CVD 1

Bibliographic information	Review strategy	Summary of evidence of effectiveness	Additional information
Title: Joint analysis of the three US community intervention trials for reduction of cardiovascular disease risk. **Authors:** MA Winkleby, HA Feldman, DM Murray **Date:** 1997 **Type of review**: Joint analysis (combining aspects of pooled analysis and meta-analysis). **Number of studies included**: 3 **Publication details**: Journal of Clinical Epidemiology 1997; 50: 645-658.	**Review question**: The objective of the study was to pool data from the three studies to delineate the common intervention effects with greater sample size and power than could be attained by the single studies. **Intervention(s):** Multifactorial campaigns of education and risk reduction lasting from 5 to 8 years, including direct education of health professionals and the public through media and personal contact as well as community organisation to foster institutional and environmental support. **Inclusion criteria (relevance):** Three US community intervention trials. **Inclusion criteria (quality):** All comprised quasi-experimental designs (pre-post non-equivalent comparison group). **Exclusion:** N/A	**Outcomes measured**: Cigarette smoking, blood pressure, total cholesterol, body mass index, coronary heart disease risk in women and men aged 25-64. **Effect size**: Estimated net intervention effects for cardiovascular risk factors were in the favourable direction in nine out of 12 gender-specific comparisons (comprising 5 risk factors together with CHD mortality risk) but none reached statistical significance. **Effect sustainability**: Studies were conducted over 5-8 year periods. **Applicability**: Populations: predominantly US white, non-Hispanic **Other effects**: Not reported. **Conclusion**: Evaluating community based intervention trials presents analytic challenges, however, the reason for few statistically significant effects in the 3 US prevention trials appears to be due to smaller than expected net differences rather than small sample size.	**Disadvantaged groups**: Not reported. **Economic evaluation**: Not reported. **Criteria for evaluating evidence**: N/A **Research gaps identified**: Not reported.

CVD 2

Bibliographic information	Review strategy	Summary of evidence of effectiveness	Additional information
Title: Understanding the variability in the effectiveness of community heart health programs: a meta-analysis. **Authors:** DE Sellers, SL Crawford, K Bullock, JB McKinlay. **Date:** 1997 **Type of review**: Analytic meta-analysis. **Number of studies included**: 7 **Publication details**: Social Science and Medicine 1997: 44: 1325-1339.	**Review question**: The aim of the study is to analyse the variability in the effectiveness of community-based heart health programs to identify what features of community interventions are effective with what populations under what conditions. **Intervention(s):** Multi-component community heart health programs. **Inclusion criteria (relevance):** Community heart health programs aimed at shifting the distribution of CHD risk factors in the general population. Information sufficient for computation of an effect size for the level of at least one risk factor (blood pressure, cholesterol, smoking, body weight). **Inclusion criteria (quality):** Repeated, independent cross-sectional surveys of both intervention and a reference community. **Exclusion:** No reference community.	**Outcomes measured**: Blood pressure, cholesterol, smoking, body weight, CHD risk. **Effect size**: A large number of effect sizes were reported across 6 CHD outcome measures and 12 study characteristics including evaluation characteristics, population characteristics and intervention characteristics, 20 of which were statistically significant, and some of which were practically significant. . **Effect sustainability**: For some CHD outcomes, longer intervention time is associated with greater effect size. **Other effects**: Not mentioned. **Conclusion**: Characteristics of the evaluation method account for much of the heterogeneity in outcomes, though some intervention characteristics also play a role. For example, for cholesterol and smoking, the effect sizes are smaller when reported for women only, for blood pressure, use of broadcast in addition to print media is associated with larger effect sizes, for diastolic blood pressure and smoking, the involvement of community members in	**Disadvantaged groups**: Not reported. **Economic evaluation**: Not reported. **Criteria for evaluating evidence**: N/A **Research gaps identified**: Further research, based on existing evaluation information, to help refine understanding of which interventions work, how well, with which populations under which conditions.

		the definition of the intervention is associated with larger effect sizes, for smoking, an intervention that includes environmental change is associated with larger effect sizes, and for diastolic blood pressure, an intervention that uses both a population and a high-risk prevention strategy is associated with smaller effect sizes.	

