



## **Examples of Successful Community-Based Public Health Interventions (by subject matter)**

The Steps to a HealthierUS (now Healthy Communities program) is a Centers for Disease Control and Prevention (CDC) initiative that provides funding to communities to identify and improve policies and environmental factors influencing health in order to reduce the burden of obesity and other chronic diseases, and to encourage people to become more physically active, eat a healthy diet, and not use tobacco.

The Racial and Ethnic Approaches to Community Health Across the U.S. (REACH U.S.) is a CDC-funded national program whose goal is to eliminate racial and ethnic health disparities in the United States. In 2007, just 40 communities were funded through the REACH program.

These kinds of programs can be cost-effective. A study by Trust for America's Health, entitled *Prevention for a Healthier America*, found that investing \$10 per person per year in proven community-based programs to increase physical activity, improve nutrition, and prevent smoking and other tobacco use, could save the country more than \$16 billion annually within five years. Out of the \$16 billion in savings, Medicare could save more than \$5 billion, Medicaid could save more than \$1.9 billion, and private payers could save more than \$9 billion.

Below are examples of successful community-based interventions that these and other primarily publicly-funded programs have supported. The House tri-committee health reform bill and the Senate HELP Committee proposal, by enhancing our investment in community-based prevention, would enable us to expand the reach of successful, evidence based programs like the ones described below.

### **Chronic Disease Prevention (with multiple interventions/conditions):**

- Data from selected Steps Communities indicate progress toward changing behaviors. For example, in 2004, the percentage of adults in Steps Communities who have diabetes and reported having a foot exam in the past year was 71.1 percent; this increased to 77.2 percent in 2006, surpassing the national average of 71.1 percent. The proportion of adults living in Steps Communities who have asthma and report days on

which they experienced no asthma-related symptoms increased from 23.9 percent in 2004 to 28.6 percent in 2006, exceeding the national average of 26.2 percent.

- In the River Region of Alabama, the Steps trained diabetes wellness advocates to help diabetics set wellness goals and manage their condition. From 2004-2007, emergency room visits among participants decreased more than 50 percent.
- CDC's REACH for Wellness program in Georgia works to improve cardiovascular health of Atlanta Renewal Community residents and to eliminate health disparities among minority groups. The program offers free, community-based services such as nutrition education classes, physical activity programs, and empowerment groups. Results of the program include a decrease in the percentage of African American adults who currently smoke from 25.8% in 2002 to 20.8% in 2004. Over the two years, 10.1% more adults reported having their blood cholesterol level checked and medication adherence among adults with high blood pressure also increased. Additionally, the percentage of adults who are not physically active decreased from 32.6% in 2002 to 30.6% in 2004.
- The REACH 2010 Latino Health Project in Massachusetts, funded by the CDC, works to raise people's awareness about diabetes, teach them how to eat a healthy diet and be more physically active, and help them to understand that diabetes can be prevented and controlled. Outreach is provided through local health education centers, community groups, health care providers, and a media campaign. In 2006, the percentage of participants with total cholesterol levels <200mg/dL increased from 75% to 80%. In addition, the percentage of Latinos receiving services at the Greater Lawrence Family Health Center who reached their blood sugar goal (A1C level <7) increased from 20.7% in 2002 to 43.4% in 2006. Finally, the percentage of Latinos receiving services at the GLFHC who had an annual flu shot increased from 44.2% in 2005 to 55% in 2006.
- Chicago Department of Health, REACH/Lawndale Health Promotion Project offers health education classes to increase residents' awareness about risk factors for diabetes and heart disease, such as high blood pressure, high blood cholesterol, obesity, smoking, unhealthy eating habits, and lack of regular physical activity. More than 7,000 assessments for diabetes and heart disease risk have been conducted with community residents. Nine hundred residents were referred to local health agencies for medical care. In addition, 350 residents with diabetes or heart disease received case management services, which sharply increased the use of health screenings.
- The REACH Detroit Partnership conducts interventions to help residents prevent and manage diabetes through health education classes and bilingual health information. The Family Intervention targeted two groups. In the first group, the percentage of participants with blood sugar levels >7 dropped 13.5%. In the second group, participants were divided into two subgroups, with one receiving interventions immediately and the other receiving interventions 6 months later. Participants in subgroup 1 showed a mean decrease of 1.2 in the blood sugar levels, compared with

0.02 for subgroup 2. Subgroup 1 participants also showed improvements in diabetes-related depression and consumption of high-fat foods.

- As a result of the REACH 2010 grant, the La Vida Program was created to serve Hispanics living in New Mexico who have or are at risk of contracting diabetes by offering diabetes education classes, support groups, community outreach, grocery store tours that teach how to read food labels, and a restaurant intervention to teach people to make healthy eating choices. The program also includes a physical fitness program called Active and Alive that is available at local health clubs, home visits, and one-on-one sessions. After initial involvement in the program, Hidalgo Medical Services patients had an average hemoglobin A1c level of 8.2, compared with the national average of 9.0 for Hispanics. After 9-12 months of involvement, patients' average A1c levels dropped to 7.6.
- The Charlotte REACH 2010 Coalition has implemented interventions that focus on physical activity, nutrition, smoking cessation, tobacco use prevention, and systems and environmental changes to prevent the onset of heart disease and diabetes. As a result, a farmer's market was opened in 2001. Since then, 73% of residents say they are eating more fresh fruits and vegetables each day. Also, 72% of residents say they are being more physically active and 67% say they have reduced the amount of fat in their diet.
- Cherokee Choices is a CDC funded REACH program working to confront environmental and biological factors that put Cherokee people in North Carolina at a higher risk for diabetes. Mentors work with elementary school children and staff to develop lesson plans on self-esteem, cultural pride, conflict resolution, etc. In addition, nutritionists, dieticians, and fitness workers help tribal members participate in activities at their churches and work sites to help them reduce stress, eat healthier, and increase physical activity levels. After the implementation of this program, 96% of school participants said they know how to make healthier choices.
- To overcome health disparities, the REACH 2010 Charleston and Georgetown Diabetes Coalition has developed a comprehensive community action plan that includes walk-talk groups, home and telephone visits, educational sessions, health care visits, health and information fairs, support groups, grocery store tours, and Internet access at local public libraries. From 1999-2004, the percentage of African Americans who had their blood sugar level checked annually increased from 77% to 97%, while the percentage who had their blood cholesterol level checked increased from 47% to 81%. Kidney testing increased from 13% to 53% and foot exams increased from 64% to 97%. Additionally, emergency room visits decreased by about 50% for people who have diabetes but do not have health insurance.
- The Nashville Health Disparities Coalition developed a community action plan as a part of the REACH 2010 initiative to address health disparities among African Americans who have or are at risk of developing diabetes, heart disease, or high blood pressure. After the implementation of the plan in 2000, more than 4,000 people have been screened for diabetes, heart disease, and associated risk factors.

- The Bronx Health REACH Coalition works with 22 churches to educate local residents and empower them to adopt healthy lifestyles. Through the nutrition and fitness initiative, Bronx Health REACH works to improve residents' access to healthy foods. As a result, New York City schools have switched from whole milk to low fat milk, neighborhood grocers carry low-fat milk and healthier snacks, and local restaurants highlight their healthy menu options.
- In the Seattle and King County areas of Washington, the REACH 2010 Coalition implemented an intervention plan to prevent diabetes among minority communities. The percentage of people participating in the interventions who were able to keep their blood sugar level under control increased from 48% to 56%. The percentage of participants who said they were confident they could stick to their diet increased from 56% to 69%. The percentage of participants who reported being more physically active increased from 75% to 86%.
- The National Kidney Foundation's Kidney Early Evaluation Program (KEEP) is a free, community-based, health screening designed to identify and educate individuals at increased risk of developing kidney disease. Participants are measured for height, weight, waist circumference and body mass index (BMI). A health questionnaire and a diagnostic panel of urine and blood tests are conducted to assess evidence of diabetes, kidney damage/disease and other related health complications. Consultation with a clinician is offered to all participants at the end of the screening event and additional follow-up is conducted with participants after the program. As a result, nearly 30% of KEEP participants were identified with kidney disease, yet less than 4% were aware they might be at risk for kidney disease. Thirty percent of KEEP participants have diabetes and 45% of those with diabetes have elevated glucose values, even though the majority are under the care of a healthcare provider, highlighting the need for better education and management. 56% of KEEP participants with diabetes have microalbuminuria, an early indicator of kidney damage.
- The Minnesota Arthritis Program [with funding from CDC] is partnering with the Elderberry Institute Living at Home Block Nurse Program, which delivers community services that help older adults remain at home as long as possible. This partnership allowed the arthritis program to significantly expand the reach of self-management education and exercise program across the state. For example, the number of new participants in the Arthritis Foundation Self-Help Program increased 229% in 2006. The number of new participants in the Arthritis Foundation Exercise Program increased 125%. These programs are now available in 50 of the state's 87 counties. (CDC. *Arthritis: Meeting the Challenge, At a Glance 2009*)
- Several large research studies, including the U.S. Diabetes Prevention Program (DPP) have now shown that over HALF of new cases of type 2 diabetes can be avoided by structured lifestyle intervention programs that help individuals with PRE-diabetes to lose just 11 – 15 pounds and to participate in daily physical activity such as brisk

walking. (YMCA)

- Multiple prediction models have now demonstrated that a structured lifestyle intervention at the YMCA to prevent diabetes can be COST SAVING within 2 to 3 years time if the direct costs of the intervention can be reduced to \$250 - \$300 per year (*this estimate contrasts with a cost of more than \$1400 for the original DPP intervention*)
- Emerging research and demonstration projects developed by Indiana University researchers show that a carefully designed group lifestyle intervention at the YMCA can be delivered for less than \$250 per year in community settings and can achieve similar weight loss results as more costly programs in adults with PRE-diabetes.
- In Seattle King County's Healthy Homes program, Community Health Workers visit low-income children with asthma, conduct a home environmental assessment to identify asthma triggers and assess caretaker's knowledge and management of asthma. The CHW supports families in reducing triggers and improving asthma self management through follow-up visits, provides allergen control resources, makes referrals to additional resources and links families to medical homes. Home visits make a big impact on asthma outcomes. Compared to a comparison group, children in who received home visits had nearly a month's worth of days (25 fewer days) per year with asthma symptoms. Urgent health care decreased by 65% in the home visit group (much more than the 20% decrease in the comparison group). Children who received home visits had fewer symptoms and urgent health care use even when compared to other children who received intensive asthma education and care coordination by a clinic asthma nurse. In 2003, the Secretary of the US Department of Health and Human Services recognized the program with its "Innovation in Prevention" Award. In 2005, the program received the US EPA Children's Environmental Health Excellence Award.
- In Pawtucket, Rhode Island, the Pawtucket Heart Health Program conducted an intervention to educate 71,000 people about heart disease through a mass media campaign and community programs. Five years into the intervention, the risks for cardiovascular disease and coronary heart disease had decreased by 16 percent among members of the randomly selected intervention population. (Carleton RA, Lasater TM, Assaf AR, Feldman HA, McKinlay S. 1995. The Pawtucket Heart Health Program: community changes in cardiovascular risk factors and projected disease risk. Am J Public Health 85(6):777-85.)
- The Stanford Five-City Project used a mass media campaign and community programs to target a population of 122,800 people. At five years, risk for coronary heart disease had decreased by 16 percent, cardiovascular disease mortality risk had decreased by 15 percent, prevalence of smoking was down 13 percent, blood pressure was down 4 percent, resting pulse rates were down 3 percent, and cholesterol was down 2 percent among members of the randomly selected intervention population. (Farquhar JW, Fortmann SP, Flora JA, Taylor CB, Haskell WL, Williams PT, Maccoby N, Wood PD.

