

OHIO'S
CARDIOVASCULAR
HEALTH PROGRAM

2005-2009



Cardiovascular Health Program

From 2001 to 2009, Ohio's Cardiovascular Health (CVH) program employed population-based, evidence-based interventions to expand and enhance heart healthy communities with an emphasis on high-need populations.

In 2010, the CVH program, along with the Bureau of Health Promotion and Risk Reduction (BHPRR) reexamined priorities and guiding principles and renamed itself as the Creating Healthy Communities (CHC) program. As the CVH program addressed nutrition, physical activity, and tobacco and its efforts prevent not only cardiovascular disease (CVD) but also other chronic diseases, it became the CHC program. It continues progressive prevention efforts in Ohio, currently funding 16 local counties to address the risk factors of poor nutrition, tobacco use, sedentary lifestyle, and chronic disease in school, community, worksite, and healthcare settings. The CHC program uses a population-based, evidence-based approach to expand and enhance a community's ability to develop policies, systems, and environmental changes that can prevent chronic disease.

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March 1, 2013

Dear Colleagues and Stakeholders:

I am pleased to share with you the summary of the Cardiovascular Health Program from 2005-2009. This Program Summary describes the CVH program, which is housed in the Ohio Department of Health (ODH), and some of its successes, challenges and hopes for the future as an important contributor to improving the health of Ohioans. We continue to achieve many successes through the Cardiovascular Health Program and look forward to providing future summaries of the Creating Healthy Communities Program. In the meantime, please visit <http://www.healthyohioprogram.org/healthylife/createcomm/chc1.aspx>.

The Preventive Health and Health Services (PHHS) Block Grant has provided funding for the Cardiovascular Health (CVH) Program in Ohio since 2001. The CVH program went through a paradigm shift in 2001 to change from individual-based public health programming (educational pamphlets, health fairs) to population-based programming. While traditional public health programming focuses on the individual behavior, changes to population-based programming creates interventions that address change in social systems and environmental conditions that influence behavior. The CVH program, through its 24 funded counties, focused on reducing modifiable cardiovascular disease risk factors, in defined, high-need populations.

The CVH Program changed its name, but not its focus, in 2010 and is now known as the Creating Healthy Communities (CHC) program, which has ongoing projects in 16 Ohio counties. The program continues to be cost-effective, with funding averaging \$80,000 per county. From 2001-2004, CVH County coordinators worked part-time at the local health departments and, therefore, the results were less impactful. Beginning in 2005, the CVH program required a full-time coordinator at the county level. Today, the CHC Program is still managed by some of the original 2001 CVH Coordinators.

Along with the ability to receive 11 years of consistent funding, these counties are seeing impressive results. The number of policies, systems and environmental changes made by the 16 county coordinators and three state program consultants has made an impact on millions of Ohioans. Sustainability of these important changes is a vital part of keeping the program successes engrained in the community, leveraging additional community funding from outside resources such as non-profits and local foundations to expand their capacity, and organizing and maintaining active coalitions.

For the past two years we have been digging into evaluating not just the policies and system changes, but also the outcomes of these policies. With another 11 years of consistent funding, the CHC program could show not only impressive outcomes, but true changes in behavior and ultimately improved health outcomes.

We know in public health programming that it takes *many* years to see changes in outcome data. The CVH/CHC program is one of those programs.

Sincerely,

A handwritten signature in cursive script that reads "Ann Weidenbenner".

Ann Weidenbenner, MS, RD, LD
Director, Creating Healthy Communities Program
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Executive Summary

This report summarizes the activities of Ohio's award-winning Cardiovascular Health (CVH) program, currently known as the *Creating Healthy Communities* program, from 2005-2009, including county-level and program-level results of five years of public health prevention focused on reducing Ohioans' risk of cardiovascular disease along with trends in critical, modifiable risk factors across the state.



\$6 for every
\$1 spent on
prevention

Obesity and chronic disease cost Ohioans approximately \$56.8 billion per year.¹ But an investment of \$10 per person annually in community-based programs to increase physical activity, improve nutrition, and prevent tobacco use can save Ohio more than \$685 million per year, including \$185 million to Ohio Medicaid, within five years.² **This is a return of approximately \$6 for every \$1 spent on prevention activities**, like the CVH program.

Ohio's Cardiovascular Health (CVH) Program

Since 2001, the federal Preventive Health and Health Services (PHHS) Block Grant has funded community projects in Ohio addressing modifiable risk factors for heart disease—**physical inactivity, tobacco use, hypertension, poor nutrition, obesity, high blood cholesterol, and diabetes**. PHHS Block Grant funding allows states to tailor prevention and health promotion activities to their state's unique public health needs and challenges. In Ohio, the PHHS Block Grant targets critical prevention issues in some of the most high-need communities in the state.

This investment in prevention is modest compared to the costs Ohio incurs from treating cardiovascular disease (CVD).

Between 2005 and 2009, Ohio invested \$1.93 million per year in CVD prevention; comparatively, \$3.41 billion was spent annually on treating tobacco-related illness.³ In 2007, direct costs (total annual medical costs) of treating hypertension were estimated to be \$1.37 billion, and the direct costs of treating heart disease were \$3.65 billion.⁴



¹ Milken Institute (2007). An unhealthy America: The economic impact of chronic disease.

² Trust for America's Health (2008). Prevention for a healthier America: Investments in disease prevention yield significant savings, stronger communities.

³ Ohio Tobacco Prevention Foundation (2008).

⁴ Milken Institute (2007). An unhealthy America: The economic impact of chronic disease.

Through a population-based approach, CVH programs used evidence-based strategies to impact policy, systems, and environments in schools, communities, workplaces, and healthcare facilities. From 2005 to 2009, **17 CVH projects in 24 counties targeted high-need communities**—those Ohio communities with the highest CVD mortality rates as well as high concentrations of disparate populations.

Improving the community's health requires strong public-private partnerships. Every CVH program built collaborative coalitions, engaging businesses, schools, community groups, hospitals, physicians, and more. Using strategic, population-based efforts through these partnerships, the CVH program made large-scale changes to the policy, systems, and environmental landscape in Ohio between 2005 and 2009:

- CVH projects potentially reached **3,877,072** million Ohioans in 2009 alone, an estimated 32% of Ohio's population.⁵
- Between 2005 and 2009, at the county level, the CVH program instituted 343 policy changes and 957 environmental/system changes in high-need Ohio communities.⁶
- From 2005 to 2008, all CVH communities increased information and skill building interventions as well as policy/regulation and environmental change interventions targeting school, community, worksite, and healthcare settings, focusing on specific health indicator change efforts (i.e., nutrition, physical activity, tobacco use, and chronic disease risk factors).

Although it takes time for the results of prevention to be evident in statewide data, there have been clear but modest improvements in Ohio's statewide health and reductions in modifiable risk factors since the start of the CVH program in 2005 to the end of CVH in 2009 (see pages 57-65 of this report):⁷

- Heart disease mortality decreased overall and in almost all of the CVH counties.
- Stroke mortality decreased.
- The number of current smokers decreased.
- Physical inactivity did not increase.

Despite this progress, critical contributors to heart health remain a significant public health challenge. Since 2005:

- Prevalence of obesity and diabetes in Ohio has increased.
- Consumption of the recommended five servings of fruits and vegetables a day has decreased.
- The proportion of Ohioans with elevated blood pressure and high cholesterol has increased.

⁵ Cardiovascular Health Program 2009 Summary Report.

⁶ Calculated from the Cardiovascular Health Program 2009 Summary Report, Cardiovascular Health Program Then and Now (2007), Cardiovascular Health Program 2005 Project Summary Data.

⁷ 2000-2010 Ohio Behavioral Risk Factor Surveillance System, Chronic Disease and Behavioral Epidemiology, Center for Public Health Statistics and Informatics, Ohio Department of Health.

In 2010, Ohio received the **Preventive Health and Health Services (PHHS) Block Grant Champion Award for Program Delivery** from the U.S. Department of Health and Human Services. This award recognized Ohio's CVH program for exceptional leadership, program delivery, public policy achievements in prevention, public policy achievements in promotion and protection of the health and safety of all people, and the fiscal integrity of the PHHS Block Grant.

