pressure (mmHg)	No between group results were reported Durability: "More extended counseling to help patients sustain and build on behavior changes may be required before differences in biological risk factors emerge" (p 943)

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Stevens[82] 2002 United States	Type of study: RCT Length of followup: 4 mths Method of followup: mail, meeting/ counseling, interactive computer-based, MI phone counseling, written & audiovisual material Intervals within followup period: 1	n=616/524 Mean age: 54 years 100% female Dropouts: 92 Reasons for dropouts: Group 1: 94% of the 308 at baseline completed the 4-mth followup Group 2: 91% of the 308 at baseline completed the 4-mth followup Recommendations for dropouts: NR	Group 1: 2 screening HRA + counseling session, interactive computer-based feedback & written material + phone followup support (motivation, self-efficacy, stage of change, behavior change), goal setting vs. Group 2: Attention-Control; 2 screening HRA + BSE counseling (unrelated w/focus of trial) + individual counseling session + phone followup Where administered: clinic setting Personnel: clinic staff Types of feedback: touch screen (computer) Timeliness: during counseling assessment Targeted health condition: general health Medicare population: no	Outcome efficacy of computer –assisted diet-related cancer risk reduction measures	% Energy from fat Group 1 vs. Group 2 gm/d: 2.35% p=0.009 Kristal fat behavior score Group 1 vs. Group 2: 0.24 p<0.001 Servings of fruit and vegetables per day Group 1 vs. Group 2: -1.04 p<0.001 Durability: "It appears that with the right timing,…dietary change interventions can be efficacious, at least in the short term…" p 134

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Stoddard[91] 2004 United States	Type of study: RCT Length of followup: 12 mths Method of followup: clinical evaluation, questionnaire Intervals within followup period: 1	n=1,443/1,105 Mean age: 58 years 100% female Dropouts: 338 Reasons for dropouts: NR Recommendations for dropouts: NR	Group 1 (Minimum Intervention): HRA + onsite counseling + education + referral + followup vs. Group 2 (Enhanced Intervention): HRA + one on one counseling + education + referral + followup + additional services + one on one nutritional and physical activity counseling + group activities + nutrition classes + cultural festivals+ assessments Where administered: at clinic Personnel: trained health professional, clinic staff Types of feedback: verbal Timeliness: after initial assessment, during one-on-one counseling Targeted health condition: cardiovascular health Medicare population: yes	Blood pressure (mmHg) Cholesterol (mg/dl) Daily fruit and vegetable intake BMI	No between group results were reported Durability: "…the chances of success probably would be increased by providing additional support to the individual healthcare sites…" (p 546)

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Strychar[65] 1998 Canada	Type of study: RCT Length of followup: 16-20 wks Method of followup: Interview & PE, mailed written material & meetings Intervals within followup period: 2	n=500/442 Mean age: 50 years 34% female Dropouts: 58 Reasons for dropouts: 10 refused to participate, 23 were absent and 25 were excluded because they didn't meet the eligibility criteria Recommendations for dropouts: NR	Group 1: L HRA + pre intervention cholesterol results + Educational session + enhanced feedback individual goal setting, strategies & diet tool + mailed followup diet tool vs. Group 2: HRA + interview w/o dietary advice or socio-demographics (post-intervention receipt of cholesterol levels) Where administered: worksite Personnel: dietician Types of feedback: verbal Timeliness: Group 1: at pre-test Group 2: at post-test Targeted health condition: cardiovascular health Medicare population: no	Saturated Fat (% of total energy) Blood cholesterol (mmol/l) Nutrient intake (Kcal)	No between group results were reported Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Stuifbergen [120] 2010 United States	Type of study: RCT Length of followup: 8 mths (entire study was over 30 mths, but the intervention for any one individual was 8 mths long) Method of followup: education, goal-setting and telephone