

PREVENTION RESEARCH CENTERS



A Bridge
to Health Action



U.S. DEPARTMENT
OF HEALTH AND
HUMAN SERVICES



Centers for
Disease Control
and Prevention

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Why *Invest* in Prevention Research?

Effective ways to promote health, prevent disease, and manage complications of illness and injury evolve over time. Which strategies are best depends on many factors, including personal behaviors, cultural values, social and environmental conditions, and type of disease.

CDC's network of Prevention Research Centers brings academic researchers, community members, and public health agencies together to collaborate on developing effective strategies. Findings are tested and applied in the field so that real-world influences are accounted for, all available resources are tapped, and both researchers and communities expand each other's capacity for addressing health

issues. When professionals from state and local public health programs are involved, their capacity to protect society increases as well. As research matures, the partners assess how to sustain different strategies and whether they can be used in other communities.

With their partners, prevention researchers continually find new ways to help people live long, healthy lives and save millions of dollars in costs from chronic illness.



Funded research results in nearly 500 ongoing projects a year across the 33 centers.



What Is Prevention Research?

At biomedical research centers, researchers look for the causes of or contributors to disease. For example, researchers found years ago that people with diets high in saturated fat develop clogged blood vessels, which makes them vulnerable to heart disease. These scientists continue to study the effects of diet, explore genetic and other factors that put some people at particular risk, develop drugs to counteract harmful dietary effects, and test medical procedures that can sustain life for people already suffering from disease.

At Prevention Research Centers, researchers and their community partners look for ways to help entire groups of people make changes in themselves and their communities so that they can *avoid* the risk for chronic illnesses, such as heart disease, and disability from unhealthy practices.

Like their biomedical counterparts, prevention researchers address a wide range of diseases and conditions. They tend to follow a process that can lead to the widespread use of effective prevention strategies.

At any given time, the Prevention Research Centers' projects are in different stages. New centers may be in very early stages of building community trust. More mature centers have conducted research and disseminated findings, and their tested interventions are widely used.

Basic Steps of Participatory Research

In taking each of the following steps, the researchers work hand in hand with communities and mutually agree on decisions.

1

Assess community health needs and define the health problems.

Conduct surveys and focus groups, analyze data, consult with community coalitions and advisory boards, and use other qualitative methods to identify a community's health needs.

2

Gain a solid understanding of the problem and inform each other about the factors that must be addressed.

3

Decide on the most promising intervention.

Design new interventions or review the scientific literature for proven interventions likely to be successful when adapted to the community. Consider influences, such as acceptance by the community, feasibility of the activity, and sensitivity to cultural mores.

4

Pilot test the intervention.

Create and test educational materials, questionnaires, skill-building sessions, and other tools and techniques for delivering an intervention. Assess the intended audience's response and how reliable and valid the preliminary outcomes are.

5

Deliver and test the intervention in a selected group.

Recruit a subset of people who represent the population and evaluate the effect of the intervention against results from a control group. Use methods to make sure any bias in the results is minimal.

If the intervention *does not* seem effective, the researchers may report the lessons learned and make changes for further testing.

If the intervention *is* effective, the researchers move to the next step.

6

Test the effectiveness of the intervention in a large population.

Carry out the intervention to determine how effective it is when put to the test in a large, true-to-life setting. Assess whether the intervention effect is reliable and valid and produces a meaningful public health impact.

If the intervention is effective, the researchers move to the next step.

7

Conduct dissemination research.

Explore questions related to the research intervention—for example:

Is it sustainable over at least 5 years? If not, what contributed to the loss of effect?