1990. Effects of communitywide education on cardiovascular disease risk factors. The Stanford Five-City Project. JAMA 264(3):359-65.)

- WISEWOMAN, a CDC-funded lifestyle intervention program, provides low-income uninsured women aged 40 to 64 with chronic disease risk factor screenings, lifestyle interventions, and referral services in an effort to prevent coronary heart disease and improve health. Over the course of a year, WISEWOMAN participants improved their 10-year risk of coronary heart disease by 8.7%, and there were significant reductions in the percent of participants who smoked (11.7%), had high blood pressure (15.8%), or had high cholesterol (13.1%). (Finkelstein EA, Khavjou O, Will JC. 2006. Cost-effectiveness of WISEWOMAN, a program aimed at reducing heart disease risk among low-income women. J Womens Health (Larchmt) 15(4):379-89.)
- In an effort to combat the rise in childhood obesity, the Choosing Healthy and Rewarding Meals (CHARM) School Program was developed to address adolescents in one of Washington, DC's most underserved communities. Through a series of classes covering topics ranging from healthy cooking to physical activity, the CHARM School led to changes in self-reported consumption of fruits, vegetables, and fast food while decreasing the number of hours of TV watched by the 81 participating youth. These successes occurred in the context of enhancing access to a pediatric medical home.
- The National Center for Healthy Housing in Columbia, Maryland, is using support from the Blue Cross and Blue Shield of Minnesota Foundation to demonstrate how green building principles can improve health. The center is tracking the health impact of the green renovation of an affordable 60-unit apartment complex in Worthington, Minnesota. Residents are primarily low-income minority families employed in the food processing industry. Results of this project can inform local zoning decisions and building codes. This is the first time the effect of green building principles will be measured against health outcomes over time. Early results include a majority of adults and children reporting improved health in just one year post-renovation. The adults made large, statistically significant improvements in general health, chronic bronchitis, hay fever, sinusitis, hypertension, and asthma. The children made great strides in general health, respiratory allergies, and ear infections. Overall, there were improvements in comfort, safety, and ease of housecleaning.<sup>1</sup>
- Opening in March 2008, the Sabathani Community Center is a non-for-profit community organization in Minneapolis with the mission of building community capacity and strengthening youth, children, and families. The center provides much-needed social services, as well as adult, dental, and now pediatric primary care. Since receiving a Community Access To Child Health (CATCH) Program grant from the American Academy of Pediatrics, the pediatric clinic has served over 100 children, providing immunizations to more than 50% of patients and screening nearly 1/3 for lead toxicity. The clinic continues to succeed in delivering health care to Minneapolis children who need it the most.

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<sup>1</sup> Cohen L, Iton A, Davis R, Rodriguez S. Prevention Institute. *A Time of Opportunity: Local Solutions to Reduce Inequities in Health and Safety*. May 2009.

- The King County (Washington) Children's Health Initiative (CHI) is a local approach to improve the health of low-income children. To ensure that all children in King County receive needed preventive health care services, CHI provides support in obtaining health care coverage and coordination in finding the right health care home. In the clinics with CHI-contracted care coordinators, the rates for children receiving preventive services increased significantly over this same time period. For example, immunization increased at rates between 6% and 79% at the six agencies served by care coordinators and early oral health visits increased at rates ranging from 42% to 257%. Family interviews showed: families with CHI reported more confidence in accessing needed health services for their children; families with CHI reported greater ease in accessing needed health services for their children; none of the interviewed families with CHI reported missing more than four days of school or work due to a child's illness.
- Founded by a group of medical students in 1984, the Chicago Youth Program (CYP) serves children and youth living in inner-city Chicago, and area where 65% of families with children live below the Federal Poverty Level. In addition to serving as the medical home for youth, CYP provides a myriad of social services. The *Healthy Tomorrows* grant provided by the American Academy of Pediatrics and the federal Health Resources and Services Administration supported the development of the Parent Run Evening Preschool (PREP) program, intended to prepare children for school while simultaneously teaching their mothers parenting skills to enhance self esteem. The program was met with widespread success, boasting a 77.5% overall program retention rate for participants. Youth in PREP had a 95% graduation rate, compared with 51% in surrounding areas, an over 75% college/trade school placement rate, and lower teen birth rates compared to the general population. Following the pilot, PREP was expanded to 4 additional sites and continues to serve Chicago's at-risk youth today.
- The Philadelphia Department of Public Health Childhood Lead Poisoning Prevention Program provides complete case management services from testing children to remediating the lead hazards in the home. Outreach and Education are key components. The Program works with many community groups and other City, State, and Federal agencies to coordinate efforts. The Program works to assure that children are safe at home and at childcare, foster care, and in school. The Program works with local legislators to pass laws for primary prevention. Prevalence rates (children with elevated lead test levels of 10ug/dl or higher) have dropped steadily from a high of over 80% in 1989 to less than 4% in 2008. In 1989, over 30,000 children tested had what we now know to be elevated lead levels. Last year, that number was down to 1,000.
- A partnership between Public Health – Seattle & King County and the Seattle Housing Authority built environmentally-friendly homes with special features to reduce asthma triggers for low-income public housing residents. Improvements costing \$5,000 to \$7,000 in housing design, materials and construction dramatically reduced asthma triggers, symptoms and exacerbations. These improvements include insulated and well-sealed foundations, special ventilation, installation of energy-efficient argon windows, minimization of carpeting, and use of low-emission materials with minimal known

asthma triggers, in place of the more common particle-board cupboards that often emit volatile compounds. Children in these homes have 70 percent more symptom-free days than in their previous homes, which translates into 138 more days without symptoms per year. They had a 67% reduction in the need for urgent clinical care.

- CDC's WISEWOMAN program started in 2000, and its mission is to provide low-income, under- or uninsured 40- to 64-year-old women with the knowledge, skills, and opportunities to improve diet, physical activity, and other lifestyle behaviors to prevent, delay and control cardiovascular and other chronic diseases. The WISEWOMAN program as a whole has reduced the risk of heart disease, stroke, and other chronic diseases in over 84,000 women. In Nebraska, the program provides risk factor screenings to low-income women at clinics throughout Nebraska and refers women at-risk of heart attack or stroke to experts for additional counseling and care. Nebraska WISEWOMAN has screened over 19,000 underserved women since its inception in 2000 and has significantly reduced the incidence of chronic disease and death. There has been a 5.4 percent reduction in 10-year estimated chronic heart disease risk and a 7.5 percent reduction in five-year estimated cardiovascular disease risk. Smoking incidence has also declined 7.1 percent since the start of the program.
- The Kentucky Diabetes Prevention and Control Program, Heart Disease and Stroke Program, Immunization Program, along with the Kentucky Primary Care Association, Diabetes Network Health Plan Partners, National Diabetes Education Program, and the Association of American Medical Colleges Academic Chronic Care Collaboratives partnered to develop and conduct annual educational sessions for Kentucky healthcare collaborative members. The educational sessions review successes and challenges in translating evidenced-based guidelines into practice as well as provide new information that health care practitioners need. The most recent sessions reached participants from all but three of the sixteen Kentucky collaborative sites. As a result, more of the high risk population is getting improved diabetes care and reducing their risk of death and serious complications. Trends tracked by the collaboratives show that rates of dilated eye exams, patient self monitoring of blood sugar, foot exams, influenza and pneumonia vaccinations and visits to a health care professional for diabetes care all *improved* since the establishment of the collaboratives and the training sessions.
- The Kentucky Departments for Public Health and Medicaid Services and the University of Louisville Department of Family and Geriatric Medicine and local health departments partnered to provide the Chronic Disease Self-Management Program developed by the Stanford University Patient Education Research Center to patients in community settings such as senior centers, churches, libraries and hospitals. Trained facilitators implement this free, highly interactive program, in mixed groups of people with a variety of chronic health problems, focusing on building skills, sharing experiences, and providing support. Evaluation studies at Stanford and the University of Louisville showed that patients in this program spent fewer days in the hospital, with a trend toward fewer outpatient visits and hospital admissions, yielding savings of about ten times the program cost.

- The California Department of Public Health instituted the California Asthma Public Health Initiative to improve the quality of clinical care according to National Asthma Education and Prevention Program (NAEPP) guidelines, reduce asthma morbidity and improve quality of life, and reduce/eliminate asthma health disparities for California children aged 0-18 years with asthma. Strategies included training and support of a fulltime clinic-based asthma coordinator; continuous quality improvement strategies in the clinic; and community outreach to promote and disseminate these best practices. Among the outcomes, the study found over a three year period a 76% reduction in hospitalizations due to asthma; a 78% reduction in emergency department visits due to asthma; and a 73% reduction in the number of children who used rescue medication more than twice a week.
- The Missouri Diabetes Prevention and Control Program, part of the Missouri Health Department, facilitates and funds the Missouri Diabetes Collaborative. Collaborative members form practice teams to improve their care of patients with diabetes using a proven model to manage disease. Patient registries, proven treatment services, cooperation among healthcare providers, and referrals to community resources for follow-up are just some of the tools that help Collaborative members provide improved care. Fourteen measures of patient diabetes care in the group of collaborative patients have improved. For example, a measure of blood sugar control called HbA1c decreased an average of more than 3%. For every one-percent reduction in this value, there is an estimated 35% decrease in eye, kidney and nerve damage, and a 25% decrease in diabetes-related deaths. Also, more patients are receiving foot exams (17%) and eye exams (32%), helping prevent amputations and blindness.
- The Missouri Heart Disease and Stroke Prevention Program, funded by CDC's Division of Heart Disease & Stroke, worked with the state Office of Primary Care & Rural Health, the Bureau of Emergency Medical Services and local health departments to create a statewide registry of automated external defibrillators (AEDs), allowing emergency responders to quickly locate an AED when needed. This group also developed a strategic plan for placing additional AEDs in rural counties where they were not readily available and trained first responders to use them. Federal Office of Rural Health funding allowed the distribution of approximately 400 AEDs over a two-year period to qualifying first response agencies. In just 12 months, 39 emergencies required the use of these AEDs saving 9 lives.
- The Idaho Diabetes Prevention and Control Program (DPCP) provided expertise, staff time, and financial support to create the Diabetes Preventive Healthcare Collaborative in partnership with the Medicare Quality Improvement Organization for Idaho, Qualis Health. Teams of health care professionals from fourteen medical practices and clinics with more than 3,700 diabetes patients learned how to improve health care delivery for their patients using computerized clinical information registries, implementing clinical practice recommendations, and using a proven model to guide diabetes care. A measure of blood sugar control, called hemoglobin A1c, improved from 72% at baseline to 78% at follow-up after training sessions, a significant improvement; percentage of patients with an acceptable blood pressure reading improved by more

than thirty percent at follow-up; and percentage of patients with a documented self-management goal tripled.