What is the Outlook for Prevention in Ohio?

If Ohio is to see real change in cardiovascular health, prevention efforts must, at a minimum, continue. Cardiovascular disease remains a critical health issue; even with a tremendous increase in prevention, Ohio would be fortunate to see a clear, substantial reduction in CVD in the next generation.⁸ Further, the prevention activities outlined in this report are currently limited to the counties exclusively funded by the PHHS Block Grant—and the number of those counties has decreased from 42 counties in 2001 to 16 counties in 2010. The costs of CVD will only increase without a sustained focus on prevention. A continued and concerted effort and focus on prevention is still needed to impact Ohio's high rates of obesity, diabetes, high blood pressure, and high cholesterol.⁹

In 2010, the CVH program was renamed to reflect the many ways a healthy lifestyle improves quality of life: the CVH program was retitled the *Creating Healthy Communities* program. The **Creating Healthy Communities (CHC)** program currently serves high-need communities in 16 counties with a collective population of 5,797,335.¹⁰ CHC continues to emphasize a grassroots, population-based approach to prevention in school, community, workplace, and healthcare settings.

Despite the five years of successful CVH prevention efforts from 2005 to 2009 and the early successes of the CHC program from 2010 to the present, more action and commitment to prevention is needed. There remains a desperate need for more evidence-based, population-level prevention not only for cardiovascular disease but also for public health issues that continue to grow like obesity and diabetes.^{11,12,13}

This report highlights the prevention activities undertaken in Ohio since 2005 and presents results that speak to the need for an ongoing commitment to evidence-based, population-based public health prevention in Ohio and the U.S.

⁸ Heidenriech, P.A., et al. (2011). Forecasting the future of cardiovascular disease in the United States: A policy statement from the American Heart Association. *Circulation*, 123, 933-944.

⁹ 2000-2010 Ohio Behavioral Risk Factor Surveillance System, Chronic Disease and Behavioral Epidemiology, Center for Public Health Statistics and Informatics, Ohio Department of Health.

¹⁰ U.S. Census Bureau (2010).

¹¹ Brownson, R.C., Baker, E.A., & Leet, T.L. (2012). *Evidence-based public health* (2nd ed.). New York: Oxford University Press.

¹² Kumanyika, S.K., et al. (2008). The need for comprehensive promotion of healthful eating, physical activity, and energy balance: A scientific statement from American Heart Association Council on Epidemiology and Prevention, Interdisciplinary Committee for Prevention. *Circulation*, 118, 428-424.

¹³ Centers for Disease Control and Prevention (2011). Diabetes: Successes and opportunities for population-based prevention and control. <http://www.cdc.gov/chronicdisease/resources/publications/aag/pdf/2011/Diabetes-AAG-2011-508.pdf>

Overview and Methodology

This report summarizes the activities of Ohio’s award-winning Cardiovascular Health (CVH) program from 2005-2009. This report begins with a review of the development, history, and intervention approach of the CVH program. Next, **Community Profiles** (See pages 23 – 45) describe important community successes and highlight interventions developed, initiated, or enhanced as a result of the CVH program.

Following these profiles, the direct and indirect impact of these programs is reflected in program-wide data. Each program completed periodic community assessments—the **Community Heart-Health Checklist** (See page 48)—in 2005 and again in 2008 (one year before the end of the grant period). The resulting data describe how the CVH program measured community intervention progress, and how the communities in which prevention activities were implemented changed over the grant period.

Although the true impact of prevention is unlikely to be evident for some time, **statewide data on heart disease mortality and modifiable risk factors** (See page 59) show how Ohio’s heart health has changed over time.

Throughout the report, information was synthesized from numerous sources. Data used to construct this report were drawn from the following sources:¹⁴

- Community Heart Health Program: 2003 Year in Review
- Community Heart Health Then and Now: 2001-2007
- Cardiovascular Health Program: 2008 Success Stories in Ohio Counties
- Cardiovascular Health Program 2005-2009 County Summary Reports
- Cardiovascular Health Program 2009 Summary Report
- Ohio Department of Health, Center for Public Health Statistics and Informatics, Chronic Disease and Behavioral Epidemiology, Ohio Behavioral Risk Factor Surveillance System Data, 2000-2010
- Ohio Department of Health, Center for Public Health Statistics and Informatics, Leading Causes of Death, Ohio and Counties, 2000-2010
- Ohio Department of Health Community Heart-Health Checklist
- Ohio Department of Health Community Heart-Health Checklist Data, 2005 and 2008
- Survey of 2005-2009 Cardiovascular Health Program Coordinators

¹⁴ Thanks to Ann Weidenbenner, Carol Gill, Ken Crnarich, Jan Meyer, and Ashley Davis for providing report resources and for their helpful comments on previous versions of this report.



Introduction



Introduction

Why Prevention Matters

In 1981, Congress authorized the Omnibus Budget Reconciliation Act, creating the Preventive Health and Health Services (PHHS) Block Grant, a mandatory grant given annually to 61 grantees (50 U.S. states, the District of Columbia, two American Indian Tribes, and multiple U.S. Territories) by Congress. The PHHS Block Grant is a major source of funding from the Centers for Disease Control and Prevention (CDC) to ODH’s Bureau of Healthy Ohio. The PHHS Block Grant funding allows grantees to tailor prevention and health promotion activities to their communities’ unique public health needs and challenges. In Ohio, the PHHS Block Grant targets critical prevention issues in some of the most high-need communities in the state.

CDC Preventive Health and Health Services Block Grant Goals:¹⁵

- Achieve health equity and eliminate health disparities by impacting social determinants of health.
- Decrease premature death and disabilities due to chronic diseases and injuries by focusing on the leading preventable risk factors.
- Support local health programs, systems, and policies to achieve healthy communities.
- Provide opportunities to address emerging issues and gaps.

Cardiovascular diseases (CVD), including heart disease and stroke, are the leading cause of death and disability in the U.S.¹⁶ Perhaps the most striking aspect of CVD is that it can often be prevented if individuals change behaviors that put them at risk. The American Heart Association (AHA) projects that the direct and indirect costs of CVD in the United States will increase from \$272.5 and \$171.7 billion in 2010 to \$818.1 and \$275.8 billion in 2030, respectively—and most of the cost of CVD is related to acute - and long-term care, not prevention.¹⁷ These cost estimates are even more substantial given that they do not include costs related to obesity, diabetes, and tobacco use, and these factors also impact CVD.¹⁸

¹⁵ Ohio Department of Health (2009). An integrated approach to chronic disease and Injury and violence prevention.

¹⁶ Roger, V., et al. (2010). Heart disease and stroke statistics—2011 update: A report from the American Heart Association. *Circulation*, 123, 18-209.

¹⁷ Weintraub, W. et al. (2011). Value of primordial and primary prevention for cardiovascular disease: A policy statement from the American Heart Association. *Circulation*, 124, 976-990.

¹⁸ Ibid.

The results of state and national cost-benefit and return on investment (ROI) analyses routinely find that public policy and community efforts are significantly more cost-effective (and often cost saving) compared with the enormous costs of treating individuals who suffer from CVD.¹⁹ Addressing modifiable risk factors, such as physical inactivity, cigarette smoking, hypertension, poor nutrition/obesity, high blood cholesterol, and diabetes, will not only improve the nation's health and quality of life, but would significantly improve the financial state of the country as well.

A few of the findings of the AHA relevant to the return on investment in prevention include:²⁰

- Men and women who lower their risk factors may have 79-82 percent fewer heart attacks and strokes than those who do not reduce their risk factors.
- Community-based programs to increase physical activity, improve nutrition, and reduce smoking can show a return on investment of \$5.60 for every dollar spent within five years.
- Comprehensive worksite wellness programs can lower medical costs by approximately \$3.27 per person and absenteeism costs by over \$2.70 per person in the first 12-18 months for every dollar spent.
- School-based initiatives to increase physical activity and improve nutrition have shown a cost-effectiveness of \$900-\$4,300 per quality-of-life year saved.
- It is estimated that \$5.6 billion in heart disease costs could be saved if 10% of Americans began a regular walking program.
- When communities invest in bicycle and pedestrian trails, they see nearly \$3 in medical cost savings for every \$1 invested in building them.