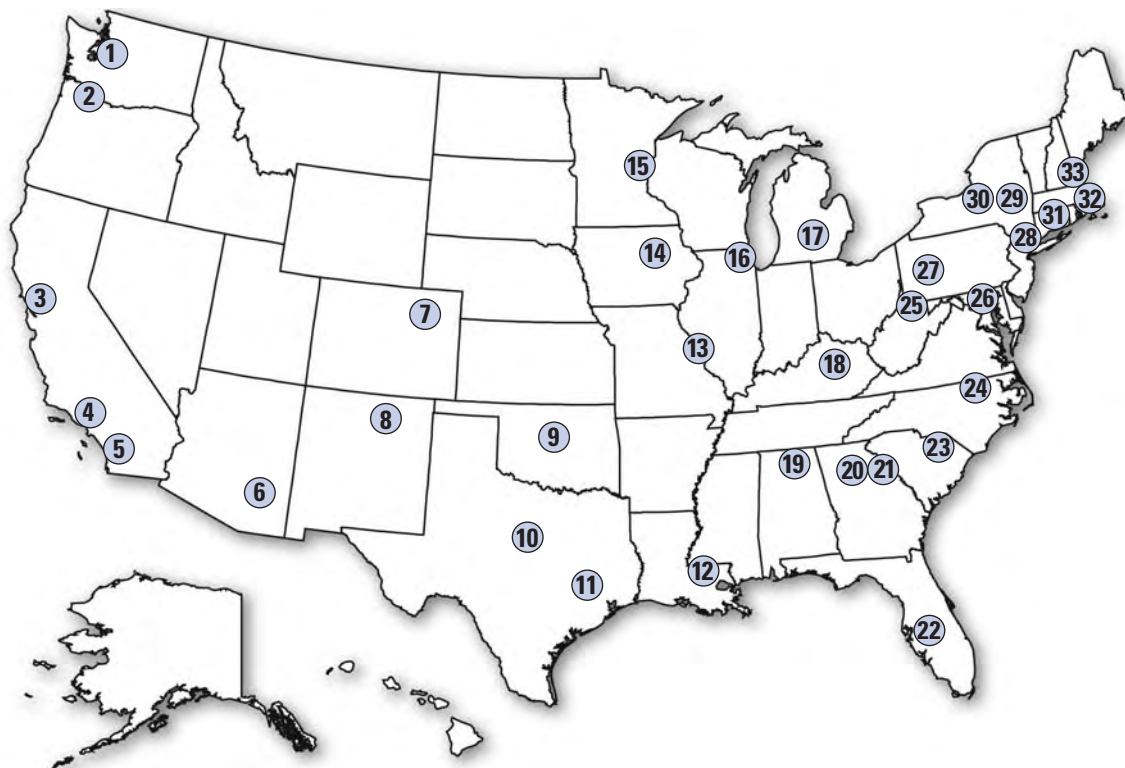
What conditions influence whether the intervention is adopted for long-term use?

Can the intervention be replicated in a different environment and still be valid?

8

Communicate about the research.

Share information about the methods and the outcomes with researchers, practitioners, and the communities involved.



- | | |
|---|---|
| 1 University of Washington | 17 University of Michigan |
| 2 Oregon Health and Science University | 18 University of Kentucky |
| 3 University of California at Berkeley | 19 University of Alabama at Birmingham |
| 4 University of California at Los Angeles | 20 Morehouse School of Medicine |
| 5 San Diego State University and University of California at San Diego | 21 Emory University |
| 6 University of Arizona | 22 University of South Florida |
| 7 University of Colorado | 23 University of South Carolina |
| 8 University of New Mexico | 24 University of North Carolina at Chapel Hill |
| 9 University of Oklahoma | 25 West Virginia University |
| 10 Texas A&M University System Health Science Center | 26 Johns Hopkins University |
| 11 University of Texas Health Science Center at Houston | 27 University of Pittsburgh |
| 12 Tulane University | 28 Columbia University |
| 13 Saint Louis University | 29 State University of New York at Albany |
| 14 University of Iowa | 30 University of Rochester |
| 15 University of Minnesota | 31 Yale University |
| 16 University of Illinois at Chicago | 32 Boston University |
| | 33 Harvard University |



Where Are the Prevention Research Centers Located?