- The Georgia Stroke and Heart Attack Prevention Program provides services to low income patients with high blood pressure. Patients receive intense monitoring, health assessments, and lifestyle counseling and treatment that are based on established protocols for blood pressure treatment and on the essential elements of health care described in the Chronic Care Model. Prescribed medicines are provided at low or no cost. Nurse case-managers monitor blood pressure, encourage regular clinic visits, and work with patients to help them take their medicine regularly. Program participants had better blood pressure control, lower treatment costs for those who received treatment, and lower overall costs per eligible patient according to an evaluation funded by the Centers for Disease Control and Prevention. The rate of expected adverse events such as heart attack or stroke was reduced by half in program participants, compared to people who received no preventive care. When compared to patients receiving usual care, the rate was cut by slightly less than half. For the 15,000 patients in the Stroke and Heart Attack Prevention Program costs were an average of \$138 less per patient annually, compared with the cost of usual care.
- The D.C. Department of Health developed the Diabetes for Life Learning Center in collaboration with the District of Columbia Public Library System, the Department of Health Diabetes Prevention and Control Program and a local health care organization (Washington Hospital Center). The program began in response to the need for improving the self management skills of people with diabetes and providing peer support in a safe, easy to access community space. The Center provides structured diabetes education, an ongoing diabetes support group, medical lab tests for blood sugar and learning resources. Participants in a follow-up group showed improvements in blood sugar control. In addition, A1C control increased by 16 percent ( $p < .001$ ); participants systolic and diastolic blood pressure levels dropped an average of 8 percent ( $p < .057$ ); and ER visits dropped 5.4 percent ( $p < .0043$ ).
- The New Mexico Departments of Education and Health launched the Albuquerque Public Schools Asthma Program to improve student asthma management using coordinated school health funding from CDC's Division of Adolescent & School Health and in cooperation with the American Lung Association and the Albuquerque Public Schools. Asthma Program Strategies include:
  - Implementing "Open Airways", an educational program with proven effectiveness in promoting good asthma management, in grades 3-5;
  - Training school nurses and providing asthma education to school staff;
  - Updating school asthma procedures to include best practices and modifying policies for cultural sensitivity;
  - Referring students and families without health insurance to New Mexico Department of Health Children's Medical Services;
  - Equipping all school health rooms with asthma-related devices;

- Contracting with the University of New Mexico’s Center for Regional Studies “Tools for Schools” program to train school staff to inspect for and identify air quality concerns, which include asthma triggers.

Absences due to asthma decreased significantly. Overall absences due to asthma went from 39% the first year to 26% in year three.

- North Carolina’s Chronic Disease Management Collaborative provides a means for action to make rapid changes in delivery of chronic disease care by primary care practices. The Collaborative key partners are the NC Division of Public Health, Chronic Disease and Injury Section; the NC Community Health Center Association; and Medical Review of NC, the State’s quality improvement organization. In addition to CDC funding for categorical state chronic disease programs, funding is provided by the Robert Wood Johnson Foundation and the Kate B. Reynolds Charitable Trust. The Collaborative promotes the development of disease registries to track the care of patients with diabetes, cardiovascular disease, and cancer screening and prevention. Tracking patient care has resulted in improvement in the delivery of services necessary to prevent the complications of chronic disease, such as blood sugar monitoring, eye exams, vaccinations, and blood pressure measurement and control. For example, average A1c levels (a measure of blood sugar control) decreased by an amount that is predicted to result in an 8% reduction in diabetes deaths, a 6% reduction in heart attacks, a 5% reduction in stroke, a 17% reduction in amputations, and a 10% reduction in renal failure. The three year gross cost savings estimates for a sample of 2,745 patients are \$957,493.
- The North Carolina chronic disease section expanded on an existing pilot program to collaborate with important state partners, including North Carolina’s Medicaid managed care program, North Carolina Area Health Education Centers, the University of North Carolina School of Medicine and the state’s primary care specialty societies, in an initiative designed to improve the quality performance of primary care practices. The initiative is based on the Chronic Care Model and emphasizes methods such as the use of Quality Improvement Coordinators working with individual practices, an emphasis on data collection on common measures, collaborative learning, electronic registries, practice-wide care protocols, and strategies to support patient self-management efforts. Patient health outcomes improved. The percent of patients meeting important goals for diabetes control increased by a third and those meeting goals for cholesterol control increased by over twenty-five percent.
- The North Dakota Diabetes Prevention and Control Program and Blue Cross Blue Shield of North Dakota (BCBSND) formed a cooperative partnership to design a system to measure the level of care for diabetes patients and track five annual health care services office visits, hemoglobin A1C testing, dilated eye exams, lipid profiles, and nephropathy assessments. These services help prevent complications such as blindness, amputations, heart attack and stroke. Plan members with diabetes were less likely to have hospital admissions and emergency room visits following the start of the program. The program, which cost approximately \$300,000, saved an estimated \$9 million over three years – about a 30 to 1 return on investment.

- The Utah Diabetes Prevention and Control Program, part of the Utah Department of Health, works with public and private health care providers to develop and manage diabetes self-management courses. People with diabetes who have completed one of the diabetes self-management courses show improved blood sugar control. Over 70% monitor their blood sugar levels regularly and correctly. Nearly two-thirds of the participants are following recommended meal plans. Nearly two-thirds of the participants report that they exercise regularly.
  
- The Yakima Valley Farm Workers Clinic used funding from a Health Resources and Services Administration grant to establish the Yakima Valley Farm Workers Clinic Asthma Project a home-visiting program employing bi-lingual, paraprofessional asthma educators to conduct home visits with residents who have asthma. Visits include education on the importance of using medicines and medical equipment correctly, following medical recommendations, and minimizing environmental triggers, such as dust mites and cigarette smoke, that make asthma worse. This project documented positive results for clients who had *at least five home visits*:
  - A seventy percent reduction in hospital and emergency department visits due to asthma attacks for high risk clients;
  - A reduction in exposure to environmental factors that contribute to asthma attacks by up to seventy percent;
  - Students who participated in asthma education in the home had over fifty percent fewer absences than students who did not.
  
- For several years the West Virginia University Office of Health Services Research has worked with Roane County Family Health Care, a federally qualified health center, to monitor and improve the quality of care provided to people with diabetes. A strong partnership with the West Virginia Diabetes Prevention and Control Program enables the University to provide Roane County Family Health Care health professionals and staff with education in chronic disease management. There has been significant improvement in health-related measures for the health center's patients with diabetes: the average improvement in measures of blood sugar control is an amount estimated to decrease amputations by over 8% and micro-vascular disease by almost the same amount; and average blood cholesterol among patients has improved by five percent.
  
- Greater Cleveland YMCA is conducting REACH-funded health/fitness body age screenings at six Cleveland recreation centers followed lifestyle change coaching. The average pre-screening BMI of adult participants was 34. Participants complete seven CDC Health Risk Appraisal modules over the telephone with staff, then schedule an appointment where they undergo a thorough physical screening: height, weight, blood pressure, caliper body fat measures, hand grip strength, sit and reach flexibly, spirometry and finger stick blood work and other data which, together, produce a "Body Age" and "Achievable Body Age." Staff then work to get clients to change one or two lifestyle items, emphasizing increasing physical activity level, and the program offers supplemental classes at the recreation centers. After re-screenings conducted six months after the initial screens, staff found that 82% of clients made some improvement on key health measures like their cholesterol levels and blood pressure;

and 34% made statistically significant improvements. In the youth marathon program, students (average age: 13) had a combined pre-hypertension and hypertension rate of 42% prior to them beginning their 12-week race conditioning program. Post-race and for the second year running, these rates were cut in half (to a combined 21%).

### **Physical Activity & Nutrition:**

- In December 2008, the *American Journal of Preventive Medicine* published a study that evaluated the cost-effectiveness of population-wide strategies to promote physical activity in adults and follow disease incidence over a lifetime. In particular, the study focused on four strategies: community-wide campaigns, individually adapted health behavior change, community social-support interventions, and the creation of or enhanced access to physical activity information and opportunities. The study found that all of the evaluated physical activity interventions appeared to reduce disease incidence, to be cost-effective and— compared with other well-accepted preventive strategies—to offer good value for money.
- The Steps Program in Pinellas County, Florida, implemented a program in schools to increase fruit and vegetable consumption, and a local vegetable distributor set up farmers' markets on school grounds. More than 3,700 students and staff increased their fruit and vegetable intake, and 84 percent of schools and 90 percent of their students and staff are participating in the farmers' markets. In 2007, the school district was rated first in the nation among large school districts on the Physicians Committee for Responsible Medicine's School Lunch Report Card.
- The YMCA of Santa Clara Valley and the Steps Program worked together on a number of activities including: a school lunch walking campaign at six schools; family nights offering physical activities and healthy recipes at six schools; a YMCA Healthy Kids Day in which local resources and health providers introduced families to wellness concepts; a YMCA 5K; and a reduced rate YMCA family membership. The program also helped sustain efforts made under a Carole M. White PEP grant to the district, as 81 percent of students who could not pass a fitness gram in the fall passed in the spring. Fifty-one percent of families surveyed said they increased family physical activity, and 425 families reported they were practicing healthier eating.
- Healthy Eating, Active Communities (HEAC) was created by the California Endowment to reduce disparities in obesity and diabetes by improving food and physical fitness environments for school-age children in California. HEAC seeks to bring healthy changes to schools, afterschool programs, the health care sector, local neighborhoods, and marketing and advertising practices. All school districts in HEAC areas improved their physical education curricula, and as a result, students report more activity throughout the day. Survey data also show that students are consuming fewer servings of chips, candy, and soft drinks during the school day, and they aren't eating more of these unhealthy products at home. Generally, there's about a ~7% increase in self-reported activity and a ~4% reduction in unhealthy food consumption.

- In 2006, a small group of local mothers from California—many of them Spanish-speaking farm workers—formed a local walking group (Greenfield Walking Group (Bakersfield, CCROPP)) to improve their fitness levels and connect with friends and neighbors. They met at a nearby park—Stiern Park—which was poorly lit and littered with used hypodermic needles and broken bottles. The paths at Stiern Park were so cracked and run down that they were impossible to navigate with a baby stroller, effectively rendering them unusable for new mothers. The Walking Group organized, inviting police, parks officials, and other community leaders to walk the park with them, so they could see and understand the extent of the problem. Ultimately, the local Chamber of Commerce agreed to support park improvements and more than 100 volunteers installed a new walking path in a single day. The Greenfield Walking Group is now a community institution. Several members have experienced significant weight loss (up to 80 pounds) and report significant improvements in their personal health and quality of life. (funded by CDC)
- South Los Angeles is a classic “food desert,” where fast food outlets and junk food filled convenience stores dominate the local retail environment, and full service supermarkets and farmers markets are rare. Six local high students decided to do something about it—one store at a time, (South Los Angeles Corner-Store Conversions (South LA, HEAC)). Starting with the stores nearest to their schools, the students persuaded local market owners to make over their stores, showcasing healthy snacks like oranges and bananas and pushing chips and soda to the back. The students documented their success in a series of short videos, collectively titled, *Where Do I Get My Five?* The students grew into local advocates and were instrumental in helping to pass a local fast food moratorium through the Los Angeles City Council, which imposed a temporary ban on new fast food restaurants in the area.
- Community Health Councils’ African Americans Building a Legacy of Health coalition in Los Angeles has improved food and physical activity options in South Los Angeles. The Los Angeles City Council adopted an ordinance to limit the proliferation of fast food restaurants and policy to provide incentives to healthy food retailers to encourage them to locate in disadvantaged areas opening the way for two new stores. The Los Angeles County Board of Supervisors adopted a policy to improve the quality of food offered in county-sponsored programs. The Coalition also worked to preserve a local community fitness center slated for closure and transferred program management to the Los Angeles YMCA in addition to providing seed funding to more than 43 community-based fitness programs. More than 2,270 individuals participated in the activities offered through the coalition’s mini-grant program. During a two year period, 540 participants completed self-reported surveys. 70% (n=377) of participants reported either the same or an increase in consumption of fruits/vegetables eaten from the previous day; 60% (n=326) of participants reported either the same or an increase in number of days in a week engaged in physical activity; 69% (n=372) of participants reported either the same or decrease in their BMI.
- LiveWell Colorado is a statewide initiative, funded by the CDC, aimed at reducing overweight and obesity rates and related chronic diseases in Colorado. LiveWell

Colorado works with community initiatives, such as LiveWell Colorado Commerce City, to promote equal opportunities for healthy eating and active living through policies, programs and environmental changes. Around 450 youth and adults (2% of the Commerce City population) are involved in relatively intensive cooking classes and other educational programs that might be expected to produce measurable behavior change. Another 1200 people (4% of the population) have come to one-time events such as walkability assessments or been contacted by LWCC outreach specialists. One third (34%) of the 330 respondents from Commerce City reported eating five or more servings of fruits and vegetables each day, and 38% were meeting the recommended levels of physical activity.