Ohio's Health Spending

Tobacco-related Illness: **\$3.41 billion**

Hypertension: **\$1.37 billion**

Heart Disease: **\$3.65 billion**

Cardiovascular Prevention: **\$1.93 million**

Source: Ohio Tobacco Prevention Foundation (2008)

The bottom line is that cardiovascular disease is largely preventable, but it remains the leading cause of death in America—and in Ohio.²¹ Nationally, CVD-related mortality has fallen by two thirds since the 1960s, resulting in more and more Americans living longer than ever before.²² This decrease is largely attributable to public health's focus on prevention and an emphasis on lowering cholesterol, preventing tobacco use, and controlling high blood pressure—yet improvements in these areas have been offset,

¹⁹ American Heart Association (2012). An ounce of prevention: The value of prevention for cardiovascular disease. http://www.heart.org/idc/groups/heart-public/@wcm/@adv/documents/downloadable/ucm_305061.pdf

²⁰ Ibid.

²¹ Trust for America's Health (2008). Prevention for a healthier America: Investments in disease prevention yield significant savings, stronger communities.

²² Weintraub, W. et al. (2011). Value of primordial and primary prevention for cardiovascular disease: A policy statement from the American Heart Association. *Circulation*, 124, 976-990.

at least in part, by corresponding increases in obesity and diabetes.²³

It is important to note that the improvements seen in cardiovascular health have occurred despite a modest investment in prevention compared with the enormous costs incurred by states to treat and manage acute disease. For example, between 2005 and 2009, Ohio invested \$1.93 million per year in cardiovascular disease prevention; comparatively, \$3.41 billion was spent annually on treating tobacco-related illness.²⁴ In 2007, direct costs (total annual medical costs) of treating hypertension were estimated to be \$1.37 billion, and the direct costs of treating heart disease were \$3.65 billion.²⁵



A 2009 analysis from *Trust for America's Health*, a non-profit, nonpartisan organization, found that an investment of \$10 per person per year in proven, community-based programs to increase physical activity, improve nutrition, and prevent tobacco use could save Ohio more than \$685 million annually, including \$185 million to Ohio Medicaid, within five years. **This is a return of approximately \$6 for every \$1 spent on prevention activities,**²⁶ such as the CVH Program's interventions.

Prevention in Ohio

Ohio has a history of local efforts focused on reducing or preventing the social and economic problems of chronic disease. Beginning in 2001, the PHS Block Grant has funded community projects addressing modifiable risk factors for heart disease—sedentary lifestyle, tobacco use, poor nutrition, hypertension, obesity, high blood cholesterol, and diabetes. These projects have helped to make Ohio healthier through a **population-based approach** impacting policies and systems in schools, communities, workplaces, and healthcare facilities. Projects focus on **high-need communities**—those Ohio communities with the highest CVD mortality rates as well as high concentrations of disparate populations. Racial and ethnic minority populations in Ohio have higher rates of disease, disability, and death compared to their white counterparts.²⁷ Thus, health disparities could continue to increase with the growth of these populations. The CVH program was designed to address the crucial risk factors that impact health in areas of greatest economic need and poor access to healthcare.

A population-based approach is a shift from “traditional” public health programs that focus on the individual. The approach to shape individuals’ health behaviors by improving or enhancing built environments or by supporting behavior change through changes to systems or policies—an ecological perspective—is a relatively new emphasis in public health although it has long been recognized as

²³ Ford, E.S., Ajani, U.A., Croft, J.B., Critchley, J.A., Labarthe, D.R., Kottke, T.E., et al. (2007). Explaining the decrease in U.S. deaths from coronary disease, 1980–2000. *New England Journal of Medicine*, 356, 2388–2398.

²⁴ Ohio Tobacco Prevention Foundation (2008).

²⁵ Milken Institute (2007). *An unhealthy America: The economic impact of chronic disease*.

²⁶ Trust for America's Health (2008). *Prevention for a healthier America: Investments in disease prevention yield significant savings, stronger communities*.

²⁷ Ohio Department of Health (2005). *Ohio minority health profile*.

critical to health promotion among researchers and scholars.²⁸ The fundamental idea at the core of this approach is that **policies, systems, and environments** can either encourage healthy behaviors, such as walking more frequently or consuming more nutritious foods, or reduce unhealthy behaviors by discouraging or prohibiting them, such as restrictions on smoking.

- **Policies** are organizational statements or rules that are meant to influence behavior; they can be as simple as a posted notice at work or a teacher’s note about classroom rules, or as complex as legislation.
- **Environmental change** is a physical or material change to the economic, social, or physical environment. For example, a community can build walking trails and bike paths, or a convenience store near a school can stop advertising tobacco products.
- **System change** focuses on how people can work differently within a particular environment to improve health outcomes—for example, *Recess before Lunch* programs aim to rearrange the school day to improve nutrition and physical activity for students; or, changes to the way office staff in a pediatric office interact with parents can help physicians to incorporate obesity prevention into well-child visits.

Only within the last 15 years have policy, systems, and environmental interventions been applied nationally to prevent chronic disease, with significant and positive impacts on health behaviors; for example, changes to people’s environments that remove barriers have provided opportunities for, and increased evidence of, physical activity.^{29,30}

The rationale for a shift to a population-based approach to public health may best be described as a hierarchy of interventions forming a pyramid (see Figure 1). At the base of the pyramid—the broadest level—are interventions likely to have the greatest impact on populations; at the narrow peak of the pyramid are interventions that require the greatest individual effort, such as education and counseling. In this framework, addressing socioeconomic determinants of health, such as poverty, would have the most widespread impact. Next in the hierarchy are changes to the context or environment that make healthy decisions easier; for example, fluoridating water in a community, eliminating lead in an apartment building, and building walking and bike trails in a community to increase physical activity. This level is narrower because changes to these environments primarily impact individuals who live, work, or attend school there, although a single environmental change can impact a large number of

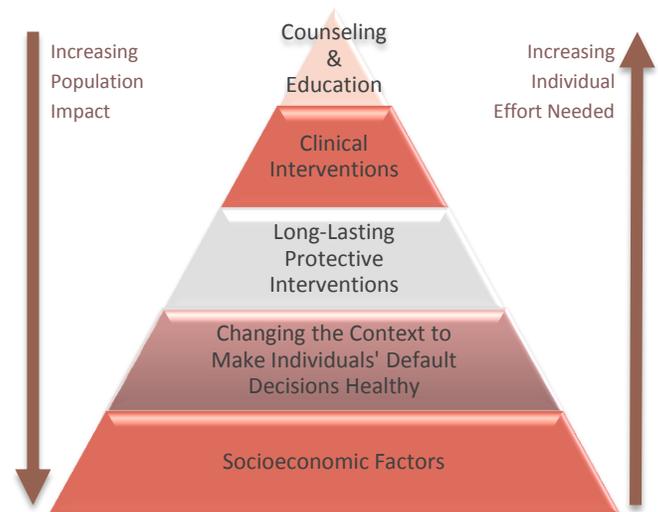


Figure 1. The Health Impact Pyramid (Frieden, 2010)

²⁸ Wicker, A.W. (1979). *An introduction to ecological psychology*. Pacific Grove, California: Brooks/Cole.

²⁹ Schmid, T.L., Pratt, M., & Howze, E. (1995). Policy as intervention: Environmental and policy approaches to the prevention of cardiovascular diseases. *American Journal of Public Health, 85*, 1207-1211.

³⁰ Sallis, J.F., Bauman, A., & Pratt, M. (1998). Environmental and policy interventions to promote physical activity. *American Journal of Preventive Medicine, 15*, 379-397.

individuals at once. The third level of the pyramid represents long-lasting, one-time clinical interventions such as immunizations, colonoscopies, or smoking cessation. The top two levels represent interventions that require the most individual effort by providers or public health practitioners and reach just one or a few people at a time: medical care from doctors and health education.³¹

Unfortunately, the focus of public health has historically been at the top two levels of this pyramid. Individual education or counseling may indeed have an impact—but that impact is limited to a fixed number of individuals. Prevention must focus efforts on all levels in this model, particularly those at the pyramid’s foundation that impact the social and built environment, to have the most widespread impact.