CVD 3

Bibliographic information	Review strategy	Summary of evidence of effectiveness	Additional information
Title: Systematic review of randomised controlled trials of multiple risk factor interventions for preventing coronary heart disease. **Authors:** S Ebrahim, GD Smith. **Date:** 1997. **Type of review**: Systematic review and meta-analysis. **Number of studies included**: 9 trials with clinical event outcomes, 5 trials with risk factor outcomes alone. **Publication details**: British Medical Journal 1997; 314: 1666. Also see: The Cochrane Library, Issue 2, 2003.	**Review question**: The study objective was to assess the effectiveness of multiple risk factor interventions in reducing cardiovascular risk factors, total mortality, and mortality from coronary heart disease among adults. **Intervention(s):** Trials in workplaces or primary care, involving more than one of six interventions (stopping smoking, exercise, dietary advice, weight control, antihypertensive drugs and cholesterol lowering drugs) and followed up for at least 6 months. **Inclusion criteria (relevance):** Randomised controlled trials of primary prevention of coronary heart disease by means of multiple risk factor interventions using counselling and education with or without pharmacological treatments in general populations, occupational groups, and in high risk groups. **Inclusion criteria (quality):** Randomised controlled trials. **Exclusion:** Studies of children or only adults under 40, trials of secondary prevention, follow-up of less than 26 weeks.	**Outcomes measured**: Changes in systolic and diastolic blood pressure, smoking rates, blood cholesterol concentrations, total mortality, and mortality from heart disease. **Effect size**: Net decreases in systolic and diastolic blood pressure, smoking prevalence, and blood cholesterol were 4.2mm Hg (SE 0.19 mm Hg), 2.7 mm Hg (0.09 mm Hg), 4.2% (0.3%), and 0.14 mmol/l (0.01 mmol/l) respectively. In the 9 trials with clinical event end points the pooled odds ratios for total CHD mortality were 0.97 (95%CI: 0.92-1.02) and 0.96 (0.88-1.04) respectively. Trials focusing on high risk (usually hypertensive) participants and those using drug treatments had greater impacts. **Effect sustainability**: Minimum of 6-month follow-up. **Other effects**: Not reported. **Conclusion**: Health promotion interventions (defined by the authors as counselling and education) result in only small changes in risk factors and mortality in the general population. A small but potentially important benefit	**Disadvantaged groups**: Not reported. **Economic evaluation**: Not reported. **Criteria for evaluating evidence**: N/A **Research gaps identified**: Research on the relative effects and costs of health protection (ie fiscal and legislative approaches) and primary prevention. Qualitative studies examining how participants received and responded to the advice and treatment given. The effects of new approaches need to be examined in a wide range of people (poor, socially excluded, specific ethnic groups and older people may respond differently).

		of treatment (about a 10% reduction in CHD mortality) may have been missed. In people with hypertension and in other high risk groups, risk factor interventions have beneficial effects. 'Health protection' by fiscal and legislative means deserves a higher priority.	

CVD 4

Bibliographic information	Review strategy	Summary of evidence of effectiveness	Additional information
Title: Effectiveness of individual lifestyle interventions in reducing cardiovascular disease and risk factors. **Authors:** E Ketola, R Sipila, M Makela. **Date:** 2000 **Type of review**: Systematic review. **Number of studies included**: 42 studies - 20 primary prevention and 22 secondary prevention. **Publication details**: Annals of Medicine 2000; 32(4): 239-251.	**Review question**: To assess the effectiveness of lifestyle interventions in reducing cardiovascular disease risk factors, morbidity and mortality among working-age adults, using a systematic review of randomised controlled trials. **Intervention(s):** Single and multifactorial lifestyle interventions including diet, exercise, smoking cessation, and alcohol intake reduction. Adults at risk of cardiovascular disease (primary prevention in high risk groups) or who have experienced any CVD event (secondary prevention). Studies combining CVD drug treatment with lifestyle interventions were included only if the drugs were not the primary intervention. **Inclusion criteria (relevance):** See above. **Inclusion criteria (quality):** Randomised controlled trials with at least 60 participants, of at least 1 year duration or follow-up, with a drop-out rate of less than 20% at 12 months. **Exclusion:** Study design characteristics such as poor details of the randomisation process.	**Outcomes measured**: Total mortality, cardiovascular mortality and new cardiovascular events. Risk factors such as changes in mean blood pressure, mean total cholesterol levels, mean weight, alcohol intake, mean sodium excretion, smoking cessation and increase in physical activity. **Effect size/Results**: Generally small improvements in mortality, morbidity and CVD risk factors that were usually not statistically or clinically significant. In secondary prevention, both single and multifactorial lifestyle interventions reduced morbidity and mortality. Primary prevention "reduced risk factors efficiently", especially when the intervention was multifactorial. **Other effects**: Not reported. **Conclusion**: The authors concluded that lifestyle interventions for the primary prevention of CVD can reduce risk factors efficiently. There was considerable variability in effect sizes. In secondary prevention, both single and multifactorial lifestyle interventions were shown to reduce morbidity and mortality, and multifactorial approaches	**Disadvantaged groups**: Not reported. **Economic evaluation**: Not reported. **Criteria for evaluating evidence**: N/A **Research gaps identified**: Not reported.

