

Community-Based Prevention: Sample Interventions

Compiled by the Massachusetts Public Health Association

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ISSUE REPORT

Prevention for a Healthier America:

INVESTMENTS IN DISEASE PREVENTION
YIELD SIGNIFICANT SAVINGS,
STRONGER COMMUNITIES



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Sample Interventions				
Study	Target Condition(s)	Intervention Information	Intervention Effect	Population and Age
Carleton (1995)	Cardiovascular Disease (CVD), Coronary Heart Disease (CHD), Stroke	Mass media campaign, community programs aimed at 71,000 people. Intervention population randomly generated, compared to a reference community. Cost: \$15 per person per year.	At 5 years: Risk for both CVD and CHD down 16 percent	2,925 men and women 18-64 [control (1,665); intervention (1,260)]
Farquhar (1990)	CVD, CHD, Stroke	Mass media campaign, community programs aimed at 122,800 people. Intervention population randomly generated, compared to a reference community. The organizational and educational program was delivered at a per capita cost of about \$4 per year.	At 5 years: CHD risk down 16 percent; CVD mortality risk down 15 percent; Prevalence of smoking down 13 percent; Blood pressure down 4 percent; Pulse down 3 percent; Cholesterol down 2 percent.	971 men and women 25-74 [control (480); intervention (491)]
Fichtenberg (2000)	CVD, CHD, Stroke	Cigarette tax: \$0.25 increase on the price of cigarettes with \$0.05 of the net tax for an antitobacco educational campaign.	At 3 Years: CHD mortality down 2.93 deaths/yr/100,000 population per year; Amount smoked down 2.72 packs/person/yr.	California population
	CVD	Mass media campaign, community programs aimed at 56,000 people. Intervention population randomly generated, compared to a reference community. Cost: \$10 per year per adult over the age of 16.	At 4 years: amount of tobacco grams/day decreased 8 percent; 11 percent fewer people smoked.	2,206 men and women 16-69 [control (1,358); intervention (848)]
Gutzwiller (1985)	CVD, CHD, Stroke	Mass media campaign, community programs aimed at 56,000 people. Intervention population randomly generated, compared to a reference community. Cost: \$10 per year per adult over the age of 16.	At 4 years: Hypertension down 7 percent.	481 men and women 16-69 with hypertension (> 160/95 mm Hg) [control (117); intervention (364)]
Haines, et. al. (2007)	CVD, CHD, Stroke	12-week employee walking program on a college campus. No cost information available, but such programs are extremely low cost and often have positive ROIs.	At 3 months: 1 percent decrease in BMI; 3.4 percent decrease in hypertension; 3 percent decrease in cholesterol; 5.5 percent decrease in glucose	60 women in their forties

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Herman (2008)	CVD, Nutrition	Improving access to fruits and vegetables among women who enrolled for postpartum services at 3 Women, Infants, and Children program (WIC) sites in Los Angeles. Participants were assigned either to an intervention (farmers' market or supermarket, both with redeemable food vouchers) or control condition (a minimal nonfood incentive). Interventions were carried out for 6 months, and participants' diets were followed for an additional 6 months. No cost information, but minimal administrative costs to assign and track participation.	At 6 months: + 1.4 servings per 4,186 kJ (1,000 kcal) of fruits and vegetables	451 low income minority women 18 years and older [control (143); intervention (308)]
Osler and Jespersen (1993)	CVD	Mass media campaign, community programs aimed at 8,000 people. Intervention population randomly generated and compared to a reference community. Cost: \$6 per capita.	At year one: 39 percent eating less fat; 10 percent decrease in smoking; 28 percent increase in physical activity.	1,196 men and women 20-65 [control (629); intervention (567)]
Prior (2005)	CVD	Worksite health promotion, 15 minute cardiovascular risk factor screening, individualized counseling to high-risk employees. Cost: \$20 per employee (note this is a high risk population).	At 3.7 years: 12.6 percent decrease in amount smoked; 3.3 percent decrease in diastolic BP; 7.8 percent decrease in cholesterol.	808 high-risk smokers 16-76 years old
Rossouw (1993)	CVD	Mass media campaign, community programs aimed at 122,800 people. Intervention population randomly generated, compared to a reference community (separate high risk group also). Cost: \$5-\$22 per capita.	At 4 years: Men decreased tobacco intake per day by 0.7 percent, women by 0.3 percent; Men decreased smoking prevalence by 1.1 percent, women by 2.5 percent; Men decreased diastolic BP by 2.5 percent, women by 3 percent; Men decreased systolic BP by 2.5 percent, women by 3.0 percent. High risk at 4 years: Men decreased tobacco intake per day by one percent, women by 0.8 percent; Men decreased smoking prevalence by 2 percent, women by 8.2 percent; Men decreased diastolic BP by 3 percent, women by 2.8 percent; Men decreased systolic BP by 1.3 percent, women by 1.7 percent.	4,087 men and women 15-64 [control (1305); intervention (2,782; high risk; 1,198 (43 percent)]