The CDC promotes policy, systems, and environmental changes as the key for communities to produce broad, lasting, improved health outcomes by making healthier choices available to and practical for their residents.³² Broad, population-based interventions can benefit all people exposed to the environment rather than focusing on changing the behavior of one person at a time. Environmental and policy approaches may directly affect specific behaviors or they may alter social norms, such as encouraging greater physical activity in the workplace. Importantly, environmental and policy approaches are often more permanent than programs focused on behavioral change at the individual level. For this reason, they are more likely to produce significant, lasting, long-term change in behavior and consequently reductions in chronic diseases—as well as the significant costs that accompany them.³³

Ohio has been a national leader in advancing a population-based policy, systems, and environmental change approach in public health. Ohio’s CVH Program, active for more than 10 years, works in some of the most vulnerable communities in the state. From 2001 to 2004, the PHHS Block Grant funded 21 CVH programs in 42 counties. In 2005, Ohio’s CVH program awarded 17 grants to 24 counties. The counties were selected because of their high rates of poverty and morbidity/mortality from chronic diseases (i.e., heart disease, stroke, cancer, diabetes, obesity, and chronic obstructive lung disease). Within each high-need county, the program coordinator identified three priority communities to focus their intervention activities.

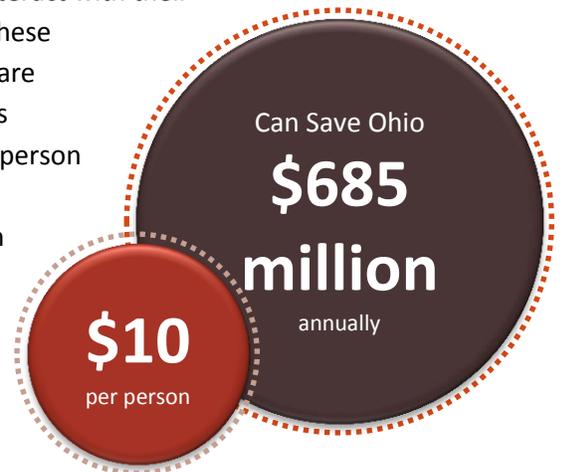
Of the 24 project counties, nine are Appalachian, seven are inner city/urban, and eight are low-income rural. In each of these counties, targeted communities with high-need populations, selected based on their social/demographic and health data, were the focus of program interventions. These programs worked to build healthy environments and create policies and systems to promote physical activity, improve nutrition, decrease hypertension and cholesterol, reduce rates of diabetes and obesity, and decrease tobacco use in local communities. With annual funding of \$1.93 million from the PHHS Block Grant for 2001-2009, this program has focused on decreasing health disparities in high-need rural and urban communities across the state to reduce risk factors for cardiovascular disease.

³¹ Frieden, T. (2010). A framework for public health action: The health impact pyramid. *American Journal of Public Health, 100*, 590-595.

³² For example, see http://www.cdc.gov/DHDSP/programs/nhdsp_program/docs/ABCs_Guide.pdf.

³³ Brownson, R.C., Kelly, C.M., Eyster, A.M, Carnoske, C., Grost, L., Handy, S., et al. (2008). Environmental and policy approaches for promoting physical activity in the United States: A research agenda. *Journal of Physical Activity and Health, 5*, 488-503.

Chronic health problems like obesity and cardiovascular disease are caused by the interactions between genetics, behaviors, and the environments in which people live, learn, work, and play. Taking a “settings approach” to health promotion means understanding how people interact with their environments and how positive changes can best be evoked within these contexts.³⁴ The potential cost savings of such a preventive approach are nothing short of enormous. Obesity and chronic disease cost Ohioans approximately \$56.8 billion per year.³⁵ But an investment of \$10 per person per year in community based programs to increase physical activity, improve nutrition, and prevent tobacco use can save Ohio more than \$685 million per year, including \$185 million to Ohio Medicaid, within five years.³⁶



Cardiovascular Health (CVH) Program

In 2001, the CVH program began by funding prevention in 42 counties. The present report focuses primarily on the achievements of the CVH program from 2005-2009. In this timeframe, the Ohio CVH program funded community interventions designed to develop and implement policy, systems, and environmental changes that minimize risk factors for cardiovascular disease (CVD) and contribute to the creation and enhancement of heart-healthy communities in Ohio.

Targeting high-need populations at greatest risk for developing heart disease, the CVH program supported community-level interventions in four key settings:



The CVH program aimed to initiate and advance population-based interventions focused on changing policies and shaping environmental conditions. By altering policies and systems in the community, the CVH program can influence individual behaviors and decrease the prevalence of six modifiable risk factors of cardiovascular disease: physical inactivity, tobacco use, hypertension, poor nutrition/obesity, high cholesterol, and diabetes. Ultimately, reducing risk factors improves individual health and wellness and reduces the incidence and mortality of cardiovascular disease. The efforts of CVH programs are focused on changes in policies, systems, and environments that are necessary for sustainable individual behavioral changes. In turn, these behavioral changes impact the incidence of and costs associated with cardiovascular disease.

³⁴ Poland, B., Krupa, G., & McCall, D. (2009). Settings for health promotion: An analytic framework to guide intervention design and implementation. *Health Promotion Practice, 10*, 505-516.

³⁵ Milken Institute (2007). *An unhealthy America: The economic impact of chronic disease.*

³⁶ Trust for America’s Health (2008). *Prevention for a healthier America: Investments in disease prevention yield significant savings, stronger communities.*

Twenty-four grantees were selected through a competitive process based on their abilities to serve populations with the highest need for prevention. Vital statistics data were used to identify patterns of CVD mortality by county. Counties with cardiovascular-related mortality rates significantly higher than the U.S. average *and* high concentrations of populations in poverty were prioritized for CVH prevention funding.

Each funded project was required to:

- Form a CVH Coalition of local partners from schools, worksites, and other community partners, and evaluate their coalition annually.
- Identify community capacity and available resources.
- Complete the *Community Heart Health Checklist* as a needs assessment at the beginning of the grant period, and again in 2008, to assess progress.
- Develop a CVH plan and report on progress in policy, systems, and environmental change quarterly to ODH.
- Develop a media plan for awareness and educational activities in target communities within the county or metropolitan area.

Projects implemented by grantees aimed to impact policies, systems, and environments, removing barriers to heart health such as:

- **Lack of access to healthy foods at home and in the community**
 - About a quarter of rural Ohioans live more than 10 miles from a store selling fresh fruits and vegetables.³⁷
- **High availability of and exposure to inexpensive, unhealthy foods**
 - A quarter of rural Ohioans live closer to fast-food restaurants than full-service grocery stores.³⁸
- **Lack of access to places for children to play and adults to be active**
 - Only half of people in Ohio have parks or playgrounds, community centers, and sidewalks or walking paths available in their neighborhoods.³⁹
- **Lack of access to healthy food and adequate physical activity in schools**
 - Only about 25 percent of high school students in Ohio are physically active.⁴⁰
- **Lack of ability to use active transportation to get to work or school**
 - Ohio is one of only 13 states that does not have a transportation and travel policy to encourage active transportation to work and school.⁴¹
- **Lack of access to coordinated, affordable health care**

³⁷ Muamba, F., Clark, J.K., & Betz, N. (2010). Food access gaps in rural Ohio (Research Brief #2010-5). Center for Farmland Policy Innovation Department of Agricultural, Environmental, and Development Economics.