		reduced cholesterol levels. The authors recommended that "practicing physicians should decrease the risk of illness and death in their populations by instituting good, evidence-based individually targeted prevention programs". They also recommended that "clinical emphasis should be on secondary, multifactorial prevention for patients with multiple risk factors for CVD".	

CVD 5

Bibliographic information	Review strategy	Summary of evidence of effectiveness	Additional information
Title: Effectiveness of coalitions in heart health promotion, tobacco use reduction, and injury prevention: A systemtatic review of the literature 1990-1998. **Authors:** M Kuhn, C Doucet, N Edwards. **Date:** 1999 **Type of review**: Systematic review. **Number of studies included**: 20 (8 heart health) **Publication details**: Prepared by the Effective Public Health Practice Project for the Public Health Branch, Ontario Ministry of Health.	**Review question**: The objective of the review was to examine the effectiveness of community-based coalitions in the areas of heart health promotion, tobacco use reduction, and injury prevention. The review examined the following questions: (a) are coalitions an effective strategy in community-based public health initiatives related to promoting heart health, reducing the use of tobacco, and preventing injuries? (b) what conditions contribute to coalition effectiveness? **Intervention(s):** Coalitions were defined as a group of individuals from at least three organisations or constituencies who agreed to work together to achieve a common goal. **Inclusion criteria (relevance):** See above. **Inclusion criteria (quality):** Randomised controlled trials, comparison studies, before and after studies in one or more communities. **Exclusion:** Coalitions at the provincial, state or national level (the focus was on coalitions at the regional or community level). Process-only evaluation studies.	**Outcomes measured**: health status, health risk behaviour, knowledge or attitude change, policy change, environmental change. **Effect size/Findings:** 6 heart health coalitions were rated as having moderate effectiveness (at least one positive impact) and two were rated weak (no positive impacts). The review was unable to conclude whether or not coalitions led to improved effectiveness. **Effect sustainability**: **Applicability**: most studies were North American, funded for research purposes and documented by academics. **Other effects**: Not reported. **Conclusion**: The authors concluded that while community-based coalitions can be effective some of the time, and may be essential in working with some populations, too few are achieving the improvements in health status, health risk behaviours, policies or environmental conditions "that one might expect given the arguments for collaborative work." There is no single model of an effective coalition, but	**Disadvantaged groups**: Some interventions involving African American populations were effective. **Economic evaluation**: Not included in most studies. **Criteria for evaluating evidence**: An 'effectiveness' rating was calculated for each study. If a study had two or more positive outcome measures and no negative measures it was rated as 'strong'. It the outcomes measured were mixed positive and negative it was rated 'moderate', and if they were all negative it was rated 'weak'. **Research gaps identified**: The authors reported that research is needed that compares coalition based strategies to other approaches and also to document quantitative and qualitative dimensions of public health experience with coalitions.

		theoretical frameworks and principles exist to guide evaluation and development. The measures of coalition effectiveness need to go beyond individual measures of health status or health behaviour change to incorporate other benefits to individuals, organisations and communities.	