- “Eat Better, Feel Better” (EBFB) is a comprehensive nutrition education and physical activity pilot program that integrates nutrition educators into the life of a Seattle public school to improve nutrition and physical activity curricula, family activities and school environments. As a result: Principals reported that students ate more fresh fruits and vegetables and were willing to try new foods; they also reported that there was an increase in the variety of physical activities available for students; parents reported changes in their own eating behaviors as a result of EBFB information and increased interest in their students in eating healthier; parents/guardians reported that their children wanted to eat more fruits and vegetables; half of the parents interviewed said their child had asked them to buy more fruits and vegetables, including new items that had been introduced at schools; the proportion of students who reported higher levels of physical activity increased significantly in the EBFB intervention schools and did not increase significantly in the control schools.
- The Steps Program in Broome County, New York, reached families in rural areas by implementing a walking program that enrolled more than 50,000 people. The percentage of adults walking for more than 30 minutes on five or more days each week increased from 47 percent to nearly 54 percent in one year. The Program also worked with fifteen school districts that together were able to buy healthy foods at lower costs. As a result, fresh fruit and vegetable consumption increased 14 percent in participating schools.
- The New York State Department of Health and four New York counties (Broome, Chautauqua, Jefferson, Rockland) have Centers for Disease Control and Prevention funding to implement Steps to a HealthierNY. Highlights from the results of using an integrated Steps approach in four communities in New York State are: eleven schools added healthy food items to their menus and removed high fat and high sugar items; restaurants now highlight healthier menu items (115 so far); corner stores are stocking a wider variety of healthy foods (26 so far); over 46,000 residents engaged in community-wide physical activity programs; health care providers received needed training in diabetes care, tobacco cessation, and weight management (over 1,500 so far); the CDC School Health Index, a tool that helps school identify ways to improve their school environment for better health, has been completed in 64 schools; and school Health Advisory Committees are established in 100 schools enabling long-term attention to school health improvements.

- The Rochester Area Family YMCA and the Steps Program developed and implemented a program called “Fit WIC, the Y’s Way.” A Women, Infants, and Children (WIC) fitness class teaches best practices to parents while children play in a Y class. Families receive activity ideas, balls, bean bags and resource guides. An evaluation of the program showed that parents indicated an increase in their own moderate and vigorous physical activity by about 10 percent over a six-month period. Children and adults reported that they exercised more often and for longer periods of time at post test.
- The REACH Promotora Community Coalition developed a community action plan in Texas that use promotores (promoters) with the same socioeconomic background, language, and culture as the community they serve to promote healthy behaviors. As a result, moderate walking increased by 25% among community residents. Before the intervention, baseline data showed that 24.5% of patients with diabetes drank whole milk. Afterward, patients reported a 14% decrease in their consumption of whole milk.
- The Briggs Community YMCA in Washington worked with the Steps Program to implement a program called “Steps that Count.” Twenty-three worksite teams from city, county and state agencies, in addition to businesses, schools and churches were created in order to increase physical activity. Informational packets, self-tracking forms and pedometers were distributed. Overall, employees logged over 21 million steps in the three-month program, and the program continued to grow.
- In January 2008, Preventing Chronic Disease released a study that investigated the relationship between use of an insurance plan-sponsored health club program for older adults (Silver Sneakers) and health care costs over a two-year period . The study found that, by year 2, compared with controls, Silver Sneakers participants had significantly fewer inpatient admissions and lower total health care costs. Furthermore, Silver Sneakers participants who averaged at least two health club visits per week over 2 years incurred at least \$1252 less in health care costs in year 2 than did those who visited on average less than once per week.
- Steps to Health King County was one of 40 community-level initiatives funded in 2003 as part of the Steps to a HealthierUS initiative. Some highlights include:
  - Healthy Sundays - Diabetes and cardiovascular screening education in churches. 83% of participants met their nutritional and physical activity action plan goals at 6 months.
  - Strong Kids Strong Teens – Community-based physical activity and nutrition program for overweight and at risk of overweight youth. Resulted in an 11% increase in families with < 3 hours computer/TV time per day and a 35% increase in the number of days/week with vigorous exercise.
  - Fuel and Play the Healthy Way -Training for child care providers to increase healthy eating and physical activity in child care settings. 82% had made at least one change in the food they serve (4-months after the training). 76% had made at least one change in their physical activities (4-6 months after the

training).

- In 2000, *The Physician and Sportsmedicine* published a study that investigated the relationship between annual medical expenditures and physical inactivity among adults. The research showed that active adults spent \$330 (using 1987 dollars) less than their inactive counterparts. The study concluded that increasing participation in regular moderate physical activity among the more than 88 million inactive Americans over the age of 15 might reduce annual national medical costs by as much as \$29.2 billion in 1987 dollars—\$76.6 billion in 2000 dollars.
- Researchers at Ohio State University recruited 60 women in their forties for a 12-week walking program that took place on the college's campus. At 3 months, the intervention group saw a 1 percent decrease in body mass index (BMI), a 3.4 percent decrease in hypertension, a 3 percent decrease in cholesterol, and a 5.5 percent decrease in glucose. (Haines DJ, Davis L, Rancour P, Robinson M, Neel-Wilson T, Wagner S. 2007. A pilot intervention to promote walking and wellness and to improve the health of college faculty and staff. *J Am Col Health* 55(4):219-25.)
- Funded by the Centers for Disease Control and Prevention, Shape Up Somerville: Eat Smart. Play Hard. was a 3-year (2002-2005), environmental change intervention designed to prevent obesity in culturally diverse, high-risk, early-elementary school children. The Shape Up team developed and implemented strategies designed to create energy balance for 1st-3rd graders in Somerville. In before-, during-, and after-school environments, interventions were focused on increasing the number of physical activity options available to children throughout the day and on improving dietary choices. The program included improved nutrition in schools, a school health curriculum, an after-school curriculum, parent and community outreach, collaboration with community restaurants, school nurse education, and a safe routes to school program. After one year, on average the program reduced one pound of weight gain over 8 months for an 8 year old child. On a population level, this reduction in weight gain would translate into large numbers of children moving out of the overweight category and reducing their risk for chronic disease later in life. (Economos CD, Hyatt RR, Goldberg JP, Must A, Naumova EN, Collins JJ, Nelson ME. 2007. A Community Intervention Reduces BMI z-Score in Children: Shape Up Somerville First Year Results. *Obesity* 15(5): 1325-1336.)
- In 2004, the Food Trust in Philadelphia, PA, in partnership with The Reinvestment Fund and the Greater Philadelphia Urban Affairs Coalition, identified a strong need for government investment to finance supermarkets, grocery stores, and other healthy food retailers in underserved communities. This led to the first statewide fresh food financing initiative. The Pennsylvania Legislature allocated \$10 million in its annual appropriations in 2004, with additional funds allocated in 2005 and 2006, to establish a grant and loan program to encourage supermarket development in underserved areas. The Reinvestment Fund leveraged the investment to create a \$120 million initiative composed of state dollars, federal tax credit dollars, and private investments. To date, the initiative has provided \$63.3 million in grants and loans for healthy retail projects,

resulting in the creation of and improvements to 68 stores that offer fresh foods. These projects have generating 3,734 jobs and 1.44 million square feet of floor space.<sup>2</sup> It is now seen as a model and is being replicated in other US communities.<sup>3</sup>

- Public Health – Seattle & King County is partnering with community service providers and the Seattle Housing Authority to increase walking at a multi-cultural public housing site. Interventions include walking groups, improving walking routes, providing information about walking options, and enhancing pedestrian safety through advocacy that resulted in restrictions on street parking to improve car and pedestrian visibility, improved traffic signals, relocation of a school bus stop to a safer location, installation of radar speed monitors on a busy arterial street, and safety enhancements at a busy intersection where traffic-related injuries had occurred. Walking has increased among walking group participants from 65 to 108 minutes per day. The proportion reporting being at least moderately active for at least 150 minutes per week has increased from 62% to 81%.
- The Illinois Department of Health (IDPH) trained teams to use the evidence-based Coordinated Approach to Child Health (CATCH) Program to improve student eating and physical activity behaviors. Participating schools received a \$5,000 grant from IDPH to implement the curriculum, purchase necessary equipment and promote activities and program philosophy. Each school completes the School Health Index, a Centers for Disease Control and Prevention tool that helps schools identify strengths and weaknesses in existing health programs and develop action plans and wellness policies for improving students' health. Follow-up evaluation shows that students in CATCH physical education classes are more active during class time. Moderate to vigorous physical activity during class increased by 32 percent and the time students were *very active* during class more than doubled.
- The Alaska Department of Health & Social Services awarded a grant using Preventive Health and Health Services Block Grant funds to the Central Peninsula General Hospital (CPGH) to implement a free walking program. Patients from the cardiac rehabilitation, diabetes education, and other hospital programs were invited to participate. Each participant promised to work toward walking 10,000 steps per day; keep a daily step record; submit step, weight and blood pressure reports; and attend quarterly program events and screenings. Participants were given step counters and instructions for use. Program participants walked 304,336,058 steps, equivalent to 152,168 miles, by the end of the first year; half of the participants completed the 10,000 Steps program; nearly two-thirds of participants who reported results lost weight, contributing to a group loss of 766 pounds; and sixty-two percent of participants reporting said they are now exercising for at least 30 minutes on three or more days each week.

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<sup>2</sup> Pennsylvania Fresh Food Financing Initiative. Providing Healthy Food Choices to Pennsylvania's Communities. Available at: [www.thefoodtrust.org/pdf/2009FFFI.pdf](http://www.thefoodtrust.org/pdf/2009FFFI.pdf). Accessed May 1, 2009.

<sup>3</sup> Cohen L, Iton A, Davis R, Rodriguez S. Prevention Institute. *A Time of Opportunity: Local Solutions to Reduce Inequities in Health and Safety*. May 2009.