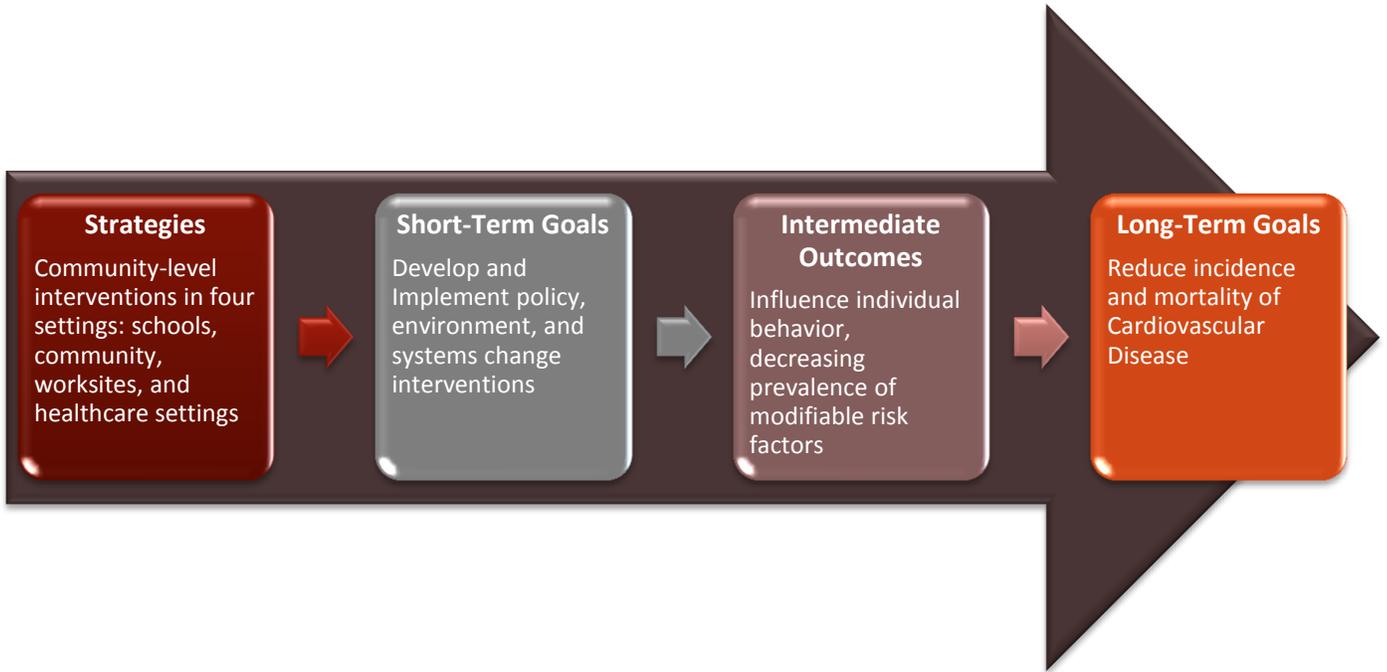
³⁸ Ibid.

³⁹ U.S. Department of Health and Human Services (2010). State indicator report on physical activity.

⁴⁰ Ibid.

⁴¹ Ibid.

In sum, the CVH program required grantees to use evidence-based public health strategies to address these barriers through public-private partnerships working to transform communities through policy, systems, and environmental changes. This approach, summarized in the figure below, is an essential component in prevention of chronic disease.

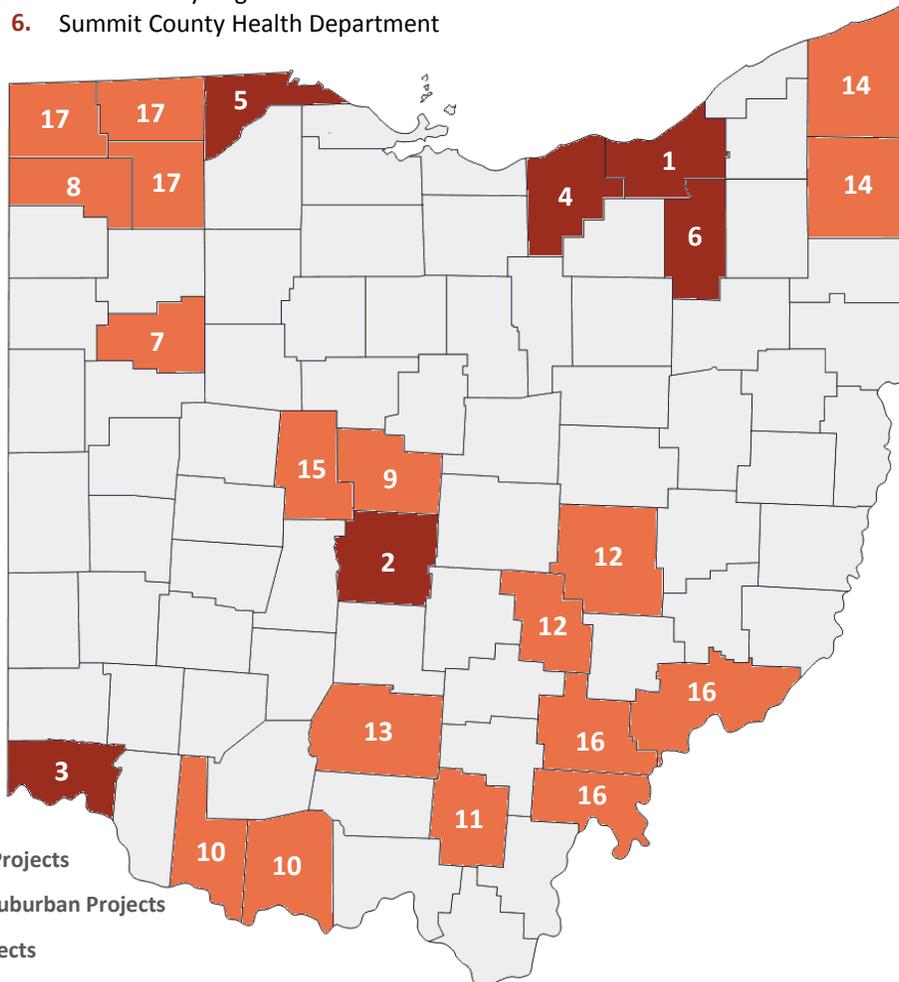


Cardiovascular Health Program Funded Projects

From 2005 to 2009, the Cardiovascular Health Program funded 17 projects (six urban projects and 11 rural/suburban projects) that impacted 24 Ohio counties.

Urban Projects

1. Cuyahoga County Board of Health
2. Columbus City Health Department (Franklin County)
3. Cincinnati City Health Department (Hamilton County)
4. Lorain City Health Department (Lorain County)
5. Lucas County Regional Health District
6. Summit County Health Department



Rural/Suburban Projects

- Allen County Health Department 7.
- Defiance County General Health District 8.
- Delaware General Health District 9.
- Health-UC—Adams and Brown Counties 10.
- Jackson County Health Department 11.
- Zanesville-Muskingum County Health Department (partnered with Perry County) 12.
- Ross County Health District 13.
- Trumbull County Health Department (partnered with Ashtabula County) 14.
- Union County General Health District 15.
- Washington County Health Department (partnered with Athens and Meigs Counties) 16.
- Williams County Health Department (partnered with Fulton and Henry Counties) 17.

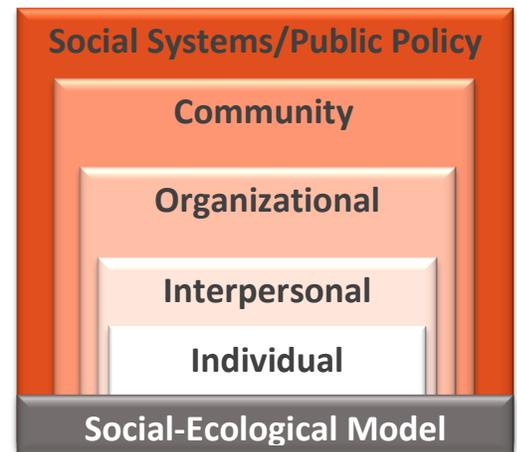
Intervention Approach

The CVH program utilized a multi-level, **social-ecological approach** to the management and prevention of Cardiovascular Disease. The social-ecological model underscores the dynamic interplay between individual and situational factors and links policy and environmental systems changes to individual behavioral change.⁴² This approach to health promotion integrates multiple levels of influence to impact health behavior, in contrast to a narrow focus on individual health education.

