

**Minnesota Heart Disease and Stroke Prevention Initiative
Literature Review – October 2004
Environmental Setting: Communities & Community Organizations**

Strategies and practices in community-based campaigns promoting nutrition and physical activity.

Reference

Alcalay, R. & Bell, R. A. (2001, Winter) Strategies and practices in community-based campaigns promoting nutrition and physical activity. *Social Marketing Quarterly*. 7(4).

Environmental Intervention and Policies

Target interventions included:

- published community-based interventions that had multiple communication channels, single-type site campaigns were excluded (e.g. school or worksite only campaigns); and
- the review focused exclusively on the strategies and practices that has been employed in nutrition and physical activity from the vantage point of a social marketing perspective.

The setting surrounded:

- examination of 50 nutrition and physical activity interventions;
- searched and examined major publications and web sites (i.e. Medline, Healthstar, Psyclit) to identify literature which led to identifying additional campaigns; and

The purpose of the review included the:

- assessment to what extent research principles, including social marketing theory, are employed; and
- identification of areas that could be strengthened in future research.

Intervention methods were various, but all included:

- multiple channels and venues for communication;
- multiple intervention strategies; and
- social marketing principals.

The research questions raised included questions about the:

- extent of community collaboration;
- use of community groups, health care providers, schools, employers, etc. to conduct collaborative relationships; and
- frequency with which campaigns identified sustainability.

Evaluation

Reviews were analyzed by coding a set of variables established by the research questions. It was discovered that:

- both nutrition and physical activity were addressed by 52%;
- only nutrition was addressed by 38%;
- only physical activity was addressed by 10%;

- goals and objectives with seldom based on data and theory;
- pretesting was uncommon;
- summative research often used quasi-experimental methods;
- self-report knowledge and behavior effects were frequently assessed; and
- morbidity and mortality were rarely considered.

Additional Comments

The authors suggest:

- Future campaigns planners employ more systematic application of social marketing principles and other behavior change theories;
- Working with academic journals to increase the inclusion of intervention details in articles reporting on community-based interventions. Without knowing the details, other researchers may not make the best use of previous work.
- Better funding of formative research should be provided; an analysis of community channels is critically important.
- Intervention objectives should be precise and measurable.
- An original needs assessment of the target audience beliefs, practices and values is required as a tenet social marketing.
- Researchers should pretest interventions.
- Audience segmentation may be a way to improve the effectiveness of nutrition and physical activity campaigns.
- Campaigns might benefit by employing the 4 P's: price, product, place and promotion.

5 A Day fruit and vegetable intervention improves consumption in a low income population.

Reference

Anderson, J. V., Bybee, D. I., et al. (2001, February) 5 A Day fruit and vegetable intervention improves consumption in a low income population. *Journal of the American Dietetic Association*. 101(2), 195-202.

Environmental Intervention and Policies

The targeted population included WIC (Women, Infants, and Children) and Community Action Agency populations. The study was conducted with 564 pretests and 455 posttests, largely women with infants, small children or pregnant in Genesee County, Michigan.

The goal was to evaluate the effectiveness of the Michigan Farmer's Market program in one Michigan county for its effect on increasing fruit and vegetable consumption.

The four intervention modes included:

- coupons for farmer's market,
- education,
- education and coupons, and
- no intervention.

Education only and education and coupons were randomly assigned. Clinic appointment timing determined the assignment to nonintervention and coupon only groups.

Evaluation

A self-administered pre- and post-intervention survey, taken two months apart measured attitudes about fruit/vegetable consumption and intake of fruits/vegetables. WIC records documented redemption of coupons. Results included:

- both the education and coupon groups had positive effects;
- coupon had a direct effect on increasing fruit/vegetable consumption;
- education had a direct effect on attitudes and seemed to have an effect on consumption behavior through attitudes; and
- maximum impact was achieved through the combination of education and coupons.

Key Findings

- The education component consisted of 20 minutes of Project FRESH session immediately following the pretest. Topics covered were health, buying power, seasonality, storage and preparation of fruits and vegetables. The presentation style was an interactive lecture with follow-up questions in a noncompetitive game show format.
- There may have been some effect from the variation of incentives used to collect data. Although the total amount was the same for all WIC participants – the order of the incentives varied to meet the demands of each intervention condition.

- The CSFP (Commodity Supplemental Foods Program) group had to be recruited as the Project Fresh requires an education component and a coupon only intervention could not be administered to WIC clients.
- The CSFP group was given \$5 cash instead of the \$10 that the WIC group was given – this also may have influenced the groups.

Lessons Learned

This study had a very low attrition rate with less than 20%, which may be attributed to the use of reminder cards, follow-up calls and coordination of pre- and posttests with routine clinical appointments.

A community diabetes education and gardening project to improve diabetes care in a northwest American Indian tribe.

Reference

Armstrong, D. L. (2000, January/February) A community diabetes education and gardening project to improve diabetes care in a northwest American Indian tribe. *The Diabetes Educator*. 26(1), 113-120.

Environmental Intervention and Policies

The targeted population was a northwest Native American Indian community on a northwest Native American reservation.

The goal of the project was to design a culturally appropriate diabetes education program. This was initiated through the following means:

- A needs assessment of the population indicated that a community-based approach was more consistent with the population's value system and the view of individual relationships to health in the context of family and community life.
- The initial concept of intervention was based on traditional cultural views of health, which encompass the physical, mental, spiritual dimensions of health as fundamentally interrelated.
- A single community garden plot was developed to address a number of issues: increased access to fruits and vegetables, enjoyable exercise, provide an attractive place for elders in adjacent housing to sit and walk, and benefits to mental health.
- Four workshops were developed, but not implemented, to address physical, nutritional, emotional and spiritual components of health as it relates to diabetes.
- A gardening club was planned to develop.

In addition, 40 homes were provided with technical assistance and soil preparation materials for individual garden sites.

Evaluation

The evaluation did not occur due to tribal withdrawal from funding.

Key Findings

Baseline data indicated that 44% of the population had symptoms of depression. Depression may be a significant barrier to exercising and improving nutrition practices. The community garden was anecdotally a big success.

Lessons Learned

Tribal leaders declined federal funding because of issues involving mutual respect and tribal sovereign status, which resulted in withdrawal from participation in this project. This is an example of the importance of developing cultural competence among all individuals working to improve health.

At the time of the literature review for this study, only one Native American community-based diabetes education program was identified in the peer review literature.

Additional Comments

- Many resources (fax machine, laser printer, email access, etc.) that individuals living in urban communities take for granted need to be provided for rural communities.
- Community leaders fulfill multiple roles in rural communities which results in unavoidable project delays as leaders deal with various tasks competing for their time.

Bootheel Heart Health Program.

Reference

Brownson, R. C., et al. (1996, February) Preventing cardiovascular disease through community-based risk reduction: The Bootheel Heart Health Project. *American Journal of Public Health*. 86(2), 206-213.

Environmental Intervention and Policies

A population of low-income, rural African Americans adults was targeted in rural Missouri. The setting for the intervention was with multiple community sites.

A key component of the intervention was the development of community coalitions in each of the six counties in the Bootheel. Coalitions were allowed to select their own priorities from a list of possible cardiovascular health (CVH) interventions developed by project staff. Once a year, each coalition submitted a proposal to Missouri Department of Health. Each of the six county coalitions received about \$5,000 for implementation per year. Coalitions from each of the six counties developed walking clubs, healthy cooking demonstrations, blood pressure, and cholesterol screenings, cardiovascular health (CVH) education programs and aerobic exercise classes. (Specific examples are listed on pg. 207 of the article).

Evaluation

The Bootheel project was evaluated using a variety of different measures and strategies including, Behavioral Risk Factor Surveillance System (BRFSS), and two surveys based on BRFSS. Surveys were administered via random digit dialed telephone calls in each of the six counties. Surveys pre conducted pre- and postintervention. The project has also done a qualitative evaluation including the use of focus groups and media content analyses (These results are reported elsewhere).

Key Findings

The authors report a decrease in physical inactivity in counties that had health coalitions and among respondents who were aware of the coalitions. In addition, prevalence rates of screening for cholesterol increased over the 3-year intervention. The reported annual cost of the Bootheel Heart Health project was \$105,000. The authors state, “ ‘*Second Generation*’ programs, such as the Bootheel Heart Health Project, can be implemented by public health agencies that rely on considerably smaller intervention and evaluation budgets (i.e. than first generation projects like MHHP) (pg. 210).”

Canadian “Heart Smart” family fun pack: Family-based cardiovascular disease (CVD) risk reduction intervention for children.

Reference

Cookson, S., et al. (2000). The Heart Smart family fun pack: An evaluation of family-based intervention for cardiovascular risk reduction in children. *Canadian Journal of Public Health*. 91(4), 256-259.

Environmental Intervention and Policies

The targeted population was 1,387 Canadian children ages of 6-12 and their families. Families requested the materials and the intervention was done at home.

In 1998 the family fun pack (FFP) was publicized through a major media campaign. The packet could be ordered for free by calling a toll free number. The FFP was based on the trans-theoretical model. The FFP included games, posters, a health quiz, brochures and a growth chart. Themes emphasized in the materials included heart healthy eating, “active play everyday” and being smoke-free. Per unit cost of materials was estimated at \$1.

Evaluation

When people initially called to request the materials they were asked to participate in a 10-minute survey and asked if they would participate in a follow-up call. The baseline survey asked about:

- the parent’s concern for their child’s weight, physical activity (PA), and tobacco exposure;
- the frequency of their child’s physical activity (PA) and environmental tobacco smoke (ETS) exposure;
- how their child’s weight was compared to their peers’; and
- when, if ever, the family intends to make lifestyle changes.

They conducted follow-up surveys via the phone three months later. From the original sample, 300 pretest respondents were chosen at random. They answered the same questions as before, as well as providing information on their demographics and their satisfaction with the materials.

Key Findings

Results showed that this initially self-selected sample of participants were mainly white-collar workers. The evaluation indicates the percentage of families in the pre-contemplation and contemplation stages of change declined, while the percentage of those in the action stage of change increased significantly. The FFP, 38% reported, helped them improve their child’s nutrition; 28% reported an increase in their child’s PA; and 12% reported they had reduced smoking in the household. In addition, 30% of parents reported making changes in their own lifestyle behaviors. Satisfaction with the FFP was high (73%); with 1% reporting the FFP materials had exceeded their expectations. Importantly, 35% reported they had read all of the materials, and another 33% reported having read “most of it”.

Community Nutrition Advocate Program (CNAP).

Reference

Cooper, K. (1998) *Project 1 – Community Nutrition Action Program (CNAP)*. G8 database project summary retrieved (n.d.) from Canadian Heart Health Database Centre, Memorial University, St. John's, NF, <http://www.med.mun.ca/g8hearthealth>.

Environmental Intervention and Policies

The targeted population included 700 community members in rural Saskatchewan, Canada. The use of mass media, one-to-one contact, primary care settings, and community events provide the setting for the intervention.

Ten volunteers were trained in nutrition for heart health, label reading, recipe modification, healthier restaurant food choices and healthy body weights. The volunteers acted as a resource in their communities, gave presentations at community events, and advocated for healthier food options.

Evaluation

Data was collected through:

- participant profile forms (i.e. completed during the training workshop),
- evaluation forms and video of the training workshop,
- interviews with the Community Nutrition Advocates (CNAs),
- activity tracking of the CNAs,
- toll-free telephone tracking form, and
- grocery store checklist (i.e. to assess the availability and price of lower-fat foods in neighborhood grocery stores).

Key Findings

Reported changes over the 6-month intervention period included, individual and attitudinal and behavior changes and alterations in community facilities. CNAs reported they found the use of the toll free line, for “reach and teach”, useful. CNAs reported many frustrations.

1% or Less” milk campaign.