- The New Hampshire Department of Health and Human Services developed *KidPower!*, a program to increase physical activity for children and their families. The program has several components:
  - *KidPower! Newsletter*: Provides children and families seasonal ideas for being more physically active, reducing sedentary time, and simple healthy recipes.
  - *KidPower! Pedometer Program*: Students receive a pedometer to record their daily steps, and other physical activity, in a logbook that includes messages about safety, healthy eating, and ideas for increasing physical activity.
  - *KidPower! Seasonal Activity Trackers*: Designed for preschool through grade 3 students, trackers remind families that their children need to stay active each season, to reduce TV time and the importance of daily physical activity.
  - *KidPower! Walk and Wheel Safely*: Children are encouraged to walk or bike to and from school in groups accompanied by adults. Students living too far from school to walk or bike, or in neighborhoods without safe routes, walk at school before or after classes or during recess.

Students increased their physical activity an average of 25 percent over the weeks that they used pedometers, according to two years of evaluation.

- The New Mexico Diabetes Prevention and Control Program developed “Kitchen Creations Cooking School,” a four-class series designed to improve meal planning and food preparation skills of New Mexicans with diabetes. Participants learn simple meal planning strategies and food preparation techniques, as well as tips for reading food labels. Hands-on activities and food samplings incorporate many local recipes. During the past four years, the proportion of participants using the Diabetes Food Guide Pyramid for meal planning has increased by 183%; there has been a 92% increase in participants eating whole grains or beans; a 142% increase in those selecting two or more non-starch vegetables at meals; and the practice of reading food labels has increased by 98%.
- The Broome County the Steps to a HealthierNY program worked with the Office for Aging, to field test the Mission Meltaway program in senior centers and expand it to other community sites. Mission Meltaway is a free, eight-week healthy lifestyle program that uses a group approach to weight loss and maintenance and builds on the concepts of the National Diabetes Education Program called “Small Steps, Big Rewards.” As a result of the Mission Meltaway program, over 1,100 participants lost an average of more than 5 pounds; average waist measurement was reduced, indicating improved weight status; and body mass index, an indicator of body fatness, was lowered and some participants reduced their disease risk related to weight.
- The Physical Activity and Nutrition Branch of the North Carolina Department of Health and local partners created the Eat Smart, Move More - Maintain, Don’t Gain Holiday Challenge to help residents stem the weight gain that often occurs over the holidays. Local health departments and other partners implement the campaign each year in worksites and community sites with the help of local businesses and organizations. This free, six-week challenge provides weekly emailed newsletters containing tips for managing holiday stress, ideas for fitting in physical activity during

the busy season, and resources for cooking quick and easy meals when time is short. A calorie counter, food log and activity log are also available to help people track their progress and radio commercials promote the challenge. As a result, eighty-four percent of participants reported maintaining their weight. Of those who did not maintain their weight, many actually *lost* excess weight.

- Penn State Cooperative Extension and the Pennsylvania Department of Health have collaborated for several years to implement the *StrongWomen* Program which applies the research on the benefits of strength training for older women to a community-based program using a supportive approach to help middle-aged and older women make lifestyle changes in exercise and eating habits. Sixty percent of participating women increased their fitness ability as measured by a fitness test, a benefit to their bones and cost-effective for prevention of other chronic diseases as noted in a recent study of community-based physical activity programs. A majority of women completing the program report improved eating habits and increased selection of healthy, bone-building foods and many also reported better health and feeling physically stronger.
- The Urban League of Greater Chattanooga Tennessee implemented a pilot adaptation of an evaluated National Institutes of Health healthy weight program called *Sisters Together: Move More, Eat Better* which is designed to appeal to African American women, a population group with a high rate of obesity. The main objective was to implement a sustainable program so that many more African American women would be able to reach fitness and nutrition goals following the pilot implementation. Funding was provided by the Blue Cross Blue Shield of Tennessee Health Foundation, Unum, a Tennessee-based insurance company, the Lyndhurst Foundation, and the Tennessee Department of Health. All participants reported improved eating habits and increased weekly physical activity, and almost a third of the participants lowered their body mass index.
- The Virginia Diabetes Prevention and Control Program implemented Dining with Diabetes, a tested program offering nutrition education and practical hands-on meal planning experience to adults with diabetes, through a contract with Virginia Cooperative Extension. Over half of the participants achieved a lower A1C level which means their blood sugar was better-controlled. For every percentage point drop in this test measure the risk of eye, kidney and nerve disease is reduced by forty percent. Over ten percent of participants reduced their blood pressure to an acceptable level.

### **Tobacco Use Prevention & Cessation:**

- The Steps Program of the Cherokee Nation in Oklahoma helped schools reduce tobacco use by implementing the School Health Index (SHI) and creating a healthier school environment for American Indian youth. In 2004, the Program provided SHI training to 65 school administrators, teachers, staff, and partner organizations. As a result, nine schools developed and implemented 24/7 tobacco-free environment policies. All 19

schools with a predominantly American Indian student enrollment made other changes in the school, including developing wellness policies, offering healthier food choices in cafeterias and vending machines, and providing better lighting and access to exercise facilities after school.

- The Steps program in Chautauqua County, New York, worked with a local hospital to change its policy on asking patients about tobacco use and implementing a two-minute tobacco cessation intervention. Total calls to the New York State Smokers' Quitline from health care provider referrals increased four-fold during 2005-2006, and county data show a decrease in smoking rates in Chautauqua County, from nearly 29 percent in 2004 to less than 24 percent in 2006.
- California launched its new Tobacco Control Program in 1989. California's comprehensive approach has reduced adult smoking significantly. Adult smoking declined by 35 percent from 1988 to 2007, from 22.7 percent to 13.8 percent. If every state had California's current smoking rate, there would be almost 14 million fewer smokers in the United States. Between Fiscal Year 1989-90 and Fiscal Year 2006-07, per capita cigarette consumption in California declined by 61 percent, compared to just 41 percent for the country as a whole, during this same time period. Between 1988 and 2004, lung and bronchus cancer rates in California declined at 3.8 times the rate of decline as the rest of the U.S. Researchers have associated these declines with California's program. (California Tobacco Control Update, 2009. California Department of Public Health, California Tobacco Control Program)
- In 1997, Maine established a comprehensive tobacco prevention program known as the Partnership for a Tobacco-Free Maine. Prior to launching this effort, Maine had one of the highest youth smoking rates in the country. Now, it has one of the lowest. Smoking among Maine's high school students declined a dramatic 64 percent between 1997 and 2007, falling from 39.2 percent to 14 percent. (Nationally, smoking among high school students declined by 45 percent over this same time period). The Maine Department of Health (DOH) has calculated that, as a result of these declines, there are now more than 26,000 fewer youth smokers in Maine and more than 14,000 youth will be saved from premature, smoking-caused deaths. Based on estimates that smokers, on average, have \$16,000 more in lifetime health care costs than non-smokers, the DOH calculated that these declines will save Maine more than \$416 million in long-term health care costs.
- New York began implementing a comprehensive state tobacco control program in 2000. Between 2000 and 2006, smoking among middle school students declined by 61 percent, (from 10.5 percent to 4.1 percent), and smoking among high school students declined by 40 percent, (from 27.1 percent to 16.3 percent). Nationally, over this same time period, smoking among middle school students declined by 43 percent and smoking among high school students declined by 30 percent. (California Tobacco Control Update, 2009. California Department of Public Health, California Tobacco Control Program)

- The Washington State Tobacco Prevention and Control program was implemented in 1999. Since the program began, adult smoking has declined by 30 percent, from 22.4 percent in 1999 to 16.5 percent in 2007, one of the lowest smoking rates in the country. Washington's dramatic decline in adult smoking translates to more than 240,000 fewer smokers in the state, saving about \$2.1 billion in future health care costs.
- Rates of tobacco use, both cigarettes and spit, have historically been higher in Alaska than in the rest of the nation. To address this health problem, the Alaska Department of Health and Social Services has implemented a comprehensive tobacco control program based upon CDC's *Best Practices for Comprehensive Tobacco Control Programs—2007*. Program components include counter marketing, community-based programs, youth and school programs, eliminating exposure to secondhand smoke, eliminating health disparities, cessation, a free quit line, and evaluation. Thousands of Alaskans have called the quit line since it was established in 2002, and a 2007 study documented a 40% quit rate. Alaska has seen progress as a result of its efforts. Data from the 2008 Alaska Behavioral Risk Factor Surveillance System showed a significant reduction in tobacco use. The percentage of adult smokers in Alaska has declined by one-fifth since 1996 to 21.5% in 2007. This figure represents more than 27,000 fewer smokers and is expected to result in almost 8,000 fewer tobacco-related deaths and \$300 million in averted medical costs. (CDC. *Tobacco: Targeting the Nation's Leading Killer, At a Glance 2009*.)
- A worksite intervention program targeting approximately 800 high-risk employees who smoked provided the individuals with worksite health promotion, cardiovascular risk factor screenings, and individualized counseling. At 3.7 years, the intervention group realized a 12.6% decrease in the amount smoked, a 3.3% decrease in diastolic blood pressure, and a 7.8% decrease in cholesterol, decreasing the individuals' risks for developing cardiovascular disease. (Prior JO, van Melle G, Crisinel A, Burnand B, Cornuz J, Darioli R. 2005. Evaluation of a multicomponent worksite health promotion program for cardiovascular risk factors-correcting for the regression towards the mean effect. *Prev Med* 40(3):259-67.)
- In 2006, the Jefferson County (AL) Department of Health began a program to encourage all food establishments to go smoke free. The program was first attempted by the reward system. JCDH gave a plaque and door sticker for all establishments that voluntarily banned smoking through out the establishment. After a period of time had passed the Board of Health authorized our food inspectors to deduct 4 points from their food inspection score for allowing smoking in any part of the facility and each smoking facility had to post a public health warning sticker on the facility door that management allows smoking in the facility. When the program began 65.4% of food establishments were smoke free. After the voluntary phase the number rose to 70% and after the penalty phase the number rose to 93.9%. Today the percentage of non-smoking food establishments is approximately 97%.

- The Michigan Cancer Consortium (MCC), a statewide partnership of public and private organizations, including the Michigan Department of Health, made reduced youth smoking a priority seven years ago. Partners in the Consortium contributed their time, experience and expertise to change policies at local and state levels to: reduce sales of cigarettes to minors; increase smoke-free regulations and ordinances in schools and childcare centers; limit tobacco billboard advertising. At the start of this program, 35% of Michigan youth smoked. The Michigan youth smoking rate has *dropped to 23%* since reduced youth smoking became a priority of the Consortium. Because of its success, MCC has set a new goal to lower the youth smoking rate to 16% by 2010.
- The Utah Tobacco Prevention and Control Program then worked with the Department of Workforce Services to enable Health Program Representatives to identify pregnant women smokers from Medicaid eligibility encounter information. Once identified, the representatives contact pregnant smokers and offer appropriate tobacco cessation services they are eligible for, such as nicotine replacement or other medications and cessation counseling through contracted agencies in addition to standard Utah Tobacco Quit Line services. Of those pregnant women participating in this program over 16% quit and more than a third reduced their use of tobacco.