followup Intervals within followup period: 3	n=187/165 Mean age: 53 years 100% female Dropouts: 22 Reasons for dropouts: 16 lost at 2 mth followup, 1 lost at 5 mth followup, 5 lost at 8 mth followup, no reasons given Recommendations for dropouts: NR	Group 1 (control): general 2 hr wkly educational classes, and followup phone calls, questionnaires vs. Group 2: 8 wks of 2 hr wkly lifestyle change classes specific to fibromyalgia with goal setting; followup phone calls for three mths notebooks with self-assessments, homework assignments, and goal-setting; followup phone calls, questionnaires Where administered: at home Personnel: clinical nurse specialist; group facilitators; woman with fibromyalgia syndrome and a doctoral degree in social work; Types of feedback: NR Timeliness: NR Targeted health condition: frequency of activities to maintain or increase level of health and well-being Medicare population: No	Frequency of activities to maintain or increase level of health and well-being; belief in ability to perform activities; perceived health and quality of life Self-report measurement of quality of life, both real and perceived, measured with the Fibromyalgia Impact Questionnaire	For SF-36: F=1.90 p>0.05 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Taimela[9] 2008 Taimela[13] 2008 Finland	Type of study: Longitudinal Cohort with two embedded RCTs Length of followup: 12 mths Method of followup: letter, meetings, telephone Intervals within followup period: 1	n=1,247/1,247 Mean age: 44 years 12% female Dropouts: NR Reasons for dropouts: NR Recommendations for dropouts: NR	RCT 1: Group 1 (high risk intervention): personalized feedback letter + invitation to specialist consultation (in person) vs. Group 2 (high risk control): usual care RCT 2: Group 1 (intermediate risk intervention): personalized feedback letter + access to specialist phone counseling vs. Group 2 (intermediate risk control): usual care Where administered: workplace Personnel: occupational health nurses and doctors Types of feedback: RCT 1: personalized letter Timeliness: NR Targeted health condition: general health, other Medicare population: no	Sickness absence by risk group	No between group results were reported Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Talvi[35] 1999 Finland	Type of study: Cohort Length of followup: 36 mths Method of followup: meetings Intervals within followup period: 1	n=886/798 Mean age: 41 years 13% female Dropouts: 88 Reasons for dropouts: NR Recommendations for dropouts: NR	Group A: HRA + personalized feedback + counseling + education + guided intervention vs. Group B: HRA + written feedback Where administered: workplace, doctor's office Personnel: physical education instructor; occupational health nurse; occupational health physician; psychologist Types of feedback: Group A: oral Group B: written Timeliness: after initial assessment Targeted health condition: general health, smoking cessation, obesity/weight, physical activity Medicare population: no	S-Chol (mmol/l) S-HDL-Chol (mmol/l) BMI (kg/mxm) Physical activity Dietary habits Obesity Smoking Blood pressure Mental well-being	No between group results were reported Durability: …"health promotion should be established as a continuous process rather that a single project … " p 100

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Toft[83] 2008 Denmark	Type of study: RCT Length of followup: 60 mths Method of followup: examinations, questionnaire, counseling Intervals within followup period: 3	n=9,396/7,111 Mean age: NR Age Range: 30 to 60 years 52% female Dropouts: 2,285 Reasons for dropouts: lost to followup Recommendations for dropouts: NR	Group 1: HRA (medical health examination) + face-to-face lifestyle counseling groups 6X 2-hr meetings in 4-6 mths + high risk individuals offered individual & group counseling Group 2 (Control): medical health examination + written dietary and health information + followed by questionnaires Where administered: clinic based Personnel: physicians, nurses, dieticians Types of feedback: verbal Timeliness: at baseline testing Targeted health condition: cardiovascular health, general health Medicare population: no	Use of saturated fats on bread Use of saturated fats for cooking Fruits servings/wk Vegetables g/wk Fish g/wk	Men intervention group: -sig decrease sat fats cooking MD = -6 p<0.05 -sig increase vegetables/wk MD = 55 p<0.05 Women intervention: -sig increase fruit servings/wk MD = 1.2 p<0.05 -sig increase vegetables/wk MD = 51 p<0.05 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