CDC provides core support to 33 academic-based research centers from coast to coast. The Prevention Research Centers work on health issues affecting people from rural towns and inner cities, children and the elderly, recent immigrants and Native Americans. People in underserved communities are often most affected by disease or disability, but they are not traditionally involved as *partners* in research. In the Prevention Research Center Program, community members and local organizations from some of the most disadvantaged communities are active participants in research.

What Kinds of *Partnerships* Are Built?

Each Prevention Research Center partners with at least one community committee, which has many responsibilities:

- Articulate community values.
- Contribute to research priorities.
- Help recruit partner organizations.
- Participate in delivering interventions and communicating results.
- Reflect local attitudes and beliefs.



The partnerships are based on mutual respect and build trusting relationships. The benefits of these relationships, which can take years to develop, include the community's

- Understanding of and support for research.
- Enhanced capacity for addressing health issues.
- Increased likelihood of adopting and sustaining successful interventions.
- Serving as a model for comparable communities in which research can be replicated.

The community relationship often becomes one that other researchers and practitioners can build on for addressing additional health issues.



Examples of *Research Partners*

Institutional

- ❖ State and local departments of Health
Education
Parks and Recreation.
- ❖ Managed care alliances and health maintenance organizations.
- ❖ Primary and secondary public schools.
- ❖ Tribal governments.
- ❖ National organizations.
- ❖ Community nonprofits.
- ❖ Businesses and work sites.

Community

- ❖ African Americans and Latinos in Harlem.
- ❖ Schoolchildren in Texas.
- ❖ Adolescents in Baltimore.
- ❖ Public housing residents in Boston.
- ❖ Mexican Americans on the U.S.-Mexico border.
- ❖ Underserved families in the Rocky Mountain region.
- ❖ Korean Americans on the West Coast.
- ❖ Migrant workers in South Florida's citrus groves.
- ❖ American Indians in New Mexico and Oregon.
- ❖ Elderly adults in multiple regions.
- ❖ Residents of rural Missouri, Appalachia, and several southeastern states.

Prevention Research Successes Across the *Lifespan*



Helping Children Become Healthy Adults

Researchers at the University of Texas Health Science Center's Prevention Research Center participated in designing and testing the curriculum for CATCH, the Child and Adolescent Trial for Cardiovascular Health, which was first funded by the National Institutes of Health. The improvements found in children's nutrition and physical activity encouraged the center to explore the statewide promotion of CATCH (renamed the Coordinated Approach to Child Health). The center trained school staff to implement the program, and it now reaches over 750,000 children in Texas. The dissemination of CATCH helped increase awareness of coordinated school health programs and their role in building a foundation for lifelong health. In 2001, the Texas state legislature passed a bill authorizing the state Board of Education to require all school systems in Texas to provide 30 minutes per day of school-based physical activity, to form a school health advisory council, and to implement a coordinated school health curriculum. The Texas Education Agency approved CATCH for this purpose. CATCH is also being used in other states across the country and in Canada.



Addressing Childhood Obesity

The Harvard University Prevention Research Center developed an interdisciplinary curriculum called Planet Health for public middle schools focused on increasing physical activity and consumption of fruits and vegetables as well as decreasing television viewing and consumption of high-fat foods. For both girls and boys, television watching was reduced significantly, and for girls, the prevalence of obesity significantly decreased. The Planet Health curriculum is now used in more than 120 schools in Massachusetts, and in the past 2 years, more than 1,000 teachers have been trained to use it. Other interested parties in 48 states and 20 countries have purchased 2,000 copies of the curriculum. An independent economic analysis found that every dollar spent on the program in middle school will translate to a savings of \$1.20 in medical costs and lost wages when the children reach middle age.