### **Infectious Disease Prevention:**

- The Immunize LA Kids Coalition, which was funded by the CDC during the REACH 2010 initiative, in California implemented a community action plan with culturally appropriate interventions that seek to overcome barriers to immunization by working to improve practices in health care provider settings. They also strove to provide reminders for parents about immunizations. By April 2006, 82% of WIC clients in the service area were up to date with recommended immunizations at age 2.
- The Coalition to Reduce HIV (funded by CDC) designed an intervention to reduce the transmission of HIV in young adults in the African American, Caribbean, and Hispanic communities in the 12 Florida ZIP codes with the highest numbers of HIV cases. Strategies of the coalition included outreach to residents, businesses, and community leaders; efforts to educate individuals and mobilize communities; and efforts to build capacity for community groups and enhance the public health infrastructure. As a result, the percentage of self-reported sex without condoms declined from 26.3% in 2001 to 21.5% in 2005 among the project's target population. Among the Caribbean population, self-reported condom use at least once in the past year increased steadily from 51.8% in 2001 to 65.8% in 2005.
- The North Manhattan Start Right Coalition (funded by CDC through the REACH initiative) works to promote immunization through existing community programs that serve the needs of parents of young children. The program developed a five-part training program for community health workers. Between 2002-2006, the program increased the immunization rate to 76% for children of all ages enrolled in the program, with 86.5% of children up to date by age 3.

- The Healthy Living Project aimed to reduce the risk of transmission among people living with HIV through behavioral intervention. More than 450 individuals each participated in a 15-session, individually delivered, cognitive behavioral intervention that included modules on stress, coping, and adjustment; safer behaviors; and health behaviors. The participants and the members of a control group completed follow-up assessments at 5, 10, 15, 20, and 25 months after randomization. Overall, a significance difference in mean transmission risk acts was shown between the intervention and control arms over 5 to 25 months. The greatest reduction occurred at the 20-month follow-up, with a 36% reduction in the intervention group compared with the control group. (Healthy Living Project Team. 2007. Effects of a Behavioral Intervention to Reduce Risk of Transmission Among People Living With HIV: The Healthy Living Project Randomized Controlled Study. *J Acquir Immune Defic Syndr* 44(2):213-221.)
- The Cowlitz County Health Department Immunization Program coordinator initiated extensive collaborative relationships with providers in order to provide technical support, data, and education on the topic of recommended practices for vaccine programs for children. This local health department effort to improve immunization practices achieved: an increase of over sixty percent in the overall vaccination rate for kindergarten students in Castle Rock Schools and 100% provider compliance with best practices for storage, handling, and administration of vaccines.

### **Oral Health:**

- CDC funded Colorado's Oral Health Unit to develop a state plan, convene a statewide coalition, and develop community prevention efforts. State officials also are working to provide sealants to all Colorado children at greatest risk for tooth decay. In 2009, the Oral Health Unit will expand its *Be Smart & Seal Them!* program to include all urban schools with a student population of 50% or more who qualify for the federal free or reduced lunch program and rural school districts that serve families with a median income at or below 235% of the federal poverty level. During the 2007–2008 school year, more than 1,200 schoolchildren in Denver were screened for dental problems, and 971 received sealants. Children in rural areas received preventive services, such as sealants and fluoride varnish, as well as other dental treatments. Many of these children had never seen a dental provider before. (CDC. Oral Health: Preventing Cavities, Gum Disease, and Tooth Loss.)
- Established under a Healthy Tomorrows Partnership for Children program grant (from the American Academy of Pediatrics and the federal Health Resources and Services Administration), the San Diego County Children's Dental Health Initiative began with a community needs assessment which highlighted the high numbers of uninsured children and the significance of dental care needs. A collaboration of public and private organizations, the initiative was the first *Healthy Tomorrows* dental grant and facilitated the incorporation of oral health into various medical programs. Delivering emergency dental care through a network of over 300 volunteer dental providers, the

program provided dental health services to 1900 children and sealant treatments to an additional 2200. Today, the program continues to impact 10,000 youth per year via outreach activities alone.

- Arkansas has made significant progress in advancing community water fluoridation with a cooperative agreement from CDC. In 1999, prior to receiving CDC support, Arkansas had a one-person state oral health program, and only 49% of the state's population was receiving the benefits of water fluoridation. With the help of the CDC funding, Arkansas now monitors its fluoridation systems monthly using the Water Fluoridation Reporting System (WFRS) and has improved coordination within state government. Training is being provided to water plant operators, and a state-wide community educational campaign on water fluoridation has been launched. Called "Got teeth? Get fluoride!" the campaign was developed to encourage additional communities to consider implementing water fluoridation. Through these efforts, 62% of the Arkansas population on community water systems now receives the benefits of community water fluoridation. Arkansas, through the CDC funding, also is strengthening its capacity to monitor oral diseases, develop and implement a state oral health plan, and develop additional collaborative partnerships through an oral health coalition.

### **Injury Prevention:**

- CDC "Core" PHISPP injury and violence prevention funding is critical for sustaining services of the Division of Injury and Violence Prevention (DIVP) in the South Carolina Department of Health and Environmental Control (SCDHEC). Those services include fatal and non-fatal injury surveillance, violent death reporting, child death review, strategic planning, and education and prevention activities. The core funding also provides a stable base from which the Division can work to acquire supplemental funding for valuable and successful injury and violence prevention programs. An important SCDHEC DIVP prevention program is the SC Residential Fire Injury Prevention Program, funded by CDC's Smoke Alarm Installation and Fire Safety Education (SAIFE) program. In 2008, four fires were reported in homes that participated in the SC Department of Health and Environmental Control's Residential Fire Injury Prevention Program and eleven lives, eight months to 89 years of age, were saved in those events. In each home, a smoke alarm provided through the SC Residential Fire Injury Prevention Program alerted residents of fire and everyone escaped without injury. Also, local fire departments were quickly notified and minimal damage to the homes was reported.
- The [Seattle-King County] Nurse Family Partnership is an evidence-based nurse home visitation program that has been shown to positively impact the lives of first time, low income mothers and their children. In randomized control trials, NFP mothers were more likely to have improved prenatal health, fewer subsequent pregnancies and greater intervals between births. NFP mothers had increased maternal employment and children born to mothers served by NFP had fewer childhood injuries and improved

school readiness. NFP visits begin as early in pregnancy as possible and continue until the child reaches two years of age. Services are delivered by BSN prepared Public Health Nurses. Cost benefit analyses of NFP services show that the program saves \$5.70 for every dollar invested. In a recent study looking at savings to the criminal justice system, NFP was shown to save \$27,105 per family in crime reduction alone.

- More than 1,500 children die each year from abuse and neglect in the United States, and it is reported that approximately 1 in 7 children between the ages of 2 and 17 in the United States are victims of maltreatment. Extreme stress caused by child maltreatment is known to harm the development of the nervous and immune systems, leaving children vulnerable to chronic diseases later in life. Home visitation programs have been demonstrated to be effective in reducing child maltreatment among high risk families by up to 40%. The Nurse-Family Partnership, an evidence-based home visitation program, has been found to reduce abuse and injury, improve cognitive and socio-emotional outcomes in children, and can provide a return on investment of \$2.88 to \$5.70 per dollar spent. Long term investment in programs such as the Nurse-Family Partnership will reduce injury risks to children in the short term, increasing wellness over the child's lifetime.
- Unintentional injuries, such as those caused by burns, drowning, falls, poisoning and road traffic, are the leading cause of morbidity and mortality among children in the United States. Motor vehicle crashes are the leading cause of death for children ages 2 to 14; every day in the United States during 2006, an average of 5 children age 14 and younger were killed and 568 were injured in motor vehicle crashes. Both child safety seats and booster seats are effective at protecting children from injuries and death due to motor vehicle crashes; child safety seats yield an estimated cost savings of \$1,900 for an average cost of only \$46, and a \$31 child booster seat generates \$2,200 in benefits to society. Injury prevention counseling by pediatricians, which encourages improved parental injury prevention behavior and vigilance, costs an average of \$10 per child ages 0-4 while generating \$86 in benefits to society.
- In the Streetlights at Bars intervention, the Eastern Arizona District of the Indian Health Service's Office of Environmental Health and the White Mountain Apache Tribe (population 10,000) installed 28 streetlights along a 1.1-mile section of highway to reduce pedestrian injuries, primarily to intoxicated victims, in Whiteriver, Arizona. The project also involved the State Transportation Department and the local electric utility. The project resulted in a benefit-cost ratio of 8.5 (total benefits of \$3,400 for every \$400 spent on lights).

### **Mental Health, Substance Use and Suicide:**

- Suicide is the second leading cause of death among American Indians 15 to 24 years old, according to Centers for Disease Control and Prevention data. American Indian Life Skills Development (the currently available version of the former Zuni Life Skills Development program) is a school-based suicide prevention curriculum designed to address this problem by reducing suicide risk and improving protective factors among

American Indian adolescents 14 to 19 years old. The curriculum includes anywhere from 28 to 56 lesson plans covering topics such as building self-esteem, identifying emotions and stress, increasing communication and problem-solving skills, recognizing and eliminating self-destructive behavior, learning about suicide, role-playing around suicide prevention, and setting personal and community goals. Students receiving the Zuni Life Skills Development curriculum had less feelings of hopelessness compared with the no-intervention control group ( $p < .05$ ) and demonstrated a higher level of suicide intervention skills compared with the no-intervention control group ( $p < .004$ ). The Zuni Life Skills Development curriculum was developed with cultural components relevant to the people of the Zuni Pueblo in New Mexico and was tested and evaluated with that population. The American Indian Life Skills Development curriculum, an adaptation of the Zuni version, has been implemented with a number of other tribes.

- PROSPECT (Prevention of Suicide in Primary Care Elderly: Collaborative Trial) aims to prevent suicide among older primary care patients by reducing suicidal ideation and depression. The intervention components are: (1) recognition of depression and suicide ideation by primary care physicians, (2) application of a treatment algorithm for geriatric depression in the primary care setting, and (3) treatment management by health specialists (e.g., nurses, social workers, and psychologists). The treatment algorithm assists primary care physicians in making appropriate care choices during the acute, continuation, and maintenance phases of treatment based on depression treatment guidelines for older patients from the American Psychiatric Association, the Agency for Healthcare Research and Quality, and the Texas Department of Mental Health. In a randomized controlled trial comparing PROSPECT with treatment as usual, patients with major depression in PROSPECT experienced greater decreases in depression between baseline and 12 months ( $p < .001$ ). PROSPECT patients also were more likely to experience remission and to have earlier remission. With remission defined as an HDRS score of less than 10, 40% of the PROSPECT patients with major depression had a cumulative probability of remission at 4 months, compared with 23% of patients receiving usual treatment. Unadjusted rates of suicidal ideation decreased 12.9% among patients receiving PROSPECT (from 29.4% to 16.5%), compared with a 3.0% decrease (from 20.1% to 17.1%) among patients receiving treatment as usual ( $p = .01$ ).
- SOS Signs of Suicide is a 2-day secondary school-based intervention that includes screening and education. Students are screened for depression and suicide risk and referred for professional help as indicated. Students also view a video that teaches them to recognize signs of depression and suicide in others. They are taught that the appropriate response to these signs is to acknowledge them, let the person know you care, and tell a responsible adult (either with the person or on that person's behalf). Students also participate in guided classroom discussions about suicide and depression. The intervention attempts to prevent suicide attempts, increase knowledge about suicide and depression, develop desirable attitudes toward suicide and depression, and increase help-seeking behavior. In randomized controlled trials involving more than 6,000 students in five high schools, SOS Signs of Suicide participants were 40% less

likely than comparable students who did not participate in the intervention to report attempting suicide in the past 3 months.