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Study	Target Condition(s)	Intervention Information	Intervention Effect	Population and Age
Economos, et. al. (2007)	Nutrition, Physical activity	“Shape Up Somerville” -- comprehensive effort to prevent obesity in high-risk children in first to third grade in Somerville, MA. Improved nutrition in schools, health curriculum, after-school curriculum, parent and community outreach, worked with community restaurants, school nurse education, safe routes to school program. Cost: Between \$3-\$4 per person.	After one year, on average the program reduced one pound of weight gain over 8 months for an 8 year old child.	First to third grade children in Somerville
EPODE (2004)	Nutrition	Multisectorial 5-year plan involving parents and families, medical providers, school nurses, teachers, towns, businesses, and media campaigns. Estimated cost: Approximately 2 Euros (\$3.17 USD) per person.	Obesity has at least remained consistent in targeted towns while it doubled in control areas. Mothers have reported weight loss as well.	5-12 year olds in 10 towns in France
Jenum, et. al. (2006)	Physical activity	Provided information through leaflets and mass media, individual counseling, walking groups, and increased accessible areas for safe recreation. Estimated cost of 0.59 Euros (\$0.93 US dollars) per person	After 3 years, compared to the control group, the intervention group had an 8-9 percent increase in physical activity, 14 percent fewer individuals gained weight, 3 percent more quit smoking, and significant decreases in blood pressure rates were reported.	Low-income adults in Oslo, Norway
Hu et al (1994)	Smoking cessation	California Proposition 99 -- increased taxes on cigarettes and other tobacco products from 10 cents to 35 cents.	After 3 years, cigarette sales dropped 9 percent and smoking among adults decreased from 26.7 percent in 1988 to 22.2 percent in 1992.	Population of California

would take the longest to be affected, taking 10 to 20 years before disease prevention programs could help bring about reductions in disease rates. The model assumes a one-time reduction in diabetes and/or high blood pressure, even though the sustained investment in prevention programs includ-

ed in the model could likely result in greater declines. The researchers acknowledge that all of these diseases may develop unrelated to physical inactivity, poor nutrition, or smoking. The model focuses on the estimated share of these disease rates that could be affected by these factors.

Examples of Studies Showing Intervention Impact on Disease or Behavior Rates			
Study	Target Behavior	Target Condition	Finding
Brownson (2000)	Physical Activity	Cardiovascular Disease	Of people who had access to walking trails, 38.3 percent used them. Of these users, 55.2 percent increased their amount of walking.
CDC (2005)	Physical Activity, Weight Loss	Diabetes	By losing 5 to 7 percent of body weight and getting just 2 1/2 hours of physical activity a week, people with pre-diabetes can cut their risk for developing type 2 diabetes by about 60 percent.
Dauchet (2005)	Nutrition	Cerebrovascular Disease	Risk of stroke was decreased by 11 percent for each additional portion per day of fruit and 3 percent for each additional portion per day of vegetables.
Felson (1997)	Weight Loss	Arthritis	40 percent increase in risk per 10-lb weight gain and 60 percent increase in risk per 5-unit BMI increase.
HHS (2003)	Nutrition	Cardiovascular Disease, Cholesterol	A 10 percent decrease in cholesterol levels may result in an estimated 30 percent reduction in the incidence of coronary heart disease.
Joshi-pura, et. al. (2001)	Nutrition	Cardiovascular Disease	Each additional serving of fruits or vegetables per day was associated with a 4 percent lower risk for coronary heart disease.
McGinnis & Foege (1993)	Nutrition	Cardiovascular Disease	22 to 30 percent of CHD deaths are due to dietary factors, especially increased consumption of cholesterol and saturated fat and a decreased consumption of fiber.
	Nutrition	Cancer	The proportion of all cancer deaths attributable to diet is 35 percent.
	Nutrition	Diabetes	45 percent of diagnosed cases are due to poor diet, inactivity, and obesity.
Nanchahal (2005)	Weight Loss	CVD	Every kilogram of weight gain after high school increased risk of congenital heart disease by 3.1 percent in men.
Hamman (2006)	Weight Loss	Diabetes	16 percent reduction in diabetes risk per kilogram of weight lost.