Reducing Smoking Among Appalachian Teens

The American Lung Association's (ALA's) quit-smoking program for teens, Not on Tobacco (NOT), was proven successful for students in urban schools. West Virginia University's Prevention Research Center completed a 5-year project to test NOT among teens in rural Appalachian schools. The student participants learned techniques to reduce stress, handle peer pressure, control nicotine cravings, eat well, and engage in regular exercise. A rigorous evaluation showed a 15 percent quit rate for NOT participants but 8 percent for young people who received only brief advice about quitting. Less rigorous evaluations of field-based NOT programs that included 4,568 young people showed a reported quit rate of 26 percent. The ALA has adopted NOT as a national best-practice model and has disseminated the program in all 50 states. NOT is recognized by the Substance Abuse and Mental Health Services Administration, which lists it as a Model Program. The agency will support the provision of "materials, training, and technical assistance for nationwide implementation."



Motivating Adult Residents for Community Health Promotion

The Saint Louis University Prevention Research Center is helping residents of Missouri's Ozark and Bootheel regions reduce their risk for chronic disease. With the help of local coordinators, the researchers established and trained 12 community coalitions in the regions. The coalitions join businesses, organizations, schools, and medical facilities in a variety of health promotion activities, such as health fairs (which have attracted more than 10,000 school children and their families), health screenings (for cholesterol and blood pressure), and health education programs. Residents increased their level of physical activity by using 1 of the 25 coalition-built community walking trails or participating in coalition-sponsored physical activity classes or sports teams. In fact, physical activity was nearly 7 percent greater among people who had walking trails available than among people in a control community. The coalitions also helped establish smoke-free policies.

Promoting Healthy Aging

In 1993, the University of Washington Health Promotion Research Center collaborated with the Group Health Cooperative of Puget Sound and Senior Services of Seattle/King County to develop a physical activity program for seniors. The program emphasizes activities to increase endurance, strength, balance, and flexibility. The pilot study showed that participants improved significantly in almost every area tested—from physical and social functioning to levels of pain and depression. The health care costs of participants were significantly reduced. An economic analysis of Medicare enrollees showed that those who participated in the EnhanceFitness program at least once per week had significantly fewer hospitalizations (by almost 8 percent) and lower health care costs (by \$1,057) than nonparticipants. The program is now being offered at 158 community sites in 17 states. The National Council on Aging recognizes the program as one of the top 10 physical activity programs for U.S. seniors.

PREVENTION PROFILE

Improving Health Among Fathers and Sons

Willie Smith, Jr., and his 10-year-old son Willie III both live in Flint, Michigan, but not in the same household. Although Mr. Smith has lived apart from his son for most of his son's life, he has worked hard on their weekends together to build a good relationship.

When Mr. Smith, who works in social service, learned through a colleague about the University of Michigan Prevention Research Center's Fathers and Sons Project, a community-based participatory research project, he saw his and Willie's participation as a chance to grow even closer. The researchers designed the project to test whether frequent, positive contact between boys and their nonresident fathers can increase healthy behaviors in both groups and prevent substance abuse, violent behavior, and early sexual initiation among boys.

Mr. Smith and Willie joined the eighth of the now 20 father-son groups invited to improve their communication, explore their African American cultural perspectives, and practice skills—parenting by fathers and peer refusal by sons.

"The violence portion—I had never thought about that," Mr. Smith said. "And cultural heritage—I had

never discussed that with my son before." During the program's role-playing activities, the father-son pairs practiced the newly learned behaviors.

Talking about his son's relationships with other children, Mr. Smith said, "Willie saw it was not only okay to say no but to come back and tell me about it. He felt comfortable enough to talk to me about what happened."

Mr. Smith continued, "As parents, we try to *tell* our children to do things to minimize their hurt and trials. In going through this program, I got a better understanding of how Willie *felt*, so it's not just me *telling* him things."

Mr. Smith asked the researchers if his agency, which focuses on HIV/AIDS prevention and case management, could host a group at its location. Mr. Smith is now a trained program facilitator, and he is one of

the leaders of the Fathers and Sons support group, which was spearheaded by former participants to keep the "extended family" together. The group is seeking nonprofit status for outside funding that would allow long-term program evaluation. "I believe," Mr. Smith said, "it can change some lifelong negative behaviors."