- The United States Air Force Suicide Prevention Program (AFSPP) is a population-oriented approach to reducing the risk of suicide. The Air Force has implemented 11 initiatives aimed at strengthening social support, promoting development of social skills, and changing policies and norms to encourage effective help-seeking behaviors. AFSPP's 11 initiatives include: Leadership Involvement; Suicide Prevention in Professional Military Education; Guidelines for Use of Mental Health Services; Community Preventive Services; Community Education and Training; Investigative Interview Policy; Critical Incident Stress Management; Integrated Delivery System (IDS); Limited Privilege Suicide Prevention Program; Behavioral Health Survey; Suicide Event Surveillance System. Personnel exposed to the program experienced a 33% reduction of risk of committing suicide compared with personnel prior to implementation ( $p < .001$ ). Compared with Air Force personnel during the 1990-1996 time period, personnel exposed to the program in 1997-2002 also experienced: a 54% reduction of risk for severe family violence ( $p < .0001$ ); a 51% reduction of risk for homicide ( $p = .05$ ); a 30% reduction of risk for moderate family violence ( $p < .0001$ ); and an 18% reduction of risk for accidental death ( $p = .05$ ).
- Challenging College Alcohol Abuse (CCAA) is a social norms and environmental management program aimed at reducing high-risk drinking and related negative consequences among college students (18 to 24 years old). The intervention was developed at the University of Arizona based on work previously done at Northern Illinois University. CCAA uses a campus-based media campaign and other strategies to address misperceptions about alcohol and make the campus environment less conducive to drinking. Over 3 years of implementing CCAA at the university (1995 to 1998), the percentage of surveyed freshmen who reported having five or more drinks per occasion at least once in the last 2 weeks decreased from 43% to 31% ( $p < .01$ ), and the percentage of surveyed freshmen who reported using alcohol three or more times per week in the past year decreased from 22% to 17% ( $p < .05$ ).
- Forever Free is a drug treatment program for women who abuse drugs and are incarcerated at the California Institution for Women, a female-only State prison in Riverside County, California, since 1991. The intervention aims to reduce drug use and improve behaviors of women during incarceration and while they are on parole. While they are incarcerated, women participate in individual substance abuse counseling, special workshops, educational seminars, 12-step programs, parole planning, and urine testing. After graduation and discharge to parole, women may voluntarily enter community residential treatment. Residential treatment services include individual and group counseling. Some women also participate in family counseling, vocational training/rehabilitation, and recreational or social activities. In a study of outcomes for 180 women 1 year after their release from prison, 8% of Forever Free participants reported drug use in the past 30 days, compared with 32% of the comparison group ( $p = .001$ ). A total of 50.5% of Forever Free participants reported any drug use in the past year, compared with 76.5% of comparison group participants

( $p = .001$ ). In one study, 68.4% of Forever Free graduates who entered residential treatment had not returned to custody 1 year after release on parole; 52.2% of Forever Free graduates who did not enter residential treatment had not returned to custody, while only 27.2% of women in a no-treatment comparison group had not been returned to custody ( $p < .05$ ). In a second study, 49.5% of Forever Free graduates compared with 74.7% of a no-treatment comparison group reported being arrested in the year following release from prison ( $p = .001$ ).

- New York University Caregiver Intervention (NYUCI) is a counseling and support intervention for spouse caregivers that is intended to improve the well-being of caregivers and delay the nursing home placement of patients with Alzheimer's disease. The program also aims to help spouse caregivers mobilize their social support network and help them better adapt to their caregiving role. The program consists of four components: (1) two individual counseling sessions of 1 to 3 hours tailored to each caregiver's specific situation, (2) four family counseling sessions with the primary caregiver and family members selected by that caregiver, (3) encouragement to participate in weekly, locally available support groups after participation in the intervention, and (4) ad hoc counseling, counseling provided by telephone to caregivers and families whenever needed to help them deal with crises and the changing nature of their relative's symptoms. Caregivers who received the intervention reported better physical health than members of the comparison group, who received resource information on request but did not receive individual and family counseling ( $p < .001$ ). The effect was maintained for 2 years. Caregivers also averaged fewer depressive symptoms than members of the comparison group, who received resource information on request but did not receive individual and family counseling ( $p < .05$ ). The effect was maintained for 3 years.
- Penn Resilience Training for College Students is a brief prevention program for freshmen university students at risk for depression. The manual-based program helps participants to acquire the following skills: (1) learn the relationship between thoughts, feelings, and behaviors; (2) identify automatic negative thoughts and underlying beliefs; (3) use evidence to question and dispute automatic negative thoughts and irrational beliefs; (4) replace automatic negative thoughts with more constructive interpretations, beliefs, and behaviors; (5) apply behavioral activation strategies; (6) build interpersonal skills; (7) manage stress; and (8) generalize these skills to new and relevant situations. In one study, 19% of students in the intervention group had moderate depressive episodes, compared with 31% of students who took the questionnaires and had the diagnostic interviews but did not participate in the workshop ( $p < .03$ ). In another study, results of the short self-report LIFE measures of depression showed that the students in the intervention group had significantly lower levels of depression compared with students who took the questionnaires and had diagnostic interviews but did not participate in the workshop. Effect size for this finding was large (Cohen's  $d = 0.50$ ).
- The Strengthening Families Program of Iowa is a 7-week intervention aimed to reduce substance use among 10-14 year-olds and improve the parent-child relationship by teaching various communication, problem-solving, and perspective-taking skills to

parents and adolescents. Program costs were \$910 per family, yielding total benefits of \$10,000 per family, for an 11-1 benefit-cost ratio.

- The Harlem Hospital Safe Communities Program is designed to reduce injury to community children by making changes in community social and physical environment, raising local awareness of problems, and improving individual safety knowledge through education and training. This program is involved in a wide range of community activities including traffic safety education, renovating area public parks, community gardening projects, rebuilding playgrounds for elementary schools, and establishing dance and art programs at the hospital. The intervention has resulted in a 2.4-1 benefit-cost ratio.

### **Public Health Preparedness and Response:**

- The Latino Health Initiative of Montgomery County, Maryland and its health promotion program, *Vias de la Salud*, and the Montgomery County Advanced Practice Center for Public Health Emergency Preparedness and Response (Montgomery APC), a program of the Montgomery County Health Department, in collaboration with the University of Maryland, School of Medicine—developed, implemented, and assessed a cultural and linguistic intervention to increase the awareness, knowledge, and practices of emergency preparedness among the low-income Latino community. This intervention included the development of a training curriculum, the training of health promotion specialists, and conducting community-based education sessions. Over a two month period, teams of *Vias* promoters conducted two pilot interventions at two collaborating community agencies that serve Latinos. At each site, the promoters held educational sessions addressing “What is an Emergency?” and the three steps of emergency preparedness (initiate a conversation about emergencies; develop a family emergency plan; and prepare an emergency supply kit of nine essential items). This intervention resulted in the following:
  - Increased perception of participants that their families were prepared to deal with an emergency situation (from 8% at the pre-test to 69% at the post-test);
  - Increased engagement in emergency preparedness activities—on the final post-test, 100% of participants reported to have discussed with their families about emergencies and the need to develop an emergency plan (compared to 23% and 33% respectively, on the pre-test);
  - More than 90% of participants reported to have stored water, food, and other supplies at the final post-test;
  - Participants reported that they found the sessions to be interesting, valuable, clear, and motivating; and
  - Several participants indicated the need to inquire about the emergency plan at their children’s schools, and to consider medication for chronic illnesses when planning for an emergency.

- Local health officials responded to the outbreak of H1N1 in Greater Cleveland/Cuyahoga County by coordinating a group of local preparedness leaders including police and fire department, emergency coordinators from area hospitals, infectious disease physicians, the Cuyahoga County Coroner and the Cuyahoga County Emergency Manager. One of the most important functions of the local health department was to make sure that up to date and accurate information was provided to the public and community leaders. Frequent conference calls were held with community partners from hospitals, nursing homes, safety forces, schools and universities, daycares and businesses. A regular email briefing was established for local elected officials. In short order, local health officials activated response plans, mobilized staff for surge capacity, assured continuity of normal daily operations at the health department, and established a link to the media and the public to provide trusted information. These actions demonstrated the formal integration of the local health department as an essential partner in the community emergency response system.
- After identifying a cluster of salmonella cases among residents of Boston's Chinese communities the Boston Public Health Commission developed a culturally competent survey to conduct the investigation. The survey identified live poultry markets in Boston as a potential source of this cluster. Inspections by USDA, Massachusetts Food Safety Program, and Boston Inspectional Services identified a number of unsafe practices that could have contributed to the illnesses. The outbreak strain of salmonella was narrowed down to the live bird market. These findings have resulted in improvements in retail practices in Boston's live poultry markets. In addition, this investigation identified high risk food handling practices in the Chinese community. A food safety summit with community members identified knowledge, attitudes, and beliefs related food safety and resulted in a recommendation for a food safety video for the this community. The Boston Public Health Commission produced a food safety video that is now available in both Cantonese and Mandarin.

### **Cancer Screening:**

- The Alabama REACH 2010 Breast and Cervical Cancer Coalition (ABCCC) created a community action plan to address the barriers than prevent African American women over 40 from receiving breast and cervical cancer screenings. The plan created a core working group of volunteers and health professionals, awarded grants to non-profit groups that targeted screenings, conducted outreach activities, and distributed educational materials. Within 2 years after instituting the plan, 14% more women participating in the intervention reported having a mammogram. Additionally, 11% more women reported receiving a Pap test within 2 years of the intervention. A patient navigation system was launched in eight counties to address a significant black/white gap in mammography screening. As a result, the gap has now been eliminated in several counties, and has been reduced by 76% across the 8-county region.
- The REACH project in New Mexico and Colorado worked with the Ramah Band of Navajo Indians to create partnerships between tribal health programs, tribal leaders and nontribal groups to address the rising incidence of breast and cervical cancer among

American Indian women. The project developed Mammography Days and transported women to the nearest hospital, about 45 miles away. As a result, 130 women received mammograms for the first time in their lives. Tribal health care providers also received training in public health topics, cancer screening techniques, and surveillance methods to improve their patient care.

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- The Albuquerque Area Indian Health Board, Inc. worked with the Ramah Band of Navajo Indians, with funds from CDC, to create a program called Mammography Days to encourage more tribal women aged 40 or older living in the pilot community to get screened for breast cancer. Mammograms were scheduled for tribal women at a nearby hospital. The women were provided with health information that reflected the women's tribal culture and language and were transported to the hospital in groups to create social support. The program also trained tribal health care providers in public health topics and cancer-screening techniques. As a result, 130 women received a mammogram, some for the first time in their lives.
- During 2000-2004, the Vietnamese REACH for Health Initiative (VRHI) Coalition in California implemented a cervical cancer action plan that included a multimedia campaign, outreach by lay health workers, a Pap test registry and reminder system, along with other interventions. Results of the program showed that 47.7% of participants who had never had a Pap test received one after meeting with a lay health worker. Additionally, 52.1% of participants had a repeat Pap test within 18 months.
- During 2004-2007, the Vietnamese REACH for Health Initiative (VRHI) Coalition implemented a breast cancer action plan that included a multimedia campaign, outreach by lay health workers, along with other interventions. Results of the program showed that 17.9% of participants received a mammogram and 27.9% received a clinical breast exam after meeting with a lay health worker, compared with 3.9% and 5.1%, respectively, of women who did not meet with a lay health worker.
- The Choctaw Nation Core Capacity Building Program has successfully worked with its partners to create 12 community coalitions within the 11 counties of the Choctaw Nation of Oklahoma. These coalitions are raising awareness about heart disease prevention, improving access to care, and assessing the health needs of each community. As a result of the Coalition's partnerships with local community and public health groups, the Choctaw Nation Recovery Center added questions about heart health to its patient intake forms and follow-up interviews. The Coalition partnered

with Colorado State University's Tri-Ethnic Center to create a survey to assess communities' readiness to address the health issues identified in the needs assessment surveys. They also partnered with the Oklahoma State Department of Health to link the state's death certificate database with the Indian Health Service Patient Registration database. This linkage will help to correct the problem of American Indians being misclassified as members of other races on their death certificates (which happens about one-third of the time).