Reference

Darling, L. (2001) Cardiovascular Risk Reduction Program – Pennsylvania Department of Health, Pennsylvania’s population-based “1% of Less” milk campaign follow-up postcard survey (abstract from a poster session). *Preventive Medicine*. 33(2), S17.

Environmental Intervention and Policies

The targeted population included 22,000 individuals in 61 Pennsylvania communities. The setting was grocery stores and used social marketing.

Intervention methods included:

- taste-tests of whole, 2%, 1% and fat free milk in community grocery stores; encouraging testers to switch to lower fat milk, and
- a social marketing and local advertising campaign.

Evaluation

Evaluation results were documented through milk sales data in selected communities in 2000 and through a postcard survey mailed to 2,700 participants in 2001.

Key Findings

“Data demonstrates a positive benefit in the population. People are making the switch to the lower fat milks for heart health, and those changes are being maintained long-term (abstract).”

Project Active.

Reference

Dunn, A. L., et al. (1999) Comparisons of lifestyle and structured interventions to increase physical activity and cardio-respiratory fitness. *Journal of American Medical Association*. 281, 327-334.

Also published in:

Kohl, H. W. III, et al. (1998) A randomized trial of physical activity interventions; design and baseline data from Project Active. *Medical Science and Sports*. 30(2), 275-283.

Environmental Intervention and Policies

Lifestyle physical activity intervention consisted of 18- to 24-weekly sessions which utilized a personalized approach that accounted for an individual's motivational readiness and preferences for integrating physical activity into daily routines. Targeted adult populations were > 25 years. The intervention was delivered by local instructors who had completed Project Active training.

Evaluation

The primary study was validated through randomized clinical trial. Field evaluations included stages of change indicators; exercise and nutrition behavior changes; various medical tests, such as blood pressure, and blood lipids.

Key Findings

In sedentary healthy adults, a lifestyle physical activity intervention is as effective as a structured exercise program in improving physical activity, cardio-respiratory fitness and blood pressure.

Additional Comments

The program was well received at a local level. New curriculum enhancements are under development and will be available June 1, 2001.

Physical activity and cardiovascular disease risk factors in children and adolescents: An overview.

Reference

Eisenmann, J. C. (2004, March 1) Physical activity and cardiovascular disease risk factors in children and adolescents: An overview. *Comment in The Canadian Journal of Cardiology*. 20(3), 303-304. Abstract retrieved June 13, 2004 from PubMed database, National Library of Medicine, <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi>.

Environmental Intervention and Policies

Physical activity and cardiovascular disease (CVD) risk factors of youth in North America and other developed countries are of considerable interest. An exploration into the central question of “*What is the role of physical activity in the primary prevention CVD?*” was undertaken. This exploration was through three sub-questions of what is the:

1. current level and prevalence of physical activity and CVD risk factors;
2. association between physical activity and CVD risk factors in children and adolescents; and
3. influence of childhood physical activity on subsequent adult cardiovascular health.

Key Findings

“*The number of youth meeting physical activity recommendations varies by measurement procedures, age and sex.*” It was discovered that:

- physical activity levels decline during adolescence;
- aerobic fitness remains stable in boys and gradually declines during adolescence in girls; and
- prevalence of overweight and the emergence of type 2 diabetes in children and adolescents have increased over the past few decades.

Another finding is that childhood overweight increases the:

- risk of adult overweight
- clustering of other CVD risk factors,
- coronary artery calcification in adulthood; and
- all-cause and CVD mortality.

Additional Comments

In the future it was suggested that studies should consider the measurement of:

- physical activity,
- physical activity-genotype interactions,
- biobehavioral approaches to the prevention and treatment of obesity and comorbidities, and
- emerging risk factors.

Further examination of the influence of childhood physical activity on subsequent health outcomes is also warranted through prospective cohort studies.

“Language for Health”: Nutrition education classes designed for low-English literate adults.

Reference

Elder, J. P., et al. (2000) Results of language for health: Cardiovascular disease nutrition education of Latino English as a second Language students. *Health Education & Behavior*. 27(1), 50-63.

Environmental Intervention and Policies

The targeted population included 732 Latinos who were recent immigrants. The setting for the intervention was English as a second Language (ESL) classes.

“The curriculum ... places language learning in the functional domain of using language to achieve goals (pg. 53)”, such as performing daily life functions. Participants were exposed to either nutrition education classes or stress management classes (placebo). The treatment exposure was up to five 3-hour classes over a 1- to 2-week period. Topics covered in the nutrition classes included dietary fat, cholesterol, classification of foods, modifying eating habits, understanding blood pressure and salt, shopping for low-fat/low-cholesterol food, and modifying recipes.

Evaluation

Measures for evaluation were made at baseline, 3-months, and 6-months. The measures were:

- physical measures
 - blood pressure,
 - total cholesterol,
 - waist to hip ratio (WHR), and
 - weight.
- psychological measures
 - nutrition-related attitudes,
 - knowledge,
 - self-report eating behaviors, and
 - demographics.

Key Findings

Results show long-term effects, 6-months, on nutrition knowledge and fat avoidance; short-term effects, 3 months, on cholesterol and blood pressure.

Community Heart Health programs: Components, rationale, and strategies for effective interventions.

Reference

Elder, J. P., Schmid, T. L., et al. (1993, Winter) Community Heart Health programs: components, rationale, and strategies for effective interventions. *Journal of Public Health Policy*. 463-479.

Environmental Intervention and Policies

The setting for the intervention was with community-based Heart Health programs. The objective of the program was to review rationale and effective strategies in community-based interventions.

Planning recommendations:

- All planning and intervention should be data driven.
- Organize the community – identify both allies and “enemies” to help understand the opportunities and challenges that may occur.
- Assess community health behavior patterns for the extent and kind of health needs, approached to and resources for dealing with needs.
- Existing organizations within the community may be very helpful in determining community needs (Cancer Society, nutrition work groups, schools, etc).
- Once needs have been assessed, community can set priorities for target population.
- Intervention should be multi-level and comprehensive.

Evaluation

Recommendations for evaluation:

- Employ methods emphasizing program improvement and feedback.
- Variables selected should be: measurable within resource capabilities, important for decision making, and modifiable within a reasonable period of time.
- Involve community members to maintain and strengthen program activities.
- Share data through mass media and/or face-to-face presentations to keep community in the loop.

Key Findings

To ensure program success, programs should include these parameters.

- Primary prevention should be given top priority.
- Include three A’s principles of planning: affordability, acceptability and adequacy.
- Community capacity to develop, implement, and sustain intervention should be given priority.
- Feedback to the community is essential.
- Multiple strategies, multiple risk factors and multiple channels are important components of effective interventions.
- State health departments play a critical role in facilitating, implementing, sustaining and disseminating these efforts. State responsibilities include: strategic planning, consultation, technical assistance, providing quality assurance, and linking programs with one another to promote information sharing and resource allocation.

- Policy and environmental change are the most effective and cost efficient ways to affect behavioral change.
- Policy, environmental, educational and behavioral change interventions are best suited to community-based interventions. Programs that address all four of these levels increase in efficacy.

Additional Comments

Funding sources may dictate intervention priorities. Care should be taken to balance the priorities of both the community and the funding sources.

Heart Smart Restaurant Program (HSRP).

Reference

Ewing, P. (1998) *Project 32 – Heart Smart Restaurant Program*. G8 database project summary retrieved (n.d.) from Canadian Heart Health Database Centre, Memorial University, St. John's, NF, <http://www.med.mun.ca/g8hearthealth>.

Environmental Intervention and Policies

The targeted population included community members in New Foundland, Canada. The setting for the intervention was in restaurants and with patrons.

The *Heart Smart Restaurant Program* (HSRP) program objectives were to:

- increase awareness among consumer and restaurant operators regarding benefits of healthy food choices,
- increase the number of establishments participating in the program, and
- increase the number of healthy food choices made by consumers.

Main activities of the *Heart Smart Restaurant Program* included:

- participating in community events,
- running contests,
- forming steering committees,
- producing resource materials,
- developing partnerships, and
- social marketing.

Evaluation

Methods of evaluation included:

- patron survey handed out by a waitress while in the restaurant, and
- interviews and surveys conducted with the restaurant operators.

Key Findings

The patron survey revealed that 35% were aware the establishment was participating in the program; 72% selected at least one of the healthy choices available; and restaurant owners indicated they were supportive and wise to continue participating.

The *Heart Smart Restaurant Program's* major successes included:

- continued expansion throughout the province of New Foundland;
- advisory committee remained active, and
- volunteer component was added.

“Just Ask Us” social marketing campaign aimed at healthier eating-out.

Reference

Fell, P. et al. (2001) “Just Ask Us” – A social marketing campaign aimed at healthier dining out. *Preventive Medicine*. 33(2), S32.

Environmental Intervention and Policies

The targeted population for the intervention included community members in New York State with 40 participating restaurants included in the setting.

The program goal was to teach the general public to “just ask” restaurants to prepare their meals with “special attention to healthy choices.” Public awareness was built using television (TV) advertisements, print advertisements, and direct mail campaigns targeting medical professionals, health clubs and the general public. A logo was developed that was used on decals for restaurant windows, menus, button for servers, and customer comment cards.

Evaluation

The intervention was evaluated by a postcard mail-back survey.

Key Findings

As a result of receiving 400 response cards back, the following outcome occurred:

- 53% reported having asked for menu modification;
- 79% reported their server assisted them in making healthy choices; and
- 66% said they heard about the program from their server.

First Choice.

Reference

First Choice. (1991 & 2000) *Journal of Drug Education*.

Also published in:

Collingwood's *Helping At-risk Youth through Physical Activity Programs* (1997), *Quest* (1997), *Medicine Science and Sports* (1990 & 1997), *American Journal of Health Promotion* (1999), *Journal of Physical Education, Recreation & Dance* (1992), and *Directions in Substance Abuse Counseling* (1994).

Environmental Intervention and Policies

Targets youth, ages of 8-18, in acquiring the life skills needed to develop health enhancing behavior. The intervention provides an established 12-week healthy lifestyle and physical fitness/activity development curriculum which includes tobacco prevention.

Evaluation

Four conditions were tested at 28 sites including schools, treatment centers and correctional facilities. Participating in the intervention were 3,701 youth.

Key Findings

As a result of the intervention, there was a report of:

- reduction in the number of elementary aged youth reported smoking was 86.6%;
- reduction in the number of junior high aged youth reporting smoking was 64.3%;
- reduction in the number of high school aged youth reporting smoking was 19.4%;
- reduction in elementary and junior high aged youth reporting using smokeless tobacco was 100%; and
- reduction in high school aged youth reporting using tobacco was 26%.

Additional Comments

First Choice has a proven record for community diffusion. *First Choice* has been recognized by the American College of Sports Medicine as 1 of 4 youth health promotional programs recommended for nationwide application. Additionally, *First Choice* was cited by the *Rand Corporation's National Defense Research Institute Study* as the model program demonstrating the positive effects of the military's mission of smoking and drug demand reduction.

A community-based obesity prevention program for minority children: Rationale and study design for Hip-Hop to Health Jr.

Reference

Fitzgibbon, M. L., Stolley, M. R., et al. (2002) A community-based obesity prevention program for minority children: rationale and study design for Hip-Hop to Health Jr. *Preventative Medicine*. 34, 289-297.

Environmental Intervention and Policies

The targeted population was preschool African American and Latino children. The setting was with 24 Head Start programs administered through the Archdiocese of Chicago's Catholic Charities. Twelve sites were randomly assigned to receive the intervention and twelve sites were assigned to the general health intervention. Aspects of the intervention included:

- The goal of the intervention was to alter the trajectory toward overweight of minority preschool children through a family oriented obesity prevention program. Treatment intervention modeled after the "*Traffic Light Diet*" and was tailored to the developmental and cultural needs of minority preschool children. Intervention also included a parental component.
- Preschooler's classes were held 3-times per week for 45 minutes, over 14 weeks. Half of each session was spent on nutrition education and half on physical activity. Puppets were used to deliver messages about "go and grow" and "slow" foods.
- Parents nutrition education was handled through a newsletter and "homework" assignment that paralleled what preschoolers received each week. When parents completed the homework assignment and returned it, they were given \$5 compensation. In addition, parents received 30-minute low-impact aerobics classes, twice a week.