Investment in the Prevention Research Centers has led to 20 years' worth of achievements in using research to improve health policy and practice for all Americans.

Examples of Issues AND Contributions

Health Issues Addressed

- ❖ Issues of aging.
- ❖ Healthy youth and school health.
- ❖ Conditions such as asthma, arthritis, and epilepsy.
- ❖ Major health threats such as obesity, cancer, and cardiovascular disease.
- ❖ Prevention and control of diabetes and its complications.
- ❖ Promotion of physical activity and healthy diet.
- ❖ Prevention of HIV/AIDS.
- ❖ Workplace safety.
- ❖ Oral health.
- ❖ Prevention of tobacco use.

Additional Contributions

- ❖ Offer access to a national network of experts in all the medical, science, and social science disciplines needed for prevention research, including epidemiology, statistics, behavioral science, and evaluation.
- ❖ Encourage networking and collaboration among researchers across the country.
- ❖ Educate public health professionals and community representatives through conferences, institutes, and CDC seminars.
- ❖ Partner with categorical programs at CDC and other federal agencies.
- ❖ Encourage research in the social determinants of health disparities.
- ❖ Cosponsor a fellowship for doctoral-level students of minority ethnic or racial origin for research mentored by centers and their community partners.
- ❖ Leverage infrastructure support to secure funding from other sources, such as foundations.

PREVENTION PROFILE

Preventing Diabetes in Latino Families

In Douglas, Arizona, on the U.S.–Mexico border, almost 22% of people aged 40 years or older have diabetes. Felix Lopez, 74, is one of them, but he is determined to keep his family healthy.

He invited his wife and daughter to join him in a class, *Diabetes and the Family*, on how to control and prevent Type II diabetes and its complications. In the class at a local church, the Lopez family talks with other families and a *promotora*—a lay health adviser—about the importance of eating a healthy breakfast and ordering low-fat dishes in restaurants. They dance together for exercise and then make a balanced dinner—chicken tostadas, vegetables, and fruit salad.

The class is part of a research program run by the Prevention Research Center at the University of Arizona. The researchers' hope is that involving families, communities, and promotoras in the comprehensive care of a person with diabetes not only leads to improved outcomes for the patient, but also prevents diabetes among family members.



Felix Lopez, left, cooks a healthy meal with family members during a *Diabetes and the Family* class.

Type II diabetes is associated with overweight, and a healthy diet and regular exercise can improve the health of people who have the disease. When untreated, diabetes can lead to complications in the eyes, heart, kidneys, nerves, and feet.

Mexican Americans, like Mr. Lopez, are at greater risk than other Americans for developing diabetes. Experts say factors may include genetics, activity levels, and diet. The *Diabetes and the*

Family class promotes preparing traditional Mexican and American foods in ways that reduce their fat and cholesterol content. Promotoras also encourage eating fruits and vegetables and discourage drinking soft drinks and whole milk.

Mr. Lopez calls his promotora “my guardian angel.” She put him in touch with a dentist and an eye doctor and helped him find appropriate shoes when he began an hour of walking every day at 6 a.m.

“It’s very difficult to change your habits, the way you have lived all your life,” Mr. Lopez says. But for the sake of his health and that of his family, he’s willing to try.

Prevention Research Centers' *Core Research Focus*

Alabama

University of Alabama at Birmingham

Reducing health risks and disparities in Alabama's underserved, rural communities

Arizona

University of Arizona

Preventing and controlling diabetes in communities on the Arizona-Mexico border

California

San Diego State University and University of California at San Diego

Increasing physical activity and improving health among Latinos in San Diego

University of California at Berkeley

Improving health in California's Korean American communities

University of California at Los Angeles

Involving parents in promoting health and preventing disease among adolescents

Colorado

University of Colorado

Reducing the risk of overweight and diabetes in the Rocky Mountain region of Colorado

Connecticut

Yale University

Preventing or reducing chronic disease in Connecticut's economically disadvantaged cities