van Beurden[27] 1990 Australia	Type of study: RCT Length of followup: 3 mths Method of followup: letter; re-test Intervals within followup period: 1	n=1,437/317 Mean age: 54 years % female=58% Dropouts: 1,120 Reasons for dropouts: of initial screen 861 did not have elevated cholesterol and were not invited to return; of 576 eligible for re-test, 259 did not return; no reasons Recommendations for dropouts: NR	Group 1: Cholesterol screening + brief dietary counseling with 'Cholesterol Advisor' for those with high levels + encouragement to see physician + reminder letter for 3-mth retest Group 2: Unmatched Control group, local blood bank screen and return for re-test in 3 mths Where administered: public screening site (shopping mall) Personnel: health department staff and lay volunteers; trained nurses Types of feedback: verbal; written educational Timeliness: immediate Targeted health condition: high cholesterol; CHD Medicare population: no	Cholesterol level	Group 1 retest: 2.9% decrease in cholesterol level (paired t=3.10, p=0.002) Group 2 at retest: 4.1% increase in cholesterol level (paired t=-2.16, p=0.035) Net difference between control and experimental group was 7.0% relative reduction in the experimental sample (t=2.95, p=0.003) Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Vandelanotte [118] 2005 Belgium	Type of study: RCT Length of followup: 6 mths Method of followup: computer-based questionnaire, mailed questionnaire Intervals within followup period: 2	n=1,023/771 Mean age: 39.1 64.5% female Dropouts: 252 Reasons for dropouts: lost to followup Recommendations for dropouts: NR	Group 1: computer-tailored physical activity + fat intake interventions simultaneously at baseline + incentive vs. Group 2: computer-tailored physical activity intervention at baseline + fat intervention 3 mths later + incentive vs. Group 3: computer-tailored fat intake intervention + physical activity intervention + incentive vs. Group 4 (control): incentive + received both tailored interventions after post-test measurement 6 mths post-baseline Where administered: university lab, home Personnel: NR Types of feedback: computer tailored Timeliness: immediately after initial computerized baseline questionnaire Targeted health condition: physical activity and diet Medicare population: no	Physical activity Fat in-take	F(2, 573) = 11.4, p<.001 F(2, 565) = 31.4, p<.001 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
van Stralen[14] 2009 Netherlands	Type of study: RCT Length of followup: (intervention was 4 mths) at 3-mths & 6 mths Method of followup: mailed (HRA, written material & feedback) Intervals within followup period: 2	n=1,971/1,348 Mean age: 64 years 57% female Dropouts: 623 Reasons for dropouts: lost to followup Recommendations for dropouts: NR	Group 1: HRA + incentives + 3X mailed tailored psychosocial intervention letters + print computer tailored feedback + assessments at 3 & 6 mths vs. Group 2: same as Group 1 + environmental information & Web site interaction + assessments at 3 & 6 mths vs. Group 3 (Control): wait-list mailed invitation, incentives + assessments at 3 & 6 mths Where administered: Regional Municipal Health Councils/communities Personnel: NR Types of feedback: computerized Timeliness: 2 wks after baseline Targeted health condition: physical activity Medicare population: yes	Group 1 vs. Group 2 any outcome Physical activity days/ wk	No between group results were reported Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