Although individuals make personal health decisions, these choices are made within a broader context of social, economic, and physical environments that shape and influence individual behavior. Changes to environmental contexts and systems, therefore, impact personal behavioral change, and will do so on a larger scale than individual interventions like education and counseling.⁴³ In other words, environmental conditions that are favorable to health can promote and reinforce individual health behaviors. Menu labeling in restaurants, a worksite policy requiring healthy foods to be served at meetings, or designing communities in which sidewalks are safe and accessible are examples of the kinds of policy and environmental systems changes CVH programs used to initiate individual behavioral change.

The social-ecological model describes multiple levels of influence, including:

- *Societal Systems/Public Policy*. At this level, large-scale interventions target local, state, and federal policies and laws that regulate health behavior and prevention. Nutrition, smoking, and physical activity legislation throughout the state or nation, for example, can comprehensively shape health behavior by mandating supportive health practices.
- *Community*. Interventions at the community level focus on influencing the formal and informal social standards that exist among individuals, groups, and organizations. For example, community improvements to parks and recreation facilities improve access to physical activity.
- *Organizational*. Interventions aimed at organizations (e.g., schools, places of employment, places of worship) focus on changing the rules and regulations within the organization that can constrain or promote individual health behavior. For example, a school policy that eliminates unhealthy vending options influences students' nutrition options.
- *Interpersonal*. At this level, interventions target friends, family, peers, and co-workers who provide support and a social identity to reinforce and encourage social networks to make positive lifestyle choices. Colleagues who develop work walking clubs, for example, encourage physical activity through social support and accountability.
- *Individual*. Individual-level interventions attempt to shape the personal knowledge, attitudes, beliefs, and behaviors that influence individual health behaviors. Campaigns encouraging adults to make healthy food choices, for example, aim to change individual behavior.



⁴² Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge, MA: Harvard University Press.

⁴³ Stokols, D. (1996). Translating social ecological theory into guidelines for community health promotion. *American Journal of Health Promotion*, 10, 282-298.

Rather than focusing exclusively on personal health responsibility, the CVH program’s approach considers the role of environmental, population-level factors in contributing to cardiovascular health. The 2005-2009 CVH program implemented intervention strategies at various levels of influence within the social-ecological model, focusing on change in social systems/public policy, communities, and organizations such as schools, workplaces, and healthcare institutions.

Another critical feature of the CVH program’s intervention approach was the use of **evidence-based intervention strategies**. Evidence-based public health interventions utilize agreed upon standards of evidence to make decisions about public health policies and practices to protect or improve the health of populations. They provide a baseline from which communities can increase the effectiveness, impact, and cost-effectiveness of public health activities that lead to improved health outcomes.

The CDC Community Guide was used as a resource by CVH programs; the guide provides programs with recommended activities meeting evidence-based criteria and is considered the “gold standard” for evidence-based public health.⁴⁴ Evidence-based practices help public health practitioners make decisions on the basis of the best available scientific evidence, use data and information systems systematically, apply program-planning frameworks, engage the community in decision making, conduct sound evaluation, and disseminate what is learned.⁴⁵ An evidence-based approach to public health has significant direct and indirect benefits, including: information on what approaches and programs are likely to produce substantial effects; a greater likelihood of successful programs and policies being implemented; increased workforce productivity; and more cost-efficient, cost-effective use of both public and private resources.⁴⁶

Through community-based, population-level, evidence-based public health strategies, the CVH program has demonstrated it is an instrumental part of the Ohio Department of Health’s commitment to ensure all Ohioans lead long and healthy lives.

The following section on Community Profiles details each county’s CVH program intervention activities and areas of impact.

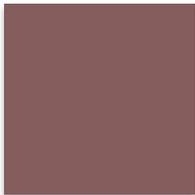
⁴⁴ The Community Guide can be found at <http://thecommunityguide.org/index.html>.

⁴⁵ Brownson, R.C., Fielding, J.E., & Maylahn, C.M. (2009). Evidence-based public health: A fundamental concept for public health practice. *Annual Review of Public Health, 30*, 175-201.

⁴⁶ Ibid.



Community Profiles



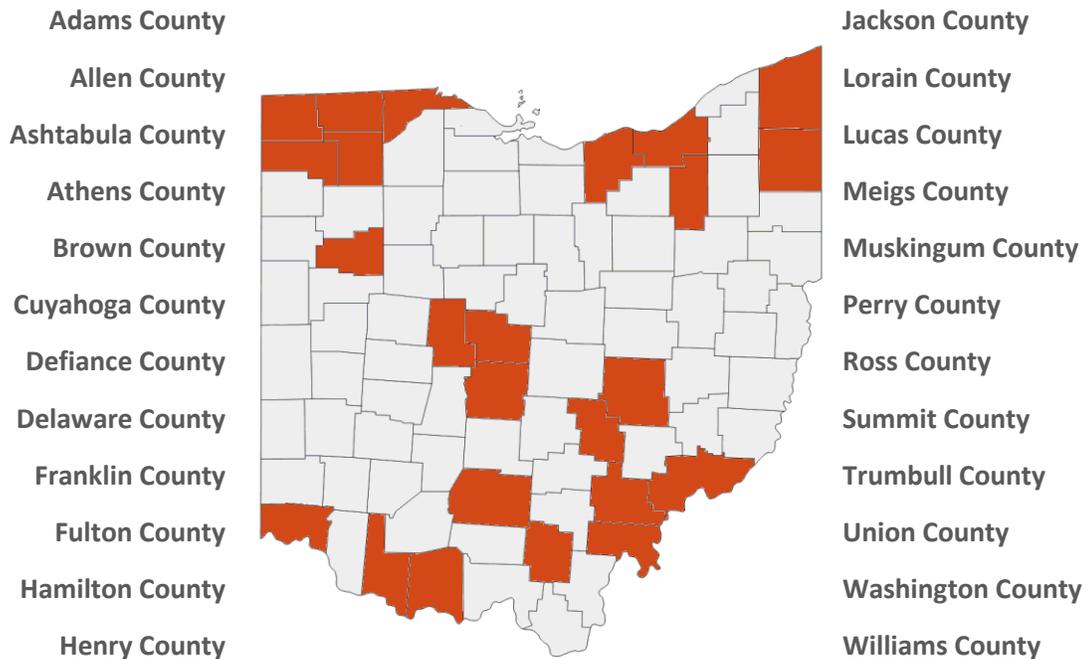
Community Profiles

Counties benefiting from CVH programs worked to build coalitions and engage partners in their local communities to impact policies, systems, and environments in ways that support heart-healthy living. Over a five- year period, CVH programs in each of 24 counties influenced cardiovascular wellness and prevention in their schools, community settings, worksites, and healthcare institutions. By leveraging CVH resources, Ohioans enjoyed greater access to fresh fruits and vegetables, increased opportunities to engage in physical activity, and decreased exposure to secondhand smoke.

The following pages profile important community successes and highlight a subset of interventions developed, initiated, or enhanced between 2005 and 2009 as a result of the CVH program. These community profiles do not describe all the projects’ intervention activities, focusing instead on particularly impactful accomplishments. The content featured in each profile is based on descriptions by CVH coordinators of the activities most impactful in their local communities as well as CVH project summary reports and success stories that identify notable intervention activity. Settings in which each county excelled are identified by the following icons in the community profile:



The community profiles detail the impact of 2005-2009 CVH intervention activity in these 24 counties:



Within each county, CVH projects targeted communities with the highest need for prevention and at the greatest risk for developing CVD health issues. These CVH programs addressed critical risk factors impacting CVD health in areas with cardiovascular-related mortality rates higher than the national average and high concentrations of disparate populations (e.g., individuals in poverty, minority residents, and the medically underserved). Given the focus on high-need populations, in addition to descriptions of important CVH successes, targeted populations are listed in a footnote in each county's profile.