Evaluation

The study will be evaluated through weight change of both the children and parent/caretakers. In addition, secondary measures will be done of a reduction in dietary fat and an increase in dietary fiber, fruit and vegetable intake, and physical activity. The success will be determined by studying participants' ability to maintain changes over one year.

Key Findings

Theoretical frameworks used to develop intervention were: social learning theory, self-determination theory, and the trans-theoretical model that incorporates stages of change. Authors also note that they worked within the Head Start goals of "*facilitating the emergence and enhancement of self-regulatory skills that children naturally possess.*"

What worked:

- During the pilot, study staff found a need to transition children from Head Start to Hip-Hop activities. They used a group rhyme that served to assemble the children and focus them on a new activity.
- Materials were made available in both English and Spanish and considerations for all literacy levels were employed.
- Study staff developed hand puppets that delivered nutrition messages.

Lessons Learned

Initially, adults were asked to participate in a nutrition class rather than the newsletter-homework model. There was very poor attendance for these classes and post-pilot focus groups suggested that a take-home format would suit adult schedules better.

Additional Comments

This paper looks at rationale and design of the study; therefore, comments about what works are based on lessons from their pilot of the intervention, not formal evaluation.

Cardiovascular risk factor prevalence in African American adult screenees for a church-based cholesterol education program: The Northeast Oklahoma City Cholesterol Education Program.

Reference

Flack, J. M., & Wiist, W. H. (1991, Winter) Cardiovascular risk factor prevalence in African American adult screenees for a church-based cholesterol education program: The Northeast Oklahoma City Cholesterol Education Program. *Ethnicity and Disease*. 1, 78-90.

Environmental Intervention and Policies

The targeted population was African American adults in northern Oklahoma. A screening was conducted of 661 adults, ages of 21-89, with six churches and one library.

Screening measured the following risk factors:

- hypertension – mercury sphygmomanometer – 2 readings 1-minute apart;
- hypercholesterolemia – non-fasting total cholesterol finger prick and/or venipuncture;
- overweight – height and weight measurement without shoes; and
- personal history taken for diabetes, hypertension, hypercholesterolemia, stroke, heart attack, premature coronary artery disease and smoking.

Evaluation

Evaluation provided the following results:

- Data analysis indicates a high degree of correlation between hypertension and obesity.
- Risk factors increase with age.
- With increasing age, women were increasingly more overweight than men.
- Many individuals were unaware of elevated blood pressure, cholesterol levels.

Key Findings

- The study was targeted at African American church-goers, not a random population sampling.
- High density lipoprotein (HDL) cholesterol levels were not measured.
- Cigarette smoking was less prevalent than anticipated. It was thought to be due to a higher educational level or that persons attending church are less likely to smoke.

Additional Comments

This article focuses on risk factor prevalence and does not discuss the educational intervention or evaluation details. Authors suggest that prevention and control of overweight becomes a major goal in cardiovascular disease (CVD) risk factor control programs. Additionally, African American churches should be considered as a site for implementation of weight control programs as there is strong community support.

Support for restrictive tobacco policies among residence of selected Minnesota communities.

Reference

Forster, J. L., McBride, C., Jeffrey, R., et al. (1991, November/December) Support for restrictive tobacco policies among residence of selected Minnesota communities. *American Journal of Health Promotion*. 6(2), 99-104.

Environmental Intervention and Policies

The targeted population included residents from seven Minnesota communities: Moorhead, a regional center on the North Dakota/Minnesota border; Bloomington; Mankato; Crystal; Plymouth; and Minnetonka.

A telephone survey was conducted measuring support for receptiveness to policies regulating smoking, alcohol and high fat foods.

Tobacco policy interventions around the state and country include some of these examples:

- restricting tobacco advertising;
- prohibiting smoking in public places;
- increasing penalties for selling tobacco to minors; and
- reducing access of young people to tobacco.

Evaluation

Through a random survey, 821 Minnesota residents from the above communities were assessed for their support of 12 measures designed to restrict smoking behavior and curb demand for tobacco. Some measures were already in place and some had not yet been adopted.

- Over 50% indicated strong agreement with these regulations.
- Women, non-smokers, and older people formed a basis of support.
- Support was strongest for control measures directed at preventing minors from smoking.

Key Findings

In the past twenty-five years, since the first Surgeon General's report on the health risks of tobacco use, levels of smoking have decreased significantly. But individuals still begin and continue to smoke. Tobacco-related diseases continue to be the number one health problem, so eradicating smoking is the top priority.

The following are indications of what works in initiating policy change.

- Regarding policy and environmental change at the state and local level, cigarette companies are less likely to bring large amounts of their resources to bear at this level.
- When introducing tobacco policy change, maximum support is likely to be gained by emphasizing effects on youth and de-emphasizing effects of increased cost and increased taxes.

Additional Comments

Survey results can be generalized to other states and can be an effective argument for implementing more tobacco policy and environmental changes around the country. Minnesota citizens are more supportive of restrictive tobacco policies than policy makers believe and more aggressive lobbying measures could be used at the state and local levels.

Community intervention trials: Reflections on the Stanford five-city project.

Reference

Fortmann, S. P., Flora, J. A., Winkleby, M. A., et al. (1995) Community intervention trials: reflections on the Stanford five-city project. *American Journal of Epidemiology*. 142(6), 576-586.

Environmental Intervention and Policies

The setting for the intervention was community-wide with five cities in northern California targeted for the population. Within the study were two intervention groups, two control groups, and one comparison group. The major purpose of the project was to develop a health education program that could be delivered effectively to a broad population rather than selected samples at physicians' offices.

Intervention methods included:

- a 6-year, integrated, comprehensive, multifactor risk reduction education program;
- multiple communication channels and settings including newspaper, television, radio, mailings, and
- social learning theory guided program development.

Evaluation

Methods in the evaluation included:

- baseline survey –
 - audience was segmented by age, ethnicity, socio-economic status, overall cardiovascular risk, media use, organizational membership, and motivation to change behavior; and
- four independent cross-sectional surveys of randomly selected households and four repeated surveys of the cohort.

Key Findings

- Findings support for the efficacy of community-wide projects.
- Evidence suggests the community approach was more successful at helping economically disadvantaged and less educated people.
- Recommendation was made that future studies focus on improving methods of community organization, health education, and reaching diverse sub-populations.

Evidence supports the program improved risk factors across educational levels, thus a broad community approach is an effective means of reaching large numbers of the population.

Lessons Learned

Design limitations make it challenging to assess relationship between specific interventions and behavior change.

Take Charge Challenge (TCC), formerly March into May (MIM).

Reference

Georgia Division of Public Health's Lifestyle Challenge (1995) and CDC Director's 50th Anniversary Physical Activity Challenge (1996) [*Take Charge Challenge* (TCC), formerly *March into May* (MIM)].

Environmental Intervention and Policies

Take Charge Challenge (TCC) is a 10-week team/incentive based nutrition and physical activity work site intervention. TCC attempts to increase individual behavior (physical activity and fruit/vegetable consumption) through organization change.

Evaluation

- Individual behavior change is measured with a before and after survey, *Stages of Change*.
- Organizational behavior is measured by percentage of organizations that participate and reach their respective goals.
- Methods include pre- and post-surveys, record keeping, and data collection.

Key Findings

The TCC has been disseminated in the following state/territories since initial 1998 pilot phase:

- Arkansas
- Illinois
- Ohio
- Maine
- Maryland
- California
- Texas
- Georgia
- New York
- Idaho
- Pennsylvania
- New Mexico
- Virgin Islands
- Guam
- Massachusetts

An example of results in Georgia with 10 worksites indicated that 12,340 participants had:

- 68% participation
- 72% goal completion
- Baseline Stage of Change:
 - 68% contemplation, maintenance, sub-action (INACTIVE);
 - 32% action, maintenance, (ACTIVE)
- Final Stage of Change:
 - 51% INACTIVE;
 - 49% ACTIVE.

Additional Comments

Illinois Health and Wellness Initiatives: *Take Charge Challenge* was conducted in 11 counties including the City of Chicago.

Environmental interventions to promote healthy eating: A review of models, programs and evidence.

Reference

Glanz, K., & Mullis, R. M. (1988) Environmental interventions to promote healthy eating: a review of models, programs and evidence. *Health Education Quarterly*. 15(4), 395-415.

Environmental Intervention and Policies

The targeted population included consumers, restaurant patrons, employees and family members, patients and individuals being screened. The settings were various with food producers, supermarkets, restaurants, students and staff, worksites, schools and healthcare settings.

Various intervention methods were used: training, new product development, product promotion, labeling, promotion and incentives, taste-testing, in-store video displays, availability of healthy foods, point-of-choice information, policies, student-parent information programs, assessment tools, educational materials and media.

Evaluation

Population surveys are a frequent evaluation tool of environmental interventions. There have been mixed results with some of the surveys, which in some cases may point to weak intervention design, or inability to detect the change through the evaluation tools used. However, overall changes in purchasing by consumers suggest that environmental interventions do have an impact.

Key Findings

- Health professionals must be prepared to work collaboratively with representatives from all aspects of the food industry. There is a need to fit into their marketing systems as this will maximize the potential for becoming an ongoing part of marketing and food service.
- Decisions about identifying food products that are desirable or undesirable need to be based on the most recent scientific data.
- It is important to remember that changes occur over time. Small pilot projects can help to identify strategies that do or do not work.
- No one program can be expected to change an entire populations' behavior. Long-term social change happens by exerting pressure on the environment and by supporting private and public health promotion.

A discovery of what worked included:

- Changes that affect both the environment and the individual are more likely to be maintained.
- Environmental approaches to dietary change can reach large segments of the population through increased availability of nutritious foods, quality of nutrition services, and accessible information about healthy food choices.

Lessons Learned

Many grocery store interventions have mixed results, but it is difficult to determine the source of the impact or lack of impact. Much of grocery store interventions are dependent on the restrictions stores have for marketing.

Gaps in literature have prompted several unanswered questions:

- What types of information are best conveyed by environmental approaches?
- How can we increase the acceptability of new modified healthy food products?
- What are appropriate roles for health professionals?
- What kinds of skills are needed?

Results of a community-based low-literacy nutrition education program (IDEA).

Reference

Hartman, T. J., McCarthy, P. R., Park, R.J., et al. (1997, October) Results of a community-based low-literacy nutrition education program. *Journal of Community Health*. 22(5) 325-341.

Environmental Intervention and Policies

The targeted population was a diverse, low-income population. There were 134 participants of the Expanded Food and Nutrition Education Program (EFNEP) in the Twin Cities area of Minnesota.

Groups met at food shelf sites, churches, Adult Basic Education sites, treatment facilities, and shelters.

Intervention Methods:

- All EFNEP participants who read at a Grade 11 level or less were asked to participate in the study.
- Intervention was delivered over a period of 8 weeks.
- The aim of the ten “Help Yourself to Health” lessons developed for this program was to provide simple, practical and relevant nutritional information in a fun and entertaining way.
- NEA’s (Nutritional Education Assistants) from within the communities they serve delivered the lessons.
- Lessons included information on: low-fat snacking, healthy eating for kids, low-fat fast foods, weight loss, quick and easy meals, recipe modification, menu planning and grocery shopping.
- Take-home reinforcers were used to remind them of the concepts in each lesson.

Evaluation

Methods to evaluate health attitudes and low-fat eating behavior included:

- interviewer-administered questionnaire,
- a 24-hour recall, and
- a total cholesterol analysis.