van Stralen[10] 2010 Netherlands	Type of study: RCT Length of followup: 12 mths)intervention was 4 mths, followup continued another 8 mths) Intervals within followup period: 3	n=1,971/1,348 Mean age: 64 57% female Dropouts: 623 Reasons for dropouts: NR Recommendations for dropouts: NR	Group 1 (control): HRA + questionnaires + no intervention + tailored letter vs. Group 2: HRA + questionnaires + tailored feedback from questionnaire + computer-tailored letters + motivational focused targeting psychosocial determinants vs. Group 3: HRA + questionnaires + tailored feedback from questionnaire + computer-tailored letters + motivational & environmentally focused targeting environmental determinants + tailored environmental information + access to Web site Where administered: NR Personnel: NR Types of feedback: computer generated Timeliness: Groups 2 & 3: 2 wks after base testing Group 1: after last post testing Targeted health conditions:	Wkly minutes of total physical activity behavior; wkly minutes of two transport activities; wkly minutes of five leisure activities BMI Self-report	βI environment VS I basic =48.5;,95% CI -6.6 103.3; p=0.08 βI environment VS I Control =62.0;,95% CI 7.4 116.6; P<0.05 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
			increasing physical activity Medicare population: part of the population that was isolated in results is >65 years old		
Van't Riet[119] 2009 Netherlands	Type of study: RCT Length of followup: 3 mths Method of followup: email Intervals within followup period: 1	n=787/299 Mean age: 46 years 55.1% female Dropouts:488 Reasons for dropouts: 321 did not complete first assessment 148 did not respond to 3-mth followup 19 dropped out during followup Recommendations for dropouts: NR	Group 1: gain-framed information + incentive + tailored feedback + persuasive messages vs. Group 2 (control): loss-framed information + incentive Where administered: at home Personnel: NR Types of feedback: tailored on-line Timeliness: immediate Targeted health condition: physical activity Medicare population: no	Physical activity levels	57.4 % physically active for >30 minutes per day at baseline. At 3 mth followup, 60.4% were physically active. This pre-test/post-test was not significant x^2 (1) = 1.57, p=0.22 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Von Huth Smith[92] 2008 Denmark	Type of study: RCT Length of followup: 36 mths Method of followup: Physical assessments, mailed survey Intervals within followup period: 2	n=10,108/6,784 Mean age: NR (range 30 to 60 years) 52% female Dropouts: 3,324 Reasons for dropouts: lost to followup Recommendations for dropouts: NR	Group A (high intensity intervention): HRA + Goal setting + individualized MI counseling sessions + group counseling, high risk participants also received diet/physical activity &/or smoking cessation group counseling + re-counseled after 12 & 36 mths vs. Group B (low intensity intervention): HRA + high risk participants were referred to standard care w/GP + re-counseled after 12 & 36 mths vs. Group C (control): mailed questionnaire Where administered: doctor's office Personnel: RN, dietician, GPs Types of feedback: verbal Timeliness: during lifestyle counseling Targeted health condition: cardiovascular health, physical activity Medicare population: no	Physical activity time (min/wk)	No between group results reported Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Walker[113] 2009 United States	Type of study: RCT Length of followup: 12 mths Method of followup: questionnaires, newsletters mailed home Intervals within followup period: 3 (at 6 & 12 mths for primary and secondary outcomes; at 3, 6 & 9 mths for behavioral determinants for tailoring purposes)	n=225/215 Mean age: 58 years 100% female Dropouts: 10 Reasons for dropouts: NR Recommendations for dropouts: NR	Group 1: HRA + received 18 computer-tailored newsletters on health promotion + physical activity videotapes + feedback on assessment results vs. Group 2: HRA + received 18 mailed generic newsletters on health promotion + physical activity videotapes + feedback on assessment results Where administered: community (rural research offices) Personnel: nurse Types of feedback: written report Timeliness: one mth after baseline assessment Targeted health condition: general health, physical activity Medicare population: yes	perceived fat intake daily intake total and saturated fat (g/day) FFQ physical activity healthy eating DBP SBP	No between group results were reported Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Walker [117] 2010 United States	Type of study: RCT Length of followup: 24 mths (intervention was 12 mths + 12 mths followup) Method of followup: generic or tailored newsletters mailed; goal-setting; educational