- In 2005 Public Health-Seattle & King County received a demonstration grant from the CDC to develop a replicable system for recruiting, educating and screening underserved populations for colorectal cancer in a primary care setting with other chronic disease screening programs. Working with community partners, Public Health developed: tailored education materials and messages; a client education and follow-up protocol that improved the return rate of the Fecal Occult Blood Test (home test) from an unknown or 2-3% to 63%; a patient navigation system to support client completion of colonoscopies that improved compliance from "nearly always failed" to 92% completed; and various clinic systems to assure clients are screened. Over 2,000 clients were screened. One client's cancer was detected early enough for effective treatment and 133 people with polyps that had the potential to become cancer were treated. This program served as model for a national expansion of the colorectal screening program in July 2009.
- The New York State Department of Health created a state-funded colorectal cancer screening program to screen men and women aged 50 and older with inadequate health insurance. Screening kits are distributed to eligible individuals through local partnerships involving county health departments, American Cancer Society chapters, hospitals, physicians, health care clinics, and individual health care workers. People with a positive test receive a complete colon exam, including a colonoscopy, funded by the state. Of the 44,000 tests completed, almost 1,800 people with positive results required follow-up since the start of the program in 1997. Nearly 1,300 of these individuals received a complete colon exam. An additional 630 individuals received screening colonoscopies because of personal or family risk factors for colorectal cancer. Polyps were found and removed in a significant number of people, decreasing their risk of getting colorectal cancer. Diagnosis of colorectal cancer in 67 people allowed them to quickly enter treatment, increasing their survival chances.
- Oklahoma State Department of Health Breast and Cervical Cancer Early Detection Program, the Oklahoma Health Care Authority, and the Cherokee and Kaw Nations Breast and Cervical Cancer Early Detection Programs created *Oklahoma Cares* to provide assistance to low income, uninsured Oklahoma women meeting eligibility guidelines who have an abnormal breast or cervical test result. Through *Oklahoma Cares* these women obtain access to Medicaid coverage of diagnosis and treatment services for breast or cervical cancer, receiving a full scope of Medicaid benefits until they no longer need cancer treatment. The *Take Charge!* outreach effort is expanding the network to previously non-funded providers so that more women have access to the services they need. Screening rates have improved by about fifteen percent for low

income or uninsured women fifty and older which has likely increased the early detection of these cancers. Over nine thousand women have been served by the program and over a thousand have received treatment for cancer or pre-cancerous conditions.

- To address screening barriers, the Rhode Island Department of Health Women's Cancer Screening Program partners with local hospitals, the American Cancer Society, Blue Cross Blue Shield of RI, Wal-Mart, and Stop & Shop to heighten uninsured women's awareness of and increase their access to screening for breast cancer. Cancer program staff enrolls eligible women, assists with case management activities and talks with each participant about additional screening services for cervical cancer available through the program. They also coordinate billing for the hospital and radiology facility which agrees to accept program reimbursement rates for the services provided. The partner program generated over 1,800 additional screenings at sixteen free screening events coordinated at three different hospitals, and eleven breast cancers were diagnosed.

### **Worksite Wellness:**

- In Austin, Texas, the Steps Program established a worksite wellness program with Capital Metro. Employees received health assessments and health action plans. Employee absences decreased more than 44 percent during 2004-2006, and the use of healthy choice options in the cafeteria increased 172 percent. Annual health care costs increased by nine percent during 2004-2005, compared with 27 percent during 2003-2004.
- The Seattle, Tukwila, and Highline School Districts in Washington State implemented a Staff Walking Challenge where staff members formed teams and competed to log the most physical activity. The challenge resulted in a 60% increase in those reporting moderate exercise 4+ days per week (from 38% to 61% among participants during the program).
- International Truck and Engine Corporation implemented a workplace wellness program that included Integrated Health Risk Appraisal (HRA) screening; financial incentives linking health promotion efforts to health care premiums; Multifaceted health promotion offerings; onsite fitness centers and health club subsidy reimbursement program; and onsite medical services. The program resulted in:
  - Flat or reduced company health care costs since 2004;
  - 75% participation in HRA screening;
  - 68% of telephonic health coaching participants reported improvement or elimination of at least one health risk;
  - 54% of disease management participants have documented improvement in quality indicators; and

- 53% of eligible smokers enrolled in a smoking cessation program—85% have quit.<sup>4</sup>
- In 2007, a report commissioned by Transport for London reviewed seventeen studies focused on the relationships between physical activity and employee absenteeism, and physical activity and employee productivity. The report found the following: three studies suggested that workplace health promotion programs can lead to increases in physical activity and reductions in absenteeism with a 12 month commitment; ten studies suggested that workplace exercise intervention programs can lead to long term increases in levels of physical activity and reductions in absenteeism, one study suggested that counseling sessions to promote physical activity (and dietary changes) can lead to self-reported increases in physical activity and observed increases in fitness in the short term, and limited evidence from two studies suggested that physical activity levels affect both short (up to 1 year) and long term (over 1 year) health care costs (and implicitly absenteeism rates), including among the obese and sedentary.
- In 2005, a report released by the Western Australia Department of Sport & Recreation reviewed workplace health and physical activity programs. In part, the report reviewed the available literature relating to workplace health and physical activity programs. The report found that workplace health and physical activity programs are associated with the following economic benefits: reduced absenteeism, decreased workers' compensation claims, a reduction in workplace costs, and a potential increase in productivity.
- The Maine Cardiovascular Health Program developed a project to help Maine workplaces implement low- or no-cost, easy to apply policy and environmental change strategies that specifically apply to the many Maine workplaces with small numbers of employees. Initial work with partners such as wellness councils, the Chamber of Commerce and other employer and public health groups provided experience to support expanding this pilot to additional workplaces. The project developed the Good Work! Resource Kit which highlights information on the link between employee health and the business 'bottom line,' as well as key strategies. A sample of successes for just two participating employers:
  - The University of Maine at Augusta has seen a dramatic increase in the number of employees participating in health-related activities such as walking groups and weight control groups, and reports blood pressures, cholesterol levels, and weights are down.
  - At Millinocket Hospital, almost half the employees achieved the walking goal of 10,000 steps a day, accumulating 14,850,875 steps altogether.
- *WorkWell*, a wellness council, was established by the Lincoln-Lancaster County Health Department, funded one-fourth by Preventive Health & Health Services Block Grant funds and three-fourths by participating businesses and local health department funds. Health department *WorkWell* staff provides materials and assistance to businesses in developing a wellness plan for their employees with measurable goals using best

<sup>4</sup> U.S. Chamber of Commerce and Partnership for Prevention. *Leading by Example: Leading Practices for Employee Health Management*. [http://www.prevent.org/LBE/LBE\\_USCC\\_FullBook.pdf](http://www.prevent.org/LBE/LBE_USCC_FullBook.pdf). 2007.

practice ideas. 90 businesses employing more than 55,000 workers are offered health risk appraisals, education and training by *WorkWell* and financial incentives provided by their employer to achieve smoking cessation and weight control goals. After seven years of *WorkWell* interventions, the 2004 health risk appraisals showed an obesity rate less than half the comparable state and local rate in the general population. Almost half the participating *WorkWell* employees were getting recommended amounts of physical activity on a regular basis, and smoking rates among *WorkWell* participants dropped from 24% to 12% after 5 years of the program.

- The Steps Program in Jefferson County partnered with a rural school district to establish a School Health Advisory Committee. School employee health promotion interventions over two years included after-hours walking groups, classes on healthy eating, and a full day devoted to staff health and wellness, courtesy of the Board of Education, as well as other activities. The success of the school employee wellness program allowed the Board of Education to waive one month of insurance premiums for all employees, a total of almost \$300,000 in savings. Over one hundred district employees have lost a total of 430 pounds, and there is a documented decrease in expenditures by the district's self-funded health care plan, the Health Insurance Trust, and now its funding is at its highest level ever.
- St. Vincent's Hospital Healthy Heart Program, with funding from the New York State Healthy Heart Program, worked with employers in New York, Kings, Queens and Richmond counties to create worksite wellness programs and increase opportunities for physical activity and access to healthy food at worksites for twenty-four thousand employees. Results from a sample of worksites shows:
  - Two companies negotiated discounts from insurance providers as a direct result of participation in this program;
  - A worksite weight management program resulted in almost all participants losing weight and most reporting they were eating more fruits and vegetables;
  - One site reported a significant ten-point decrease in average blood pressure of participants after one year of a self-monitoring program;
  - Most workers buying a share in community-supported agriculture for the first time reported an increase in fruit and vegetable intake as a result;
  - Two sites credit their worksite wellness program with sparing an employee serious injury because of their immediate action to seek emergency care when extremely high blood pressure was detected as part of their blood pressure monitoring program.
- With funding from the New York State Department of Health, St. Vincent's Hospital Healthy Heart Program educated workers in New York City, Queens, Staten Island and Brooklyn about stroke. The Stroke Heroes Act FAST educational program, created by the Massachusetts Department of Health, uses the FAST acronym to teach stroke signs and symptoms. Two worksites credit the stroke awareness presentation with saving the life of an employee. Both employees avoided serious injury because the stroke

awareness program helped colleagues recognize the urgency of the situation and the need for immediate action.

- With funding from the New York State Health Department, Healthy Heart Program, the Wyoming County Health Department worked with the local Department of Social Services to organize a wellness committee, create a bulletin board exhibit featuring health information, and begin a walking program. Workers replaced unhealthy snacks with more fruits and vegetables, installed a water cooler to encourage less soda and high-calorie beverage consumption and began having regular ‘salad days’ where employees brought in components for a group salad. Many employees also participated in “Walk Across America” teams, walking distances equivalent to the distance from the east to west coast of the U.S.A. Sixty-four employees participating in the walking program collectively lost over three hundred pounds, lowered their cholesterol levels and walked the equivalent of well over twenty-five hundred miles. Many participants lowered their blood pressure or maintained a normal blood pressure.
- The Oregon Public Employees Benefits Board (PEBB), which manages health benefits for state employees, and the Oregon Physical Activity and Nutrition Program developed the *Walking Well* Program to encourage worksite wellness. Employees completed online health risk assessments before registering for the program. Registered participants set personal health goals and received a pedometer and educational materials on walking for wellness. PEBB provided motivational messages and recognized successes throughout the program. More than two thirds of those completing the follow-up survey increased their physical activity and plan to continue. The number of participants meeting the CDC recommendation for moderate or vigorous physical activity increased by 24%. Nearly two-thirds of the participants reported making progress toward meeting their personal health goals.