Small changes were detected in low-fat eating patterns, however similar improvements in dietary fat intake were much less apparent. Results may be related to small sample size.

Key Findings

Although their participation in the study was voluntary, agencies, schools, or treatment facilities required some individuals to participate in EFNEP education program. Additionally it was discovered, the focus on eating patterns provided measures of behavior change intermediate between attitudes and biological outcomes.

Lessons Learned

One of the lessons learned was a high turnover of NEA's resulted in low, community recruitment. The program duration may have been too short. Longer studies had better results (Wiist and Flack).

A gap in the literature resulted because there were very few nutrition education studies comparable to this one at the time of this article.

Additional Comments

- There was a high attrition rate of 55% among the EFNEP population. In the study, 64% of the participants completed the baseline and follow-up assessments.
- At the time of this article, six other nutrition interventions were underway dealing with low-income, low-literacy populations.

5 A Day for Better Health Program.

Reference

Havas, S., Heimendinger, J., Reynolds, K., Baronowski, T., Nicklas, T., Bishop, D., et al. (1994, January) 5 A Day for better health: a new research initiative. *Journal of the American Dietetic Association*. 94(1), 32-36.

Environmental Intervention and Policies

National *5 A Day* activities targets all ages, genders and ethnic groups and are conducted at the community level in schools, day care facilities, senior centers, churches, farmer markets, supermarkets, etc. The National Cancer Institute (NCI) has licensed 55 state and territorial health agencies, and the District of Columbia, to launch *5 A Day* programs and coordinate *5 A Day* activities at the state level.

5 A Day is a nationwide nutrition education campaign to encourage Americans to eat five or more servings of fruits and vegetables every day for better health. The program is jointly sponsored by the NCI in the US Department of Health and Human Services and the Produce for Better Health Foundation, a nonprofit consumer education foundation representing the fruit and vegetable industry. The NCI funds behavior change and communication research to determine strategies that are effective to increase fruit and vegetable consumption.

Evaluation

NCI has funded more than 17 research and evaluation studies to determine the effectiveness of *5 A Day* interventions in increasing the per capita consumption of fruits and vegetables.

Key Findings

Consumer awareness of the need to eat five servings for fruits and vegetables has increased from 8% to 38% in August, 1996, as assessed by the NCI Omnibus Survey of Adult Americans. The *1991 5 A Day Baseline Study of America's Fruit and Vegetable Consumption* showed that the average daily fruit and vegetable intake was about 3.5 servings; only 23% of adult Americans consumed the recommended 5 servings per day.

Additional Comments

The scientific rationale for increasing consumption of fruits and vegetables is compelling. Two recent reviews of up to 200 studies on this subject found that the majority have shown an increased intake of fruits and vegetables to be associated with a reduced risk of various cancers.

Richmond Quits Smoking – A minority community fights for health.

Reference

Hunkeler, E. F., Davis, E. M., et al. (1990) Richmond Quits Smoking – A minority community fights for health. *Health Promotion at the Community Level*. Chapter 14; London: Sage Publications. 278-303.

Environmental Intervention and Policies

The primary target population was African Americans of all age levels, as well as other community members in Richmond, California.

A multi-pronged approach was taken in the intervention methods.

- Community leaders were involved from the very start.
- Revamped National Cancer Institute (NCI) smoking cessation materials in order to be appropriate for African American population. Materials included pictures of local people in recognizable Richmond settings.
- Professional video, “*Stop Before You Drop*” was developed with the youth of Richmond and received much acclaim.
- Media campaign included bus posters, direct mail, banning pro-smoking billboards near schools, and television.
- Volunteer program developed to continue program after Centers for Disease Control and Prevention (CDC) funding is gone.
- The programs were imbedded deep within the existing community to encourage ongoing support for smoking cessation and not starting.
- School sites were targeted because people generally start smoking in their teens. Youth were encouraged to encourage their parents to quit smoking.
- Community-wide no smoking events were held.

Evaluation

At the time this article was written, an interim evaluation survey revealed that a majority of all residents were aware of the campaign. A baseline random survey of the cities’ population was completed. At the end of the fifth year, a follow-up study will be completed and compared to area and national data to determine the impact of the *Richmond Quits Smoking* campaign.

Key Findings

- The author emphasizes the importance of involving the community from the start, and including those who will be critical of the program. Individuals who were critical were asked for their input, but were also asked to give specific suggestions for solutions to the problem(s) they cited.
- Local health agencies were able to learn from local Black community groups about ways to deliver health messages to African American populations and the former helped the later to encourage no smoking messages.
- They did not focus on individual smoking cessation programs as smokers already had the perception that they were being pressured to quit by family/friends.

The following intervention methods were discovered to work:

- When working with youth, it is very important to relate to them, on-their-own terms, and allow them to choose the style and content of the health message.
- Frame health issues in ways that unite the entire community in a single cause, as well as ways that appeal especially to target groups.
- Emphasize winning strategies rather than the magnitude of the problem.
- Hire people from the community, use resources, and businesses from within the community whenever possible.
- Emphasize the benefits of not smoking rather than the harmful effects of smoking.

Kansas LEAN School Intervention Project.

Reference

Kansas LEAN School Intervention Project. (1994, December) Poster presentation at the Ninth National Conference on Chronic Disease Prevention and Control in Washington, D.C.

Environmental Intervention and Policies

The *Kansas LEAN School Intervention Project* was conducted in two small Kansas communities over a 2-year period. The goal of the project was to reduce children's risk for cardiovascular disease (CVD) and some cancers through diet and exercise. The target populations were elementary school children in Grades 4 through Grades 6. The strategies included increasing opportunities for physical fitness activities, providing school-based nutrition education, modifying school lunches and developing a community coalition to support changes in the school and community.

Evaluation

The evaluation methodologies included:

- a monitoring and feedback system;
- school menu nutrition analysis;
- school food service program analysis;
- knowledge, attitude, and behavioral surveys; and
- physiological assessments of cholesterol levels, skin fold, height/weight, and physical fitness.

Key Findings

Some of the positive results of the project included community changes in programs, policies, or practices. In one community, the percentage of calories from fat in school lunches decreased from about 41% (1st year) to approximately 30% (2nd year). Results indicated teachers were effective in using enhanced curriculum to teach nutrition in both communities. In the 2nd year, student's overall performance increased from pretest to posttest after changes were made in physical fitness classes.

Additional Comments

The *Kansas LEAN* program was funded through local funds and was not a part of the original *Project LEAN* grant funding from the Kaiser Foundation. However, activities from the project continue today through the program *Kansas LEAN*.

Socioeconomic considerations in the primordial prevention of cardiovascular disease.

Reference

Kaplan, G. A., & Lynch, J. W. (1999) Socio-economic considerations in the primordial prevention of cardiovascular disease. *Preventive Medicine*. 29, S30–S35.

Environmental Intervention and Policies

The focus was on the analysis of the relationship of economic policies and cardiovascular disease (CVD) risk factors.

Key Findings

Two examples of key findings show how consideration of socio-economic factors is fundamental to the primordial preventions of CVD.

1. Macroeconomic factors, stress, diet and CVD.

- There is an inverse relationship between income and the risk of cardiovascular (CV) death. This can largely be explained by an inverse association between adverse levels of a wide range of behavioral, social, psychological and biologic risk factors and income.
- There is a strong association between the equity of income distribution and health outcomes/mortality. There is a significant and strong correlation between the proportion of total household income received by the least well-off 50% of the population and the age adjusted rates of cardiovascular mortality. This was independent of variations in state median incomes. States with greater rates of income inequality had significantly higher rates of smoking and sedentary behavior.
- A consequence of income inequality is that families have to operate with less real income. One response to this is that both adults are working longer hours and more than one job. With greater demands on time for work, there may be less time for physical activity and more use of fast food and high fat foods.
- At least once a day 40% of U.S. population eats out. Fast food accounts for more than a third of these meals and about 10-15% of all meats consumed in the U.S. Given the high caloric content of these meals, the impact on CVD could be significant.
- Increasing market for beef in the U.S. has lead to purchasing beef from other countries. Central America has deforested 25% of its forests for cattle grazing. In the past 20 years Costa Rica has cleared 80% of its forests. Approximately a third of the beef produced on this land and similar land in countries such as Honduras and Guatemala is shipped to the U.S.
- Within 8 years, 90% of new cattle ranches go out of business, leaving a soil depleted land from over grazing. Additionally, there is good evidence that much of the wood from deforestation is being used to fuel-cure tobacco, thereby increasing supplies of a major risk factor of CVD.
- Deforestation also redistributes the rural populations to urban areas, often leading to decreases in social cohesion and increases in social stress.

2. Macroeconomic forces, smoking and CVD

- Smoking is a major risk factor for CVD and its prevalence is inversely related to socioeconomic status.

- Tobacco was originally used for ritual and was considered a sacred plant. Over nearly 300 years, it became a cash crop – so that by the 17th century, it was the most important cash crop of the colonies.
- As tobacco curing and cigarettes became more popular, manufacturing increased and companies began to attempt to develop brand loyalty. In the 1880's James Duke developed a machine that could roll 200 cigarettes per minute, which cut the cost to the consumer by 50% and increased production from 9 million to 60 million per year from 1885 to 1887.
- Improved technologies, saturation of the market and development of health concerns led tobacco companies to increase international operations, with a major impact on developing countries.
- This has led to increased tobacco consumption in developing countries – which accounted for all the worldwide increase between 1975 and 1995. Tobacco now provides a major revenue stream for many of these countries.

Additional Comments

To understand the etiology of CVD within and across populations requires an upstream approach, which pays attention to political economy of CVD risk factors.

Public health professionals can:

- Further elaborate casual pathways that link upstream social and economic policies to the prevalence and distribution of CVD risk factors and secular trends.
- Aggressively pursue the dissemination of such information. The evidence suggests that the public will accept more upstream measures such as those related to pricing and other environmental controls.
- Public health professionals need to make their voices heard when it seems likely that upstream social measures or economic interventions would have a positive impact on CVD risk factors.

The impact of lay health advisors on cardiovascular health promotion: Using a community-based participatory approach.

Reference

Kim, S., Koniak-Griffin, D., & Flaskerud J. H. (2004, May-June) The impact of lay health advisors on cardiovascular health promotion: Using a community-based participatory approach. *Journal of Cardiovascular Nursing*. 19(3), 192-199. Abstract retrieved June 13, 2004 from PubMed database, National Library of Medicine, <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi>.

Environmental Intervention and Policies

The identified behavioral risk factors for cardiovascular disease, which disproportionately affect some communities, include overweight and obesity, lack of exercise, and exposure to tobacco smoke. To address these problems a collaborative partnership was developed between University of California Los Angeles (UCLA) School of Nursing, Los Angeles County Department of Health Services, and members of the target community of underserved adult Latinos.

Intervention methods included:

- twelve Latina lay health advisors (LHAs) were recruited from the targeted community;
- LHAs were trained to teach 3 classes on:
 - healthy nutrition,
 - physical activity, and
 - maintaining smoke-free environments;
- participants were recruited through the LHAs' social networks; and
- classes were offered in Spanish.

Evaluation

At baseline and 1-month following the last class, a questionnaire on lifestyle behaviors was completed by participants. Additionally, exploratory open-ended questions were asked at follow-up on the successes and challenges of the application of the new knowledge.

Key Findings

Significant increases in scores from baseline to follow-up in overall lifestyle behaviors and all three behavioral subsets of nutrition, physical activity and smoke-free behavior was reported in the results of paired t-tests on 256 participants.

The findings supported the use of LHAs in the healthcare delivery strategy for cardiovascular community health promotion. It was a feasible and effective strategy especially among immigrant populations.

The North Carolina Black Churches United for Better Health (BCUBH) Project.