materials; assessments and feedback Intervals within followup period: 3	n=225/215 mean age: n/r (50-69 years old) 100% Female Dropouts: 10 Reasons for dropouts: lost to followup Recommendations for dropouts: NR	Group 1 (control): generic newsletters mailed to individuals + physical instructional videotapes + assessment and feedback at 12, 18 and 24 mths vs. Group 2: tailored newsletters mailed to individuals + plans of action (goal setting) + assessment and feedback at 12, 18 and 24 mths Where administered: home, rural research offices Personnel: investigators, research nurse Types of feedback: written report Timeliness: up to 1 mth after assessments Targeted health conditions: increased daily servings of fruit and vegetables and reduction of daily intake of dietary fat; increased daily physical activity Medicare population: no	Daily servings of fruits and vegetables Daily intake of dietary fat How much daily activity Systolic and diastolic blood pressure LDL cholesterol Method of measurement: self-report, blood tests, physical tests	F=0.24 p=0.785 F=0.69 p=0.503 F=1.61 p=0.203 F=1.44 p=0.240 F=0.19 p=0.826 F=0.34 p=0.563 Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Wallace[116] 1998 United States	Type of study: RCT Length of followup: 6 mths Method of followup: phone call, in person Intervals within followup period: 2 (at mths 2 & 6)	Group 1: n=53/45 Group 2: n=47/45 Mean age: 72 years 73% female Dropouts: 10 Reasons for dropouts: illness (4), injury (1, not study related), no longer interested (3), moved (1), prolonged vacation (1) Recommendations for dropouts: NR	Group 1: initial questionnaire + 30-60 min visit + multiple risk factor intervention with exercise classes 3x/wk vs. Group 2 (control): initial Where administered: community senior center Personnel: physician, nurse, trained exercise instructor Types of feedback: verbal Timeliness: after initial assessment Targeted health condition: general health (disability prevention program) Medicare population: yes	Medical Outcomes Study Short-Form 36 (SF) Physical functioning Bodily pain Mental health Energy/fatigue General health perceptions CES depression scale score	 83.3 vs. 76.7 p=0.07 73.6 vs. 63.5 p=0.03 82.0 vs. 74.6 p=0.01 69.1 vs. 60.0 p=0.01 81.0 vs. 69.7 p=0.001 4.7 vs. 8.2 p=0.003 Durability: "…90% attendance at exercise class and significant percentage of controls who joined the exercise class after 6-mth trial ended demonstrated high level of enthusiasm…" (p.M304)

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Wilson[24] 1980 United States	Type of study: Cohort Length of followup: 4 mths Method of followup: mailed questionnaire, phone call, meetings, telephone questionnaire Intervals within followup period: 2	n=89/89 Mean age: NR 53% female Dropouts: NR Reasons for dropouts: NR Recommendations for dropouts: NR	Group 1: HRA (Information session + Education) + feedback + telephone questionnaire vs. Group 2: HRA (Information session + Education) telephone questionnaire Where administered: university Personnel: NR Types of feedback: NR Timeliness: after initial assessment Targeted health condition: general health Medicare population: no	Individual remaining life expectancy Smoking Drinking	No between group results were reported Durability: NR

Evidence Table 1. Objective of health risk appraisals (cont'd)

Study	Design and Followup details	Sample (Baseline/End)	Intervention	Outcome Measures	Results
Yen[20] 2001 United States	Type of study: Cohort study Length of followup: 24 Mths Method of followup: mailed or onsite HRA Intervals within followup period: 2	n=12,984/12,984 Mean age: NR % female: NR Dropouts: NR Reasons for dropouts: NR Recommendations for dropouts: NR	Group 1: HRA mailed + telephone counseling vs. Group 2: HRA screened + telephone counseling + feedback + education + other Where administered: workplace Personnel: nurse, health coach Types of feedback: NR Timeliness: NR Targeted health condition: general health Medicare population: no	Physical activity Smoking Drinking alcohol Self assessment of health Stress measures Illness days Major medical problems Biometric measures: -blood pressure -cholesterol -HDL -body weight	Net risk factor change in overall pop. Between year 1 and year 2 = 0.12 ($p<0.05$) Durability: NR