Demographic characteristics of each county are presented in the community profiles. The overall variability in the demographic characteristics of the 24 CVH counties includes the following:

- The gender distribution ranged from 48.0 percent female (Ross County) to 52.8 percent (Cuyahoga County).
- The percentage of white residents in the CVH counties ranged from 69.5 percent (Cuyahoga County) to 99.2 (Perry County); the percentage of black residents ranged from 0.3 percent (Adams County) to 28.2 percent (Cuyahoga County); the percentage of Hispanic/Latino residents ranged from 0.4 percent (Brown County) to 7.3 percent (Defiance County); the percentage of residents of another unspecified race/ethnicity ranged from 0.4 percent (Brown County) to 3.8 percent (Franklin County).
- The median annual household income ranged from \$27,287 (Meigs County) to \$67,258 (Delaware County).
- The percentage of families below poverty ranged from 2.9 percent (Delaware County) to 14.3 percent (Meigs County).

It is important to note that the demographics of high-need populations targeted by CVH interventions may greatly differ from the overall county in which they reside. Notable demographic differences between the overall county and the specific target population(s) are mentioned in a footnote in the county profiles and provided in detail in Appendix A.

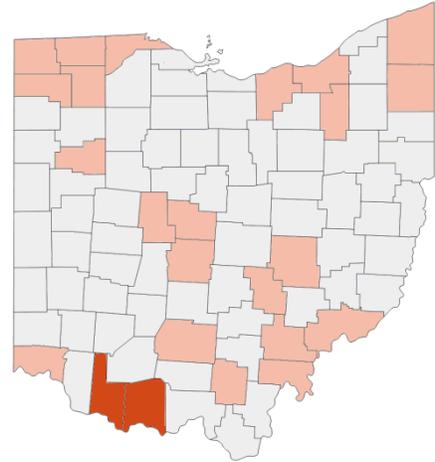
Community—7 farmers’ markets and 2 environmental/system changes potentially impacted **3,031** residents.

School—29 school wellness policies implemented, potentially impacting **14,930** students and staff.

Adams and Brown Counties

Diabetes Resource Development

Adams and Brown counties combined efforts, forming the Adams-Brown Heart Health Coalition. A 2003 Diabetes Summit held by the Adams-Brown Heart Health Coalition formed the Adams-Brown Diabetes Education Task Force (ABDETF), composed of physicians, nurses, pharmacists, and 20 healthcare organizations (e.g., hospitals, county health departments, Northern Brown Senior Center, and university-affiliated health entities). From 2005 to 2009, the ABDETF and the Adams-Brown Heart Health Coalition developed comprehensive diabetes education resources such as the Diabetes Education Resource Guide, the Diabetes Education Help Line, Diabetes Education Starter Packet, and Dealing with Students with Type 2 Diabetes for school nurses. Local events promoted diabetes prevention and management, including screenings at worksites and health fairs and continuing education workshops for local physicians and nurses. The ABDETF collaborated with the Coalition to create a Community Indoor Walking Program to promote physical activity, heart health, and diabetes prevention at eight locations throughout Brown and Adams Counties.



		Adams County ⁴⁷	Brown County ⁴⁸
Gender	Male	49.0%	49.2%
	Female	51.0%	50.8%
Race/Ethnicity	White	98.7%	98.6%
	Black	0.3%	1.1%
	Hispanic/Latino ¹	0.6%	0.4%
	Other	1.0%	0.4%
Median Income		\$29,315	\$38,303
Families Below Poverty		12.8%	8.8%

Source: U.S. Census Bureau, 2000

¹The Hispanic/Latino estimate includes individuals of other races

The Adams-Brown Heart Health Coalition also developed school wellness policies that were implemented in all school districts of both counties. To encourage consumption of healthy foods in schools, all public schools in Adams County and most schools in Brown County eliminated fried foods from their menu and offered only one

percent or fat-free milk to students. Furthermore, all Adams County public schools, all Brown County elementary schools, and the Adams County Career and Technical Center implemented breakfast programs for students. School Wellness Policies were established to increase students’ physical activity and promote healthy habits. *Walk to School Day* was sponsored annually at four elementary schools. In Brown County, three schools added 10 minutes of daily classroom physical activity and several elementary and middle schools developed a classroom exercise break program.



⁴⁷ High-need target population included the entire county.

⁴⁸ High-need target population included the entire county.

Worksite—17 worksite wellness committees formed, potentially impacting **5,170** employees.

School—13 school health teams and 3 schools implemented wellness policies, potentially reaching **4,842** students and staff.

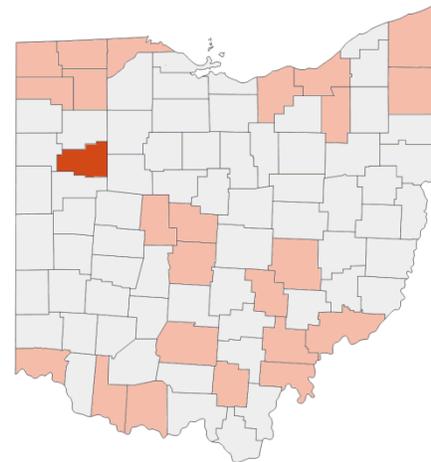
Allen County

Taking Control of Health and Wellness

In Allen County, the CVH program organized the Allen County Media Advocacy Task Force consisting of local hospital, YMCA, school administration, and media personnel to empower Allen County residents to take charge of their health and make healthy lifestyle changes. Focus groups conducted in 2006 assessed residents' perceptions of cardiovascular risk factors, motivators for making healthier lifestyle changes, and reactions to healthy media messages. Using this information, the Task Force, partnering with local media affiliates, created a *Taking Control* media campaign focused on risk factor prevention that involved a series of television news stories, radio spotlights, billboards, and banners at community events, and thousands of informational flyers distributed in local pharmacies and grocery stores.

From 2005 to 2009, worksites and schools instituted multiple health and wellness initiatives. Lima City Schools completed the School Health Index, which guided the establishment of Wellness Teams at five elementary schools and three middle schools. A School Wellness Policy, and parent education regarding the policy, was implemented at Lima City Schools, Quest Academy, and Lima Catholic Schools. To encourage sales and consumption of healthier foods, the Apollo Career Center implemented new food pricing and labeling strategies, Lima City Schools created healthy meeting guidelines, Allen East & Spencerville School Districts established school breakfast programs, three schools enhanced their fourth grade science curriculum to include hands-on *Veggie U* nutrition curriculum modules, and 84 classrooms adopted classroom Healthy Rewards policies.

Local companies have similarly demonstrated a commitment to health and wellness. Five organizations established Worksite Wellness programs, initiating health and fitness challenges, smoking cessation programs, health lending libraries, and health newsletters. Twelve worksites instituted a Healthy Meeting Policy, restricting unhealthy foods from meetings. The CVH program has provided 15 trainings and workshops on cardiovascular health topics to nearly 40 companies. Three worksites initiated a Farm to Work Community Supported Agriculture program, allowing employees to receive a weekly delivery of fresh, local produce. Cumulatively, the school and workplace wellness initiatives introduced systematic change that supports Allen County residents' heart health.



Gender	Male	50.0%
	Female	50.0%
Race/Ethnicity	White	86.2%
	Black	13.0%
	Hispanic/Latino ¹	1.4%
	Other	0.9%
Median Income		\$37,048
Families Below Poverty		9.6%

Source: U.S. Census Bureau, 2000

¹The Hispanic/Latino estimate includes individuals of other races

Primary Impact:



⁴⁹ Targeted populations: Lima City and Allen County Lutheran Social Services Patients. Notable demographic differences: Lutheran Social Services Patients population has a higher proportion of females than Allen County, both have larger minority proportions, and Lima City has a much higher percentage of impoverished families with a lower median income than the county overall. See Appendix A for details.