Reference

Kramish Campbell, M. (2000). The North Carolina Black Churches United for Better Health Project: Intervention and process evaluation. *Health Education and Behavior*. 27(2), 241-253. &

Demark-Wahnefried, W., et al., (2000). Partnering with African American churches to achieve better health: lessons learned during the Black Churches United for Better Health 5 A Day Project. *Journal of Cancer Education*. 15(3), 164-167.

Environmental Intervention and Policies

The targeted population was 2,519 African American members of 24 black churches in rural North Carolina.

Each church formed a Nutrition Action Team (NAT) and each church had Lay Health Advisors (LHA). Activities targeted:

- predisposing factors using:
 - personalized bulletins to each church member,
 - monthly packets for NATs including brochures, posters, banners, bulletin board materials, and bulletin inserts;
- enabling factors with activities of:
 - planting gardens and fruit trees,
 - conducting educational sessions,
 - cooking classes,
 - recipe tasting and development,
 - serving fruits/vegetables at church functions; and
- reinforcing factors with:
 - training LHAs in each church,
 - forming coalitions,
 - encouraging pastors to support the project,
 - promoting farmer's markets, etc.

(An even more detailed description of the development of the intervention methods and the lessons learned can be found in the article by Demark-Wahnefried, et al, 2000.)

Evaluation

Trained interviewers from the University of North Carolina (UNC) conducted baseline and follow-up telephone interviews. At both baseline and follow-up fruit/vegetable consumption was assessed using a 7-item *Food Frequency Questionnaire* (FFQ); to assess impact of church activities a survey was developed and administered. In addition, churches were responsible for keeping monthly reports including activity logs and expenditure reports. Finally key informant interviews were conducted with church coordinators because they had the most consistent contact with implementing the programs in their churches.

Key Findings

Serving more fruits/vegetables at church functions was the activity most frequently reported and received the highest overall impact, with support from a variety of measures. Other activities with high impact included the personalized, tailored bulletins, pastor sermons, and printed materials. Older adults, women and members of the smaller churches reported a higher program impact. Exposure to the intervention was shown to be associated to increased fruit/vegetable intake.

CATCH: The Child and Adolescent Trial for Cardiovascular Health.

Reference

Luepker, R. V., et al., (1996). Outcomes of a field trial to improve children's dietary patterns and physical activity. *Journal of American Medical Association*. 275(10), 768-776.

Environmental Intervention and Policies

A population of 5,106, initially 3rd graders, was targeted from ethnically diverse backgrounds in public schools from Minnesota, California, Louisiana, and Texas.

The intervention was with schools using the physical settings of classroom, physical education (PE), lunchroom, and home.

The Child and Adolescent Trial for Cardiovascular Health (CATCH) involved three main program components: school curriculum, food service and physical education (PE), and about one-half of the 56 intervention schools received a fourth component, the family involvement component. Intervention methods included:

- food service activities
- physical education (PE) activities
- classroom activities
- home/family activities

Evaluation

Evaluation measures used in CATCH were extensive and numerous, and were conducted with pre- and post-intervention. Some of the measures included:

- recipe and menu analysis of school food service;
- PE was assessed using the System for Observing Fitness Instruction Time (SOFIT);
- individual behavioral change was measured using the Health Behavior Questionnaire (HBQ), which evaluated factors associated with diet, exercise, and smoking as well as psychosocial data and dietary knowledge; in addition
- physiologic assessments were taken (blood pressure, blood cholesterol, height, weight, etc).

Key Findings

The percentage energy intake from fat fell significantly in the intervention school lunches. The intensity of physical activity (PA) in PE classes increased significantly in the intervention schools. Self-reported daily energy intake from fat in students in the intervention schools significantly declines, and intervention students reported significantly more daily vigorous activity than control students.

Blood pressure, body size and cholesterol did not differ between control and intervention schools at follow-up. The authors conclude, "*The CATCH intervention demonstrates that the policies and practices of schools can be changed without substantial new school resources and time. The changes observed positively affected health behaviors and met national recommendations (pg. 775).*"

CATCH (Coordinated Approach to Child Health).

Reference

Luepker, R. V., Perry, C. L., McKinlay, S. M., Nadar P. R., Parcel, G. S., Stone, E. J., et.al. (n.d.) Outcomes of a field trial to improve children's dietary patterns and physical activity. *The Child and Adolescent Trial for Cardiovascular Health*.

Also referenced in:

Nader, P., Stone, E., Lytle, L., & Perry, C. (1996, March 13) Three-year maintenance of improved diet and physical activity. *Journal of American Medical Association*. 275(10) 768-776.

Environmental Intervention and Policies

The intervention consists of training physical education and classroom teachers, food service personnel and cafeteria staff within schools to implement a comprehensive health promotion program targeting middle school children to teach the importance of adopting heart healthy habits in the prevention of cardiovascular disease and/or diabetes mellitus.

The strategy is to lower the fat consumption in school lunch menus, increase moderate to vigorous physical activity in physical education classes and to provide a heart healthy curriculum designed to support the other program components. A family component is included.

Evaluation

The program initially was evaluated by:

- a clinical trial,
- pre- and post-testing,
- standard randomized and
- follow-up measures.

The follow-up was of a 4-center, randomized controlled field trial with 56 intervention and 40 control elementary schools.

Key Findings

Original CATCH results demonstrated that school-level interventions can modify school lunch and school physical education programs and influence student behaviors.

The 3-year follow-up, without further intervention, suggests that the behavioral changes initiated during elementary school years persisted to early adolescence for self-reported dietary and physical activity behaviors.

Additional Comments

Regarding the *Level of Effectiveness of Evidence-Based Prevention-Level 5 Multiple Site Replication Studies*, CATCH is the largest school-based randomized trial ever conducted to date. It was conducted in four geographically different sites, involved multi-racial groups, and included longer follow-up (three years) than similar school interventions. Study results suggest that behavior change resulting from a multi-component intervention, including classroom curricula, food service modifications, physical education changes, and family reinforcement were sufficient to produce an intervention effect that could be detected after three years. Findings suggest CATCH or similar multi-component-approached interventions qualify as suitable models for school-based primary prevention programs.

Heart Beat Restaurant Program.

Reference

McDermott, N. (1998). *Project 46 – Heart Beat Restaurant Program*. G8 database project summary retrieved (n.d.) from Canadian Heart Health Database Centre, Memorial University, St. John's, NF, <http://www.med.mun.ca/g8hearthealth>.

Environmental Intervention and Policies

The targeted population was restaurant workers. The setting for the intervention was in restaurants and with patrons.

This project was meant to promote healthy menu choices, as well as, smoke free dining and responsible alcohol sales. Activities included:

- seminars with restaurant industry representatives,
- restaurant guides and support materials,
- supplement to newspaper, and
- heart health education of chefs at a local college.

Evaluation

The project was evaluated and refined on a continuous basis. Focus groups were conducted with restaurateurs after one year. There was continued tracking of program members and regular surveys by volunteers (presumably of restaurant patrons).

Key Findings

Surveys indicated that chefs are changing their practices. Other successes included broadening components beyond nutrition (increased sustainability); training of chefs ensured sustainability. Unanticipated positive outcomes included:

- making a positive connection between the Health Department and restaurants instead of typical “enforcer” of food safety and alcohol issues; and
- linking with the chef’s college and support of restaurants.

Por la Vida Cuidandome: Community–base education in nutrition and cancer.

Reference

Navarro, A. M., et al. (2000) Community-based education in nutrition and cancer: The Por La Vida Cuidandome curriculum. *Journal of Cancer Education*. 15(3), 168-172.

Environmental Intervention and Policies

The targeted population included low income, low literacy, and low acculturation Latinas in a peer-led intervention.

The Por La Vida intervention model relies on lay community health workers (called *consejeras*) who are trained to conduct health education sessions among their social groups. It has been used in multiple projects since 1988, for a variety of health conditions.

After they have been trained, each *consejera* recruits 10 to 15 women from her community to join in the educational sessions. Then each of those women is asked to bring one or two friends to be “learning partners”. Participants are asked to share what they learn in the classes with their learning partners.

The curriculum for this particular version of Por La Vida was developed using input from existing *consejeras* regarding beliefs, practices, attitudes and knowledge about fruits/vegetables. The curriculum has a “constructive approach” focus on what *to eat*, instead of what *not to eat*. It affirms what the women are already doing well and builds on it.

The curriculum manual, which was developed, outlines 12-weekly sessions; describes in detail what is to be accomplished at each session; what materials are needed; and what the goals are in each session. The manual is printed in English and Spanish, side-by-side.

Evaluation

The outcome evaluation for this program is not yet complete.

Key Findings

This article described the development of the intervention and materials. The authors reported that they are still in the process of completing the outcome evaluation. The article is included in the literature review because it is a very recent intervention with a target group that is often missed, low socio-economic status (SES) Latinas, a group at high risk for cardiovascular disease (CVD). In addition, this article goes into detail about how the intervention and materials were developed with the input of Latinas and community experts and may be instructive for us in the future. The outcomes of this study should be available very soon. The authors commented that, “*the program has been well received* (pg. 168).” In addition they stated that, “*Verbal testimonies by project participants and consejeras at the graduation ceremonies highlight positive changes that are attributed to their participation in the program* (pg. 171).”

“La Commande du Coeur” (Shop for Your Heart).

Reference

Paradis, G. (1998). *Project 3 – ‘Shop for Your Heart’*. G8 database project summary retrieved (n.d.) from Canadian Heart Health Database Centre, Memorial University, St. John's, NF, <http://www.med.mun.ca/g8hearthealth>.

Also published in:

O’Loughlin, J., et al. (1996). La Commande du Coeur (“Shop for Your Heart”): A point of choice nutrition education campaign in a low-income urban neighborhood. *American Journal of Health Promotion*. 10, 175-178.

Environmental Intervention and Policies

The targeted population included all ages of a lower educational, socio-economic status (SES) disadvantaged group of grocery store patrons in Montreal, Quebec. The setting was in five grocery stores.

A 4-month, point of choice (i.e. point-of-purchase) intervention included:

- special events;
- ongoing displays; and
- distribution on health promotion materials.

Evaluation

An evaluation was conducted; although information regarding the methods was not available.

Key Findings

“It demonstrated the feasibility of implementing point-of-choice nutrition education campaigns in grocery stores located in low-income urban neighborhoods (Abstract).” They report that there is a “modest interest” among retailers in low-income communities for this type of intervention. Yet, awareness and use was low. The author commented that after a few months store employees became annoyed with the intervention. So, if they did it again they would do it for shorter amounts of time (e.g. a couple weeks) and would involve more intervention staff.

Dietary guidance workshop helps tribal program cooks make changes.

Reference

Pelican, S., Proulx, J. M., Wilde, J., & Del Vecchio, A. (1995, May) Dietary guidance workshop helps tribal program cooks make changes. *Journal of American Dietetic Association*. 95(5), 591-592.

Environmental Intervention and Policies

The targeted population included tribal program cooks with programs such as Head Start, elderly nutrition, schools, rehabilitation centers, etc. There were 51 participants in the trainings. The setting was with the Indian Health Service and Nutrition Training Center in Santa Fe, New Mexico and with two reservations in south-central California and northern Arizona.

Recognizing that tribal program cooks are community leaders and educators as well as cooks, workshops were conducted to improve self-efficacy and teach cooking techniques. The goal was to lower fat intake, reduce portion size and increase fruit and vegetable consumption. Some of the specific training was to use part whole-wheat flour, reduce size of fry bread balls, use low-fat yogurt instead of mayonnaise sometimes. Trainings consisted of:

- lecture presentations;
- audience activities including hands-on cooking and tasting labs; and
- group discussions.

A slide-tape presentation featuring five American Indian tribal program cooks who shared their feelings about the importance of their jobs was added to the training with the goal of improving self-confidence about changing cooking habits.

Evaluation

Methods of evaluation included:

- nutrition knowledge test;
- a workshop evaluation form; and
- menu analysis consisting of a visual menu review for fiber and other nutrient containing foods.