Florida

University of South Florida

Using community-based prevention marketing to improve community health

Georgia

Emory University

Reducing health disparities and preventing cancer in rural southwest Georgia

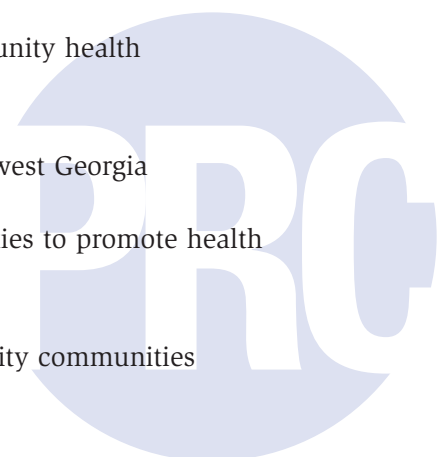
Morehouse School of Medicine

Building the capacity of low-income African American communities to promote health

Illinois

University of Illinois at Chicago

Preventing diabetes in Chicago's low-income, underserved minority communities



Iowa

University of Iowa

Empowering community organizations in rural Iowa to improve the health and quality of life of community residents

Kentucky

University of Kentucky

Preventing and controlling cancer among residents in rural Appalachian Kentucky

Louisiana

Tulane University

Improving health behaviors of New Orleans residents through neighborhood reconstruction and environmental change

Maryland

Johns Hopkins University

Preparing young people in Baltimore to be healthy and productive adults

Massachusetts

Boston University

Improving the health and well-being of Boston's public housing residents

Harvard University

Improving nutrition and physical activity among children and adolescents

Michigan

University of Michigan

Increasing the ability of communities to reduce health disparities and improve residents' health

Minnesota

University of Minnesota

Preventing and reducing risk behaviors among teenagers and promoting healthy adolescent development

Missouri

Saint Louis University

Reducing risks for heart disease, stroke, and cancer among residents of rural Missouri

New Mexico

University of New Mexico

Promoting the mental health and well-being of American Indian youth and their families

New York

Columbia University

Developing Web-site communications to promote health in minority communities

State University of New York at Albany

Preventing and controlling diabetes among underserved residents in the capital region of New York State

University of Rochester

Promoting health and preventing disease among people who are deaf or hard-of-hearing

North Carolina

University of North Carolina at Chapel Hill

Reducing the risk for obesity among minority women in rural North Carolina

Oklahoma

University of Oklahoma

Promoting healthy lifestyles among students in Oklahoma's public schools

Oregon

Oregon Health and Science University

Improving the health of American Indian, Alaska Native, and Native Hawaiian communities

Pennsylvania

University of Pittsburgh

Preventing disease and promoting healthy, active lives among older adults in Pennsylvania

South Carolina

University of South Carolina

Promoting and supporting physical activity in underserved communities

Texas

University of Texas Health Science Center at Houston

Studying influences on children's behavior as they age to early adulthood

Texas A&M University System Health Science Center

Preventing diabetes and other chronic diseases in underserved rural communities

Washington

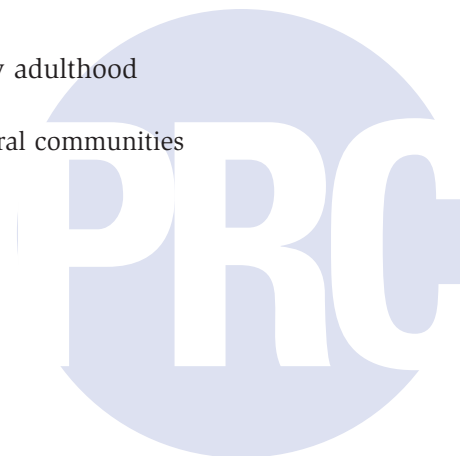
University of Washington

Sustaining physical activity among older adults

West Virginia

West Virginia University

Improving health and quality of life among rural adolescents





For more information, please contact the
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