SMALL CHANGES CAN HAVE A BIG IMPACT ON HEALTH

The research shows that even small changes in behavior can have a major impact on health. For example:

- For individuals, a 5 to 10 percent reduction in total weight can lead to positive health benefits, such as reducing risk for type 2 diabetes.⁷⁵
- An increase in physical activity, even without any accompanying weight loss, can mean significant health improvements for many individuals. A physically active lifestyle plays an important role in preventing many chronic diseases, including coronary heart disease, hypertension, and type 2 diabetes.^{76, 77, 78, 79}

Community Prevention in Action

From church groups to the chamber of commerce, from farmers to the PTA, communities across the country are putting prevention to work. Here's just some of what they're accomplishing.

- In Bartholomew County, Indiana, the Columbus Area Chamber of Commerce has worked with two other local groups to create Reach Healthy Business, a workplace recognition program designed to support companies who are committed to creating a workplace that supports employee health. Says Chamber of Commerce president Jack Hess, "The two biggest costs grabbers for any business today are both health related—and that's health insurance increases, but also the loss in productivity based on the treatment of health-related disease, such as employee absenteeism. The bottom line is this: a healthy community is one in which companies want to locate, businesses want to grow and expand, and the best workforce in the world wants to live." Bartholomew County's Farm-to-Fork program didn't just bring 11,000 students fresh strawberries, tomatoes, watermelon and apples from local farmers: it also saved money, when food service directors found some local produce priced at half the cost of produce that had been shipped in from out of state.
- In partnership with their local hospital and CPPW-funded health department, Kwik Trip convenience stores, headquartered in La Crosse, Wisconsin, joined the 500 Club, highlighting healthier alternatives to customers in all twenty-one of their La Crosse county stores. All 113,758 La Crosse County customers can now easily find convenient, affordable healthy options, including fresh fruit that costs less than a bag of chips. Kwik Trip saw their efforts as so successful that they've chosen to bring the 500 Club to thirty more stores in neighboring Minnesota and Iowa. Kwik Trip Retail Food Service Director Paul Servais explains, "We heard from our customers that they were looking for more healthy options. We heard some people say not to go to convenience stores because there is nothing healthy to eat in them. We knew at Kwik Trip we had healthy options. This was a great way to get that message out." La Crosse's Farm2School program is helping Wisconsin kids eat Wisconsin food. Over 5,000 students are eating and learning how to cook locally-grown foods including cabbage, beets, wild rice, potatoes and winter squash, grown by local Wisconsin farmers, and prepared locally instead of being shipped in from California, Florida or even Chile. Local food processing facility Wisconsin Innovation Kitchen pre-processes the food to reduce labor costs in the school kitchens, and had to add a third shift to keep up with the new demand.
- In New York, The Walkers for Wellness program is bringing walking clubs and better nutrition to 100 faith-based organizations representing more than 10,000 New York City congregants of many faiths. Beth Hark Christian Counseling Center/Bethel Gospel Assembly, located in East Harlem, has started a walking club that meets twice a week. With the Center located across from Marcus Garvey Park, club participants are able to walk outdoors when the weather permits, or inside the large church building during inclement weather. Participants walk at least one mile per club gathering. In addition, an NYC DOHMH presentation on the contribution of sugary beverages to obesity led the Center to adopt healthful new food policies, including

reducing the availability of sugar-sweetened beverages at all Center functions. A more nutritious drink option – healthy soda (seltzer water with a splash of 100% juice) – has been a big hit at Center events. The Center has also increased the water options in vending machines and is continuing to work on reducing the number of vending machine slots dedicated to sugary drinks. Another faith-based organization, God’s Battalion of Prayer Church, located in the East Flatbush section of Brooklyn, has also successfully implemented the Walkers for Wellness and healthier foods programs. Its walking club meets twice a week, and club participants walk two to three miles per scheduled gathering. In inclement weather, members are undeterred, and instead, climb the stairs of the church building. In response to two NYC DOHMH presentations on sugary drinks and obesity, the church has adopted several health-promoting nutritional policies, including displaying signs that remind people of portion control and hosting sugary-drink free events.