Key Findings

- All 31 participants who were sent a follow-up survey reported that they had made changes as a result of the workshop.
- It is important for educators to view tribal cooks as important food and nutrition gatekeepers for clients. Cooks need to be trained with culturally competent materials/techniques to increase their knowledge and skill base.

Lessons Learned

Menu review is not a reliable instrument since preparation can change of any given recipe.

A community-oriented primary care demonstration project; refining interventions for cardiovascular disease and diabetes.

Reference

Plescia, M. & Groblewski, M. (2004, March-April) A community-oriented primary care demonstration project: refining interventions for cardiovascular disease and diabetes. *Annals of Family Medicine*. 2(2), 103-109. Abstract retrieved June 13, 2004 from PubMed database, National Library of Medicine, <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi>.

Environmental Intervention and Policies

The setting for the project was with a geographically-defined community of African Americans.

Initiated as a community-oriented primary care project, five steps of the formal model were implemented. Data was presented on:

- cardiac risk factors,
- protective behaviors,
- health locus of control, and
- stage of readiness for change in an African American community.

These data were used to refine the health promotion interventions

Evaluation

Methods of evaluation included:

- cross-sectional study of self-reported health behaviors from a door-to-door household survey
 - survey questionnaire was administered by trained community members,
 - response rate was 69.4% with 386 questionnaires completed from 557 randomly sampled households; and
- qualitative discussions of survey results with two community groups were taped, transcribed, and analyzed for common themes.

Key Findings

- As compared with their counterparts, higher mean scores for powerful others locus of control was found in respondents who:
 - were older than 65 years old,
 - had hypertension, and
 - had diabetes.
- Compared with national statistics, rates for physical activity and low-fat diet indicators were low.
- A maintenance stage of change for exercise (46.2%) and diet (57.5%) were reported by most respondents.
- Group discussions indicated the lack of local exercise resources and high quality grocery stores as major barriers to health behavior change.
- Identified as important powerful others were:
 - ministers, and
 - physicians.

- The association between powerful others locus of control and specific cardiac risk factors has prompted:
 - greater emphasis on developing faith-based interventions, and
 - renewing physician-counseling efforts.
- The strategies of disseminating existing diet and physical activity recommendations more effectively have been prompted by the stage of readiness for change findings.

Additional Comments

The study documented:

- low rates of physical activity and healthy dietary patterns, and
- interventions to address environmental barriers to behavior change.

Salud!” – A social marketing/mass media campaign to promote increased fruit/vegetable consumption among Latinas.

Reference

Prez-Escamilla, R. et al. (2000). Marketing nutrition among urban Latinos: The Salud! Campaign. *Journal of the American Dietetic Association*. 100(6), 698-701.

Environmental Intervention and Policies

The targeted population included low-income Latinos in Hartford, Connecticut. The setting for the intervention was with the mass media.

Intervention methods included:

- three radio public service announcements (PSAs) produced in Spanish and English;
- a PSA presented during the community events listing of a popular Latino television (TV) station; and
- an advertisement with Latino TV stars and models “toasting” with fresh fruits/ vegetables was featured on billboards, buses, bus stops, posters, newspapers, and magazine ads.

Evaluation

Pretested, structured aided-recall survey instrument in English and Spanish, that took 10-15 minutes, was administered in grocery stores and at eight streets in the heart of the Latino community in Hartford. The evaluation looked at coverage, audience satisfaction, and cost.

Key Findings

In conducting an evaluative measurement of the campaign, the following key findings were sited:

- 77% were exposed to at least one item;
- 45% heard at least one radio advertisement;
- the most popular printed material was the bus sign; and
- the majority of respondents exposed to the campaign liked it, found it useful and easy to understand.

“Healthy Hearts in Dunfield Park”: Community diet and exercise promotion program.

Reference

Project 9 – “Healthy Hearts in Dunfield Park. G8 database project summary retrieved (n.d.) from Canadian Heart Health Database Centre, Memorial University, St. John's, NF, <http://www.med.mun.ca/g8hearthealth>.

Environmental Intervention and Policies

The targeted population included low-income families in a low-income housing area in rural Newfoundland, Canada. The setting for the intervention was through a community center/park.

The program describes itself as promoting healthy lifestyles for families through:

- food preparation classes,
- a community garden project,
- cooking classes for youth,
- smoking cessation programs,
- prevention workshops for youth,
- aerobics classes,
- walking clubs,
- weekly line dancing,
- a local heart health newsletter,
- heart health fair,
- community mobilization, and
- social marketing.

Evaluation

This project was evaluated using qualitative methods, such as questionnaires, reviewing activity reports, participant registries, and conducting key informant interviews.

Key Findings

It was found there was a:

- high level of participation;
- high level of satisfaction among participants; and
- other successes included program diffusion, evolution and sustainability.

“Coeur en sante St-Louis-du-Parc”: A school-based heart health promotion program for elementary school children.

Reference

Project 15 – Coeur en sante St-Louis-du-Parc. G8 database project summary retrieved (n.d.) from Canadian Heart Health Database Centre, Memorial University, St. John's, NF, <http://www.med.mun.ca/g8hearthealth>.

Environmental Intervention and Policies

A population of 800 children, ages of 9-12, who lived in a multi-ethnic, low-income inner-city neighborhood in Montreal was targeted. The setting included elementary schools, primary care settings and local community centers.

The 5-year nonrandomized control trial was designed to evaluate the impact of a multi-component school-based heart health promotion program on smoking, diet and exercise habits. The intervention comprised of a committee to enforce the law prohibiting the sale of cigarettes to minors, and health promotion training for school nurses. The main strategies of the program were to:

- strengthen preventive health services,
- education,
- mobilize the community, and
- environmental change.

To accomplish this they: held workshops, formed advisory groups, surveyed risk factors, and produced resource materials.

Evaluation

This program used:

- many evaluation strategies;
- formative evaluations to design and improve the educational materials;
- implementation evaluation to determine if target groups were attained and to identify barriers of implementation; and
- impact evaluation to study the impact of the program on student behaviors (e.g. smoking, diet and activity).

Methods used in the evaluation included:

- conducting focus groups and key informant interviews;
- checking log books of project activities;
- satisfaction questionnaires;
- before and after studies with and without comparison groups; and
- quasi-experimental control studies and randomized control trials.

Key Findings

Results of all of the evaluations suggest the following:

- increased levels of physical activity (PA) in students;
- increased awareness among teachers of their role in health promotion;

- indication that teachers need more training to effectively implement these programs; and
- recognition of an effective way to encourage parental participation in heart healthy activities is to invite them to attend school functions with their children.

The authors state the main success of the program was:

- the production of “excellent educational” materials (for students and teachers);
- the success of a girls’, after school, activity club;
- the excellent relationships the public health office developed with all of the schools; and
- some school principals were successful in approaching the mayor of Montreal to get funding to improve the schoolyards.

Heart Checks.

Reference

Project 29 – Heart Checks. G8 database project summary retrieved (n.d.) from Canadian Heart Health Database Centre, Memorial University, St. John's, NF, <http://www.med.mun.ca/g8hearthealth>.

Also published in:

Herbert, R., and White, R. E. (1995) Healthy Hearts at Work: Prince Edward Island heart health program worksite pilot project. *Canadian Journal of Cardiovascular Nursing*. 7(2), 12-18.

Environmental Intervention and Policies

A population of 250 rural adults, ages of 18 to 65, was targeted in Prince Edward Island, Canada. The setting for the intervention included schools, worksites and community centers.

The purpose of this program was to raise awareness and increase knowledge of cardiovascular (CVD) risk factors in a rural population. This was accomplished by having health professionals and trained volunteers conduct risk factor appraisals (i.e. screening) at a series of stations set up in schools, community centers and worksites in the community.

Evaluation

The evaluation objectives were two-fold.

1. to examine the impact of intervention on behavior change; and
2. to examine the extent of community mobilization.

Measures used in assessment included a participant questionnaire, key informant interviews, and an audit of project records.

Key Findings

The authors reported the main successes of the project were:

- mobilization of community resources,
- high participation rates, and
- capacity development (i.e. training volunteers) at worksites.

The evaluation of the intervention and community mobilization components showed the project was successful in promoting heart health, especially in the community and worksite settings. The resultant behavior changes were found to be short-term. The approximate cost of the program was \$30 per *Heart Check*. The authors concluded by saying, “*Heart Checks have been identified as one of the most successful projects undertaken by the program...*”

Model for community television programming.

Reference

Project 34 – Model Community TV Programming. G8 database project summary retrieved (n.d.) from Canadian Heart Health Database Centre, Memorial University, St. John's, NF, <http://www.med.mun.ca/g8hearthealth>.

Environmental Intervention and Policies

A population of television (TV) watchers (e.g. general population), cable stations and community groups in Eastern Canada was targeted. The setting for the intervention was with local TV stations.

The purpose of this project was to promote heart healthy lifestyles in community members using existing local TV stations, and to encourage them to participate in heart health program activities.

Evaluation

The goal of the evaluation of this project was to develop a “model kit” that could be used by other organizations. The kit was to be used on local TV. This was accomplished through the use of a tracking system kit and by conducting telephone interviews with users of the kit.

Key Findings

The authors report, “*The kit was recognized as an excellent resource.*” The kit was said to be “user friendly”, was “widely used” in the province by local TV stations, and was even used by some heart health coalitions from other provinces.

Heart Health Leadership Video and Manual.

Reference

Project 35 – Heart Health Leadership Video and Manual. (1998, February 28) G8 database project summary retrieved (n.d.) from Canadian Heart Health Database Centre, Memorial University, St. John's, NF, <http://www.med.mun.ca/g8hearthealth>.

Environmental Intervention and Policies

The targeted population included community leaders or individuals in Newfoundland, Canada. The intervention setting was in multiple sites.

The purpose of this project was to provide useful, pertinent information regarding heart health lifestyle issues to community leaders. This was accomplished through:

- the production of a video and manual, which focused on the lifestyle factors that affect heart health;
- distribution of student education materials to specific “targets” in the province; and
- partnered with other organizations and local media to distribute and promote the project.

Evaluation

Measures used to evaluate the program included:

- the number of organizations using the resources;
- the number of education programs that continued using the resources after the demonstration phase;
- telephone key informant interviews with users of the manual;
- mail out questionnaires for video users; and
- tracking system for use of the video.

Key Findings

The authors report that the resources were thought to be user friendly and were used in a variety of settings (e.g. high schools and college nursing programs) in addition to educating leadership. Viewers (i.e. questionnaire respondents) overwhelmingly agreed that the video should be shown broadly in local communities, because it typified the life and residents of the communities, and involved heart health activities that were not too difficult to implement.

Port Blandford Heart Health Project.

Reference

Project 36 – Port Blandford Heart Health Project. G8 database project summary retrieved (n.d.) from Canadian Heart Health Database Centre, Memorial University, St. John's, NF, <http://www.med.mun.ca/g8hearthealth>.

Environmental Intervention and Policies

The targeted population for the intervention included 200 adults in rural New Foundland, Canada. The setting included community centers and restaurants.

The purpose of this project was to develop awareness of the lifestyle factors that influence cardiovascular disease (CVD) risk, as well as to provide opportunities for the community to develop and participate in their own heart health program. Risk factors they worked on included diet, smoking, physical activity (PA), blood pressure (BP), and overall heart health.

Some of the activities and undertakings of the community included:

- developing a walking club,
- holding health fairs,
- conducting public educational sessions,
- starting a heart smart restaurant program,
- conducting BP checks and more.

Evaluation

The purpose of the evaluation was to look at sustainability of the program, and diffusion of the program into other areas. This was accomplished in the following ways:

- reviewing project records;
- using a data collection tracking system; and
- conducting key informant interviews.

According to the authors, this evaluation and project were still underway.

Key Findings

The authors reported the project “*was progressing well*”, that many of the activities were in place and that some diffusion to neighboring communities had already occurred (e.g. the *Heart Smart Restaurant* idea).

Heart of the Land.

Reference

Project 45 –Heart of the Land. G8 database project summary retrieved (n.d.) from Canadian Heart Health Database Centre, Memorial University, St. John's, NF, <http://www.med.mun.ca/g8hearthealth>.

Environmental Intervention and Policies

The targeted population included 3,000 adults in rural Alberta, Canada. Multiple sites were in the intervention setting.

The goal of this population-based health promotion program was to:

- increase individual awareness,
- increase knowledge of risk factors,
- change behaviors, and
- build community infrastructure that would enable communities to actively participate in supporting heart health.

Some of the activities of the community included:

- conducting individual risk assessments,
- conducting a media campaign,
- forming support groups,
- doing community heart health education,
- starting walking clubs and more.

Evaluation

The evaluation goals were to determine the impact the program had on:

- knowledge and behavior change,
- community linkages and structure to support heart health, and
- community ownership of heart health.

The measures used included:

- case studies,
- focus groups,
- interviews,
- facilitator stories,
- activity tracking,
- telephone surveys, and
- self-administered questionnaires.

Key Findings

The authors list six main results of the program:

1. knowledge increase,
2. physical activity (PA) and eating behavior change,
3. identifying prevalence of risk factors,
4. impact of program on building capacity within the community,
5. no change in risk factors (in four years), and

level of risk factor concordance.

Children's Health Festival (CHF).

Reference

Project 74 – Children's Health Festival. G8 database project summary retrieved (n.d.) from Canadian Heart Health Database Centre, Memorial University, St. John's, NF, <http://www.med.mun.ca/g8hearthealth>.

Environmental Intervention and Policies

A population of 2,000 children, ages of 5-12, per year was targeted in New Foundland, Canada. Intermediary groups included parents, community residents, and health professionals. The setting was a local community group center.

The *Children's Health Festival* (CHF) fairs took place at 35 different sites. Partnerships were made with community groups for the delivery of festival activities (e.g. games, face painting, drama, arts, crafts, trivia wheel, relay races, treasure hunts, and obstacle courses). Heart health information was provided to attendees by public health professionals. Community businesses donated resources such as advertising space, public service announcement's (PSA's), airtime, news coverage, and provided prizes.

Evaluation

This project was evaluated (presumably surveys with children) in schools, 1st through 5th grades. Process evaluations of this study are on going.

Key Findings

The authors report the results of the pilot project in 1998 as reaching 1,800 children in 27 different communities. In 1999 they reached 2,500 children in 43 communities. The authors claim they raised awareness locally, provincially and nationally. They reported significant partnership-building. A manual was produced, and "*CHF was judged a worthwhile project by everyone involved*".

1% or Less Campaign

Reference

Reger, B., Wootan, M., Booth-Butterfield, S. & Smith, H. (1998, September/October) 1% or Less: A Community-Based Nutrition Campaign. *Public Health Reports*. 113, 410-418.

Also published in:

Nestle, M. (n.d.) Toward More Healthful Dietary Patterns - A Matter of Policy. *Public Health Reports*. 113, 420-423.

Environmental Intervention and Policies

The first *1% or Less* demonstration project was conducted from February 22, 1995 to April 13, 1995 in the sister cities of Clarksburg and Bridgeport, West Virginia.

The project measured changes in supermarket milk sales and self-reported changes in the dietary habits of respondents to a telephone survey.

The communities were chosen because:

- heart disease death rates (in the county) were 13% higher than the national average;
- advertising could be cost-effective because they have their own media market;
- the size of the communities; and
- the proximity to the program sponsors, The *Center for Science in the Public Interest* (CSPI) and West Virginia University.

Interventions included:

- paid advertisements,
- public relations activities,
- taste-test in supermarkets schools,
- work sites,
- supermarket programs,
- school-based educational programs, and
- community education programs.

Evaluation

The authors evaluated the effectiveness of a community education campaign to encourage a switch from high-fat (whole and 2%) milk to low-fat (1%, ½%, and skim) milk as a way to reduce consumption of saturated fat.

Milk sales data were collected from supermarkets in the intervention and comparison communities for three 1-month time periods (baseline, post campaign, and 6-month post campaign), additionally trained volunteers conducted pre- and post- intervention telephone surveys.

Key Findings

Overall milk sales increased by 16% in the intervention cities following the campaign and remained high at follow-up. Low-fat milk's market share increased from 18% of overall milk

sales at baseline to 41% of overall milk sales in the month following the campaign. This was sustained at 6-month follow-up. Post-intervention survey indicated 38.2% who reported drinking whole milk at baseline switched to low-fat milk.

Additional Comments

A result of this intervention project was the creation of a comprehensive *1% or Less Campaign* implementation manual. The manual contains a section for implementation into schools; however, a more detailed school-based manual is also available.

Eat for Life Trial.

Reference

Resnicow, K., et al. (2000). Dietary change through African American churches: Baseline results and program description of the Eat for Life Trial. *Journal of Cancer Education*. 15(3), 156-163.

Environmental Intervention and Policies

The targeted population was a group of 1,011 individuals from 14 African American churches in North Carolina.

The 14 churches were matched for socio-economic status (SES) and randomly assigned to the three treatment conditions:

- comparison,
- multicomponent intervention with one phone call, and
- multicomponent intervention with four phone calls.

The intervention materials for this program are extensive, and included:

- an 18-minute video,
- a project cookbook,
- printed educational materials, and
- a quarterly newsletter,
- “cues” imprinted with the project logo and a 5 a day message (e.g. magnets, pen, note pad, etc.).

The cookbook contained recipes submitted by the participants that: met criteria for including fruits/vegetables and being low in fat, and were judged by participants to be the tastiest. The cookbook also contained:

- information about the health benefits of *5 A Day*,
- tips for shopping,
- storing fruits/vegetables,
- educational brochures,
- a food guide pyramid, and
- the soul food pyramid.

In addition to materials, participants received between one and four phone calls counseling them about increasing fruit/vegetable intake, using techniques from motivational interviewing (i.e. used in addictive disorders counseling).

Evaluation

Baseline and 1-year follow-up data were obtained at health fairs conducted at the churches. Their implementation evaluation looked promising. The authors stated that the completion rate for the first phone counseling (motivational interviewing) call was 90% and completion rates for the following three calls ranged from 79% - 86%.

Key Findings

The authors were still in the process of completing the outcome evaluation for this project at the writing of this article. While this article does not (yet) technically represent a proven “effective strategy” for nutrition promotion in adults, it does provide good examples of intervention activities and adequately describes the evaluation methodology and data collection strategies they are using. Furthermore, many of the authors on this study, including Resnicow, Davis and Baranowski, are highly regarded in the public health nutrition field for their strong intervention and evaluation designs, as well as, for their demonstrated success in improving the intake of fruits and vegetables in various populations.

Healthy menu intervention.

Reference

Richard, L. (1998) *Project 42 – Healthy Menu Intervention*. G8 database project summary retrieved (n.d.) from Canadian Heart Health Database Centre, Memorial University, St. John's, NF, <http://www.med.mun.ca/g8hearthealth>.

Environmental Intervention and Policies

The target population includes 940 community members, who have low socio-economic status (SES), in Montreal, Quebec.

The setting for the intervention was in restaurants and with patrons.

A dietician reviewed existing menus of a fast food restaurant and a family-style restaurant and made modifications to ingredients and cooking methods to decrease fat and increase fiber content. Waitresses in the restaurants were informed about the project and trained to inform the clientele about “heart healthy” menu entrees.

Evaluation

Data on frequency of ordering healthy menu options, as well as customer reaction to the intervention were collected in self-administered questionnaires in on-site surveys of restaurant clientele.

Key Findings

Men in the family-style restaurant and regular customers in the fast food restaurant were more likely to order the healthier options. Some modified items were permanently incorporated into menus after conclusion of the project. Of the family-style restaurant, 60% reported that the project made them think about eating healthier. Health and taste were the most frequently cited reasons for selecting targeted items at either restaurant.

Freedom From Smoking (FFS).

Reference

Rosenbaum, P., & O'Shea, R. (1992) Large scale study of FFS Clinics, factors in quitting. *Public Health Reports*.

Environmental Intervention and Policies

Adult cessation behavior modification group program consisted of seven 1½ to 2-hour sessions held over a 6-week period.

Evaluation

Over many years, studies have shown similar rates of success. A 1992 study had 494 smokers attending 42 different Freedom From Smoking (FFS) clinics. They were interviewed during a 10-minute phone conversation between 12 and 15 months after the final FFS session.

Key Findings

Results from 1992 indicate 51% of FFS participants were smoke-free at the end of the clinic. Of the FFS participants, 28% were smoke-free at the end of one year.

Additional Comments

All studies of FFS cessation results show similar rates of success. Significant increases in cessation results occurred if participants also used a cessation aid, such as Zyban, the patch, gum, or nasal spray.

Project LEAN.

Reference

Samuels, S. E. (1993, January/February) LEAN-Lessons learned from a national social marketing campaign. *Public Health Reports*. 108(1), 45-53.

Also published in:

Samuels, S.E. 1990, (July/August) Project LEAN: A national campaign to reduce dietary fat consumption. *American Journal of Health Promotion*. 4(6), 435-440.

Environmental Intervention and Policies

Project LEAN (Low-fat Eating for America Now) is a national campaign having the goal to reduce dietary fat consumption to 30% of total calories through public service advertising, publicity, and point-of-purchase programs in restaurants, supermarkets, and school and worksite cafeterias. In 1990, the foundation awarded ten 2-year grants to state and local health departments to conduct *Project LEAN* campaigns.

- Maricopa County Health Department (Arizona):supermarket tours;
- Bay Area Cancer Coalition (California): supermarket;
- City of Baltimore Health Department: black churches, media;
- Nebraska Department of Health: work sites, schools;
- Cooperative Extension, University of Nevada: restaurants, casinos;
- New York City Department of Health: neighborhood markets;
- Rhode Island Department of Health: supermarket chain;
- Utah Department of Health: schools, supermarkets;
- Virginia Department of Health: independent grocers; and
- at least three other states (Kansas, Hawaii, and Maine) developed projects with local funding.

Two campaigns still in existence are: *Kansas LEAN* and *California Project LEAN*.

Kansas LEAN (Leadership to Encourage Activity and Nutrition) -- is a statewide coalition committed to the prevention of heart disease and cancer among Kansans by:

- promoting knowledge and adoption of the 1990 U.S. Dietary Guidelines and the Food Guide Pyramid,
- assisting consumers in their efforts to reduce dietary fat intake from present levels to 30% of calories by year 2000,
- increasing collaboration among organizations and businesses committed to reducing the incidence of chronic disease among Kansans, and
- incorporating nutrition interventions into the overall Kansas Chronic Disease Prevention and Control plan.

Evaluation

Activities conducted to evaluate the initial campaign included 10 in-depth focus groups and consumer surveys.

Key Findings

- Advertising and public health professionals must be more aware of ways to develop messages.
- Publicity, not public service announcements (PSAs), may be the most appropriate and effective strategy for national nutrition social marketing campaign.
- Media monitoring and tracking must be built into program.
- National campaign strategies and materials have improved benefits for state or community programs.
- Building a network of state/local programs strengthens and sustains the campaign.
- Selection of credible campaign spokespersons strengthens the message.
- Partnerships with other organizations are an essential ingredient for success.
- Collaborations with private sector expanded the campaign.

Kansas LEAN (Leadership to Encourage Activity and Nutrition)

Collaborative partnerships with more than 100 private and public organizations and agencies:

- provided statewide training,
- developed public education displays for use statewide,
- developed curriculum materials for all day care providers (more than 30,000) in Kansas as well as all elementary schools, and
- conducted a statewide study to determine dietary intake of Kansas adults.