- South Carolina has adopted a .57 cent price increase on cigarettes, making it likely that more than 23,000 kids under the age of 18 in South Carolina will never become smokers. Of funds collected from the price increase, \$5 million will support tobacco prevention and cessation efforts. Research shows that price increases on tobacco products are an effective policy intervention designed to prevent initiation of adolescents and young adults, reduce cigarette consumption, and increase the number of smokers who quit. A 10% increase in the price of cigarettes is estimated to reduce consumption by 4%.
- In Los Angeles County, Long Beach’s bicycle-friendly business districts aim to increase bicycle and pedestrian trips, and help local businesses thrive. Blair Cohn, Executive Director of the Bixby Knolls Business Improvement Association, explains, “We look forward to being a bike friendly business district as it will further our mission to connect the local community to our business corridors. We have spent the last three years developing programs and events to create an actual ‘connected community,’ and a bicycle component would add another layer to bring people together to support our local businesses. Bixby Knolls should have a little of everything and making the area truly pedestrian friendly adds to its vibrancy.”
- The San Antonio Healthy Restaurants Coalition debuted the *iPor Vida!* Program, a menu labeling and recognition program for food service establishments that offer healthy menu items. *iPor Vida!* is voluntary, and only requires restaurants to label the specific menu items that meet set nutritional criteria. The cornerstone of the *iPor Vida!* Program is the solid nutritional criteria, developed by the San Antonio Dietetic Association based on the Dietary Guidelines for Americans which suggest a balanced diet consisting of fruits, vegetables, whole grains and lean protein. The criteria establish clear limits for calories, total fat, saturated fat, transfat, and sodium. *iPor Vida!* is currently implemented within 7 restaurants in San Antonio, at over 120 locations. The restaurants include a large national fast food chain, several local restaurant chains, and independently owned restaurants. The restaurants received guidance and technical support from local, registered dietitians who analyzed and created menu items to meet the *iPor Vida!* nutritional criteria. Each of the restaurants identified at least one plate (entrée and sides) to meet the nutritional criteria, and developed in-store marketing materials to promote the new *iPor Vida!* items.

- 127,691 Seattle teens (ages 12-17) are now protected from exposure to tobacco through electronic smoking devices and unregulated nicotine delivery products. New policies restrict the sales of e-cigarettes or any other unapproved nicotine delivery products to people 18 and older; prohibit free or highly discounted electronic smoking devices or unapproved nicotine delivery products; and prohibit the use of e-cigarette devices in places where smoking is prohibited by law.
- In Philadelphia, nearly 500 corner stores have been recruited into the Healthy Corner Store Initiative; some local businesses have received resources for equipment upgrades, shelving and refrigeration to sell produce, low-fat dairy products, and lean meats. 1000 children a day are receiving healthier meals, thanks to the USDA After-School Meal Program in 40 of the 98 recreation center after-school sites. And 200 Philadelphia schools have created School Wellness Councils, to incorporate physical activity into the school day and to eliminate unhealthy options foods from classrooms, fundraisers, and school stores.
- On January 24, 2011, The Board of Trustees of City University of New York (CUNY) approved an expanded tobacco policy that will make CUNY the largest urban public university system in the United States to go 100% smoke-free. CUNY serves over half a million students citywide and employs about 40,000 staff. The majority of CUNY's population is between the ages of 18 and 24, the critical age when many occasional smokers transition to become daily smokers. The policy prohibits the use of tobacco on all grounds and facilities under CUNY's jurisdiction — indoor and outdoor — as well as tobacco industry promotions and marketing on campus properties, and tobacco industry sponsorship of athletic events and athletes. Additionally, CUNY will expand its free cessation services and referrals to community-based services for smokers who want to quit. The New York City Department of Health and Mental Hygiene is supporting CUNY's efforts by providing training to students and clinic staff; access to online "best practice" resources; and specialized on-site technical assistance to all 23 campuses throughout the one-year implementation period.
- 113,000 residents in Jefferson County, Alabama are waking up to more walkable and livable communities. The recently passed Smart Code zoning amendment allows for compact, mixed-use development in unincorporated areas of the county, more walkable communities centered around villages and transportation nodes, and preserves a greater amount of natural area and open space.
- In Miami, draft regulations that set nationally recognized minimum minutes of physical activity, screen-time restrictions, and nutrition standards for all licensed day care centers are currently being piloted with 887 day care centers, reaching 63,427 children. Full passage of the policy is expected prior to March 2012, affecting 1,420 centers and reaching 102,302 children.
- Louisville's Metro Council approved a resolution supporting voluntary menu labeling in local restaurants with fewer than 20 locations. Dan Huckestein, operating partner at Yang Kee Noodle, explains why his business was one of the first to sign on: "Our goal has always been to offer a product that is fresher, healthier and prepared from scratch," said Huckestein. "From our inception our patrons have been requesting nutritional facts and I have had a difficult time finding the time and resources to compile hard data. I am very excited to be part of this pilot

program and find tangible ways to offer healthier choices on our menu.” With the recent addition of J. Gumbo’s and the Bristol Bar & Grille, there are now 16 restaurants with a total of 33 locations signed up for the program. These Healthy Hometown restaurants are working with dietitians and chefs to analyze and adjust entrees to make them more healthful, and to include the caloric value of all items on their menus and menu boards.