Eight school districts were awarded funds to implement a comprehensive nutrition and physical activity program in their elementary schools. More than 120,000 Kansans have participated in a *Fat Bucks Buffet* (hands-on activity which teaches the concept of fat “budgeting”). Staff has facilitated development of educational packet for nutrition education for youth, which has been adopted by all the major youth organizations in the state and conducted program evaluation to monitor effectiveness of program initiatives as well as to revise strategies to become more effective in changing behaviors.

Additional Comments

Project LEAN implementation kit is still available from the American Dietetic Association.

At least two states are still actively involved in *Project LEAN* programs. These programs have been revised and expanded since original campaign.

Kansas LEAN also has a curriculum for school teachers grades K-5 who would like to use physical activity and exercise to teach communication skills, math, science, social studies, and more.

See web site at:

www.kdhe.state.ks.us/lean/index.html

The Washington Heights-Inwood Healthy Heart Program: A third generation community-based cardiovascular disease prevention program in a disadvantaged urban setting.

Reference

Shea, S., Basch, C. E., et al. (1992) The Washington Heights-Inwood Healthy Heart Program: A third generation community-based cardiovascular disease prevention program in a disadvantaged urban setting. *Preventative Medicine*. 21, 203-217.

Environmental Intervention and Policies

The targeted population included approximately 200,000, predominantly Hispanic and of low socio-economic means. The setting was with eight urban north Manhattan communities. This was part of *New York State Healthy Heart Program*.

Intervention methods:

- During the 1st year, methods included: screening for cardiovascular disease (CVD), developing working relationships within the community, and assessing community needs.
- The 2nd year had continued screenings, phased-in school programs, and a variety of media events (e.g. public access cable television and substantial Spanish-language programming).
- In the 3rd and 4th years there were intervention methods of: shifting emphasis from delivery of service to greater community involvement, increased commitment within the community, and a shift to a higher ratio of volunteers to staff at program events.
- Consultants from the Pawtucket study were used to provide training, share materials and experiences with other *New York State Healthy Heart Program* (HHP).
- The targeted organizations that comprised the population segments study were most interested in reaching organizations such as Hispanic social clubs and Gypsy cab companies.

Evaluation

Methods of evaluation included:

- CVD risk factor screening;
- telephone survey, modified version of Centers for Disease Control & Prevention *Behavior Risk Factor Survey* (CDC – BRFS); and
- no data on morbidity and mortality, and risk factor data self-report.

Key Findings

- Study addressed six potential barriers to diffusion in a disadvantaged inner-city community:
 1. issues of scale and complexity,
 2. adaptation of this model to a community with no geographical boundaries or infrastructure,
 3. linguistic and cultural diversity,
 4. competing problems,
 5. the role of evaluation, and
 6. sustainability of the program in a poor community.
- Strategies used to address these barriers were:
 - program legitimization,

- building program infrastructure,
 - setting realistic expectations,
 - focusing on one risk factor at a time,
 - defining target population segments, and
 - emphasizing a small number of communication channels.
- This was a third generation study with a budget of approximately \$1.00 person/year, whereas the Pawtucket Study spent approximately \$15.00 person/year.
 - In the Washington-Inwood study, less than 10% of the budget was spent on evaluation, while in the Pawtucket study over 70% of the budget was spent on evaluation.
 - The study was designed to address the higher prevalence of CVD risk factors among populations of lower educational attainment and among racial and ethnic minorities.

Several things worked with the intervention including the fact there were positive effects on serum-cholesterol, hypertension and reduced prevalence of smoking. The author noted that an essential part of the success was in hiring bilingual community members, and in the development of their own materials that were both culturally appropriate and had an appropriate literacy level for the community. Intervention included comprehensive programs, across many social organizations.

Lessons Learned

The staff found it difficult to get active support from community leaders because of the other competing issues that impact health in a lower socio-economic community. They were not able to provide programs and events for all organizations that were requested.

Additional Comments

Competing issues in the community are: poverty, crime, unemployment, housing, homelessness, overcrowded schools and drug abuse. Unanswered questions about the efficacy of such settings regarding research issues related to model diffusion will require additional research investment.

TAP: Teen Activity Project.

Reference

Sturdevant, M. S., Kohler, C. L., Williams, L. F. Johnson, J. E. (1998, August) The University of Alabama Teenage Access Project: A model for prevention, referrals and linkages to testing for high risk young women. *Journal of Adolescent Health*. 23(2 suppl), 107-114.

Environmental Intervention and Policies

This project was aimed at increasing adolescent girls' awareness of and participation in physical activity (PA) and healthy eating. As a secondary goal, the program sought to help minimize the girls' concerns about body image and physical appearance. Classes were held after school. Each class consisted of 20-30 minutes of discussion on nutrition, fitness, or body image. It was followed by 3-40 minutes of hip-hop aerobics and strength training. Healthy snacks were provided at each class as incentives and teaching tools. Young African American or Latina peer leaders taught all *TAP* classes.

Evaluation

This program was developed in response to focus groups conducted with teen girls and also with their mothers about eating, PA and body image. The actual *TAP* program was evaluated using pre- and post-intervention dietary assessments, and coordinator observation. (The authors do not go into a great deal of detail on how this evaluation was conducted).

Key Findings

The authors report that girls who participated showed improvement.

California Project LEAN.

Reference

Takada, E., Agron, P. & Guerra-Walter, C. (2001) Jump Start Teens: Interactive, cross-curricular lessons for high school adolescents. *Journal of Nutrition Education*. 33(1), 63-64.

&

Agron, P., Takada, E., & Purcell, A. (2002, March) California LEAN's food on the run program: An evaluation of a high school based student advocacy nutrition and physical activity program. *Journal of the American Dietetics Association*. 102(3 suppl), 5103-5105.

Environmental Intervention and Policies

Project LEAN's first phase (1989-1991) involved a lean meat nutrition education/media campaign in supermarkets.

The second phase of California *Project LEAN*, in 1991, resulted in its statewide expansion to ten Regional Coordinators. The goal was to reach California's diverse communities through the coordinator.

Project Lean also convened a Statewide Steering Committee composed of health, industry and media leaders. The Steering Committee meets biannually.

Two current campaigns:

Grocery Store Campaign features low-fat recipes and tips, newsletter articles, and drop-in advertisements.

Food on the Run Campaign is dedicated to increasing healthful food and physical activity options through high school student advocacy. The campaign targets multiethnic adolescents and is active in ten California high schools.

Cardiovascular Health (CVH) Program for Australian Youth.

(The program is similar to CATCH, Child and Adolescent Trial for Cardiovascular Health, minus changes in the school environment.)

Reference

Vandongen, R., et al., (1995). A controlled evaluation of a fitness and nutrition intervention program on cardiovascular health in 10 to 12 year old children. *Preventive Medicine*. 24, 9-22.

Environmental Intervention and Policies

A population of 1,147, 10 to 12-year-olds, was targeted from 30 schools in Western Australia.

A randomized controlled trial of nutrition and fitness programs was held over a 9-month period. Schools were randomized to 1 of 5 health programs:

- fitness only,
- fitness and school nutrition,
- school nutrition only,
- school and home nutrition,
- home nutrition only, or
- control group.

Intervention methods included:

- The school-based nutrition program consisted of ten 1-hour lessons aimed at improving knowledge, attitudes and eating habits.
- Teachers were trained to implement the school curriculum.
- The home-based nutrition program was presented through five nutrition messages, each comic book contained educational material and homework for the child and parents.
- The fitness education program consisted of six 30-minute classroom sessions aimed at improving knowledge and attitudes.
- Fitness activities were offered throughout the intervention and included preplanned lessons, running, and relays, skipping, and moving to music.

Evaluation

Nutrient intake, fitness, anthropometry, blood pressure, cholesterol, were measured pre- and post-intervention.

Key Findings

Authors reported a decrease in diastolic blood pressure (BP) and triceps skin folds for girls in all of the fitness groups. In girls, fat intake decreased significantly in the home nutrition groups and fiber intake increased in the school and home groups. Boys in all intervention groups decreased sugar intake.

Heart Smart Grocery Tours.

Reference

White, R. (1998). *Project 31 - Heart Smart Grocery Tours*. G8 database project summary retrieved (n.d.) from Canadian Heart Health Database Centre, Memorial University, St. John's, NF, <http://www.med.mun.ca/g8hearthealth>.

Environmental Intervention and Policies

The targeted population of 50 adult community members was from Prince Edward Island, Canada. The setting was in grocery stores.

The intervention included:

- three partners,
- tours of local grocery stores with a dietician, and
- the dietician identified healthy choices for participants by teaching them to read labels.

Evaluation

Telephone surveys of participants were conducted at 1-year post tour.

Key Findings

Telephone surveys of participants at 1-year post tour indicated that participants chose lower fat products, higher fiber foods and more fresh fruits and vegetables.

Joint analysis of three U.S. community intervention trial for reduction of cardiovascular disease risk.

Reference

Winkleby, M. A., Feldman, H. A., & Murray, D. (1997) Joint analysis of three U.S. community trials for reductions of cardiovascular disease risk. *Journal of Clinical Epidemiology*. 50(6), 645-658.

Environmental Intervention and Policies

The setting included communities in 12 cities representing three geographic areas of the U.S. in Northern California, Minnesota and New York.

This analysis pools data from three major studies; Minnesota Heart Health Project (MHHP), Stanford 5-City Project and the Pawtucket Health Health Program (PHHP) in order to determine common intervention techniques and increase the sample size in order to create greater power than the individual projects had.

Evaluation

- The analysis was structured to take advantage of commonalities of design; entire cities were assigned a treatment or control condition, and risk factors were measured in successive cross-sectional surveys of the population
- Only cross-sectional data were used in this analysis because the cohort data were too dissimilar in design.
- Results indicated that the analytic challenges of evaluating community-based interventions have more to do with the smaller than expected differences than the small sample size of the individual studies.
- There were three possibilities for modest results:
 1. interventions not effective,
 2. interventions did not exceed secular trends, and
 3. priority hypotheses were too optimistic.

In conclusion, strong secular trends and optimistic expectations were main issues in modest results.

Key Findings

In the analysis of the key findings:

- These broad studies documented the course of cardiovascular (CV) risk factors in three diverse regions of the country.
- A wide array of methods and materials were developed and tested for the “real” environment.
- These three trials created significant momentum in public health and advanced the theory and practice of community interventions.

In conclusion, community interventions work, but they need to be refined.

Lessons Learned

It was discovered there is a need for more knowledge about community interventions and more powerful designs. These could be developed using smaller cohorts and shorter interventions of 5 years or less.

Project Joy: A church-based nutrition and physical activity program.

Reference

Yanek. L. R., et al., (2001). "Project Joy": Faith based cardiovascular health promotion for African American women. *Public Health Reports*. 116, 68-82.

Environmental Intervention and Policies

The targeted population was 500 African American women from 16 Baltimore churches.

For this study three different strategies were developed, and participants were randomly assigned to the three groups.

- In the first group, African American health educators helped lay church leaders with health training, and led weekly nutrition and physical activity (PA) session at the church. Sessions included a weigh-in, group discussion, a taste-test or cooking demonstration, and 30-45 minutes of moderate aerobic exercise.
- The second group added spiritual content and prayer to the regimen, physical activity (PA) also included worship dance and aerobics to gospel music.
- The third group was simply given self-help handouts on diet and exercise.

Evaluation

All participants received a full screening of:

- weight,
- height,
- medical history,
- BMI (body mass index),
- BP (blood pressure),
- HR (heart rate),
- cholesterol,
- glucose,
- diet,
- smoking status, and
- PA (physical activity).

The same measures were taken at the conclusion of the one-year intervention.

Key Findings

Women who participated in the on-site activities did much better than the women in the control groups. They found a significant reduction in 11 of 13 cardiovascular disease (CVD) risk factors in 10% of the women. Women in the on-site activities groups lost significantly more weight than the women in the control groups.