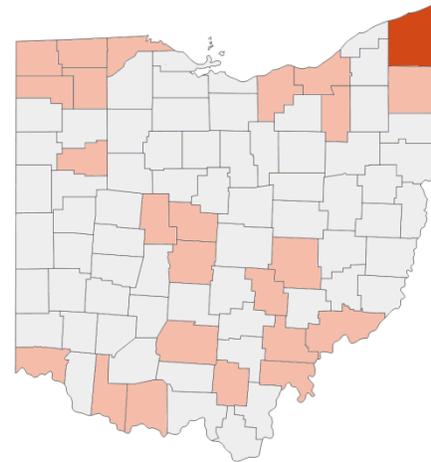
Community—3,500 residents used the walking trails, 148 residents participated in walking groups, and 2,000 customers served in Gold Plate restaurants.

School—2 school health teams and 2 schools implemented wellness policies, potentially reaching 7,000 students and staff.

Ashtabula County

Strengthening School and Work Wellness Programming

More than 300 residents received a pedometer and participated in quarterly education and walking activity sessions through Ashtabula County Walks. The Ashtabula Area City School District initiated policy changes to create 100 percent tobacco-free school campuses, receiving a State Planning Committee for Health Education in Ohio (SPCHEO)⁵¹ mini-grant to generate signage publicizing the tobacco-free school policy. The CVH program assisted with the development and implementation of School Wellness Policies and School Wellness Teams in all seven school districts. To support healthy lifestyles in school and workplace settings, Ashtabula’s CVH program hosted annual food service conferences with Trumbull County for over 300 food service personnel; the 2009 Childhood Obesity Conference in Ashtabula City with attendees from nursing, food service, and health education sectors; and the 2009 Worksite Wellness Conference attended by representatives from eight local companies. In the spring of each year, the CVH program arranged a health and wellness Corporate Challenge with physical activities and events such as a 5K run/walk, Biggest Loser weight loss challenge, and team bowling competition. With the CVH program, the Ashtabula County Heart Health Coalition, consisting of members from three health departments, three hospitals, various school districts, a drug treatment facility, the YMCA, and local companies, continued to conduct the annual CHH Checklist Assessment and to assist Ashtabula communities to develop and implement heart wellness initiatives.



Ashtabula County ⁵⁰		
Gender	Male	48.7%
	Female	51.3%
Race/Ethnicity	White	95.8%
	Black	3.6%
	Hispanic/Latino ¹	2.2%
	Other	0.7%
Median Income		\$35,607
Families Below Poverty		9.2%

Source: U.S. Census Bureau, 2000

¹The Hispanic/Latino estimate includes individuals of other races

Two additional events supported by the Ashtabula County CVH program were particularly impactful on county residents—Longest Day of Play and GuardCare. The Longest Day of Play is a national initiative encouraging families to engage in physical activity on the Summer Solstice, the longest day of the year. The Longest Day of Play, made possible through the collaboration of nearly 30 Ashtabula County agencies, had over 1,500 residents from 2008-2009 participate in the annual summer walking challenge and a one-mile family fun run/walk. In 2006, GuardCare, an Ohio National Guard healthcare program, provided 764 individuals with free health education, services, and screenings, including sports and general physicals, hearing tests, EKGs, vision tests, dental screenings, child and adult immunizations, complete blood chemistries, PSA tests for prostate cancer, pap tests, lipid profiles, blood glucose tests, thyroid TSH tests, and lead testing for children.

Primary Impact:



⁵⁰ Targeted populations: Ashtabula City, Geneva, and Conneaut. Notable demographic differences: Ashtabula City has a higher population of black residents and impoverished families than the county. See Appendix A for details.

⁵¹ SPECHEO has since been renamed the Buckeye Healthy School Alliance.

Athens County

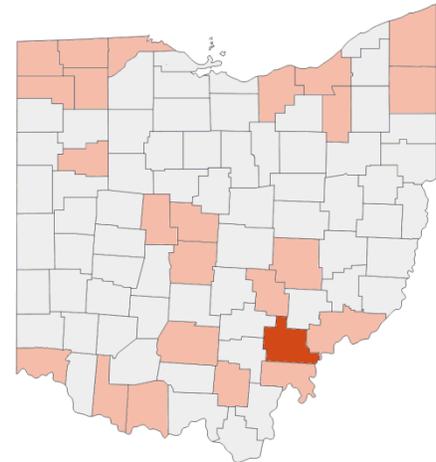
School—5 school health teams established and 5 schools implemented wellness policies, potentially reaching **8,272** students and staff.

Transforming School Nutrition Education and Standards

From 2005-2009, the CVH program and the Heart Healthy Community Coalition targeted school health interventions. Working with local school districts to provide training for school educators, administrators, parents, and cooks, the Coalition hosted three physical education workshops, three food service trainings, and two comprehensive school health trainings. The Coalition also helped to secure additional grant money funding school health initiatives and efforts to transform school health policy and culture to support nutrition and physical activity. School districts conducted 20 School Health Index (SHI) assessments to gauge the current state of each school’s health and guide development of school health action plans. As a result, seven School Health Teams were created and all five school districts in Athens County subsequently established school wellness policies that improved nutrition education, nutrition standards, and availability of space for physical activity. After consulting with nutrition experts to review nutritional value of school menus, school wellness policies were added that:

- Increased fiber content of school foods.
- Reduced fat content of milk served at school.
- Limited the number of high-sugar foods at school breakfasts.
- Increased the number of healthy vending machine options.
- Eliminated or restricted non-nutritious food used in school fundraising efforts.

Additionally, schools created in-school wellness centers for students, staff, and community members; purchased new outdoor exercise equipment; and purchased non-traditional physical education equipment that offers alternative forms of physical activity, such as archery equipment or *Dance Dance Revolution*, a music video game requiring players to match their dance moves to visual and musical cues presented to them.



Athens County ⁵²		
Gender	Male	48.9%
	Female	51.1%
Race/Ethnicity	White	94.5%
	Black	2.8%
	Hispanic/Latino ¹	1.1%
	Other	2.7%
Median Income		\$27,322
Families Below Poverty		14.0%

Source: U.S. Census Bureau, 2000
¹The Hispanic/Latino estimate includes individuals of other races

**Primary
Impact:**



⁵² Targeted populations: Chauncey, Nelsonville, and Trimble Township. Notable demographic differences: Nelsonville has a lower female population, all populations have lower median incomes and higher levels of families below poverty, and Trimble Township tends to be less racially diverse than the county. See Appendix A for details.

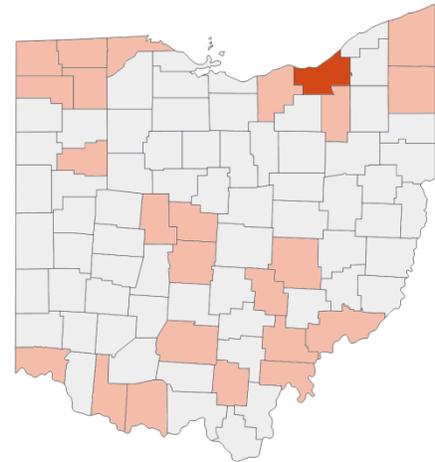
Cuyahoga County

Community—45,000 residents were potentially impacted by all Cuyahoga County community initiatives.

Facilitating Healthy Food Consumption through the Creation of Community Gardens

The CVH program in Cuyahoga County revitalized more than 4,700 square feet of vacant property in East Cleveland by helping to create 12 community gardens in East Cleveland:

- Seed to Feed Garden
- E.C. Grows Garden
- Multicultural Garden
- Ardenall Avenue Community Garden
- Phillips Avenue Community Garden
- North Lockwood Garden
- Superior Elementary School Garden
- Chambers Elementary School Garden
- Randall Park Garden
- Warrensville Heights Middle School Garden
- CEOGC Head Start Garden
- Huron Hospital Garden



Cuyahoga County ⁵³		
Gender	Male	47.2%
	Female	52.8%
Race/Ethnicity	White	69.5%
	Black	28.2%
	Hispanic/Latino	3.4%
	Other	2.3%
Median Income		\$39,168
Families Below Poverty		10.3%

Source: U.S. Census Bureau, 2000
¹The Hispanic/Latino estimate includes individuals other races

The North Randall community rallied around its garden, inspiring the Mayor and Chief of Police to lead cleanup efforts, gardeners to attend instructional workshops provided by the CVH program (e.g., Raised-Bed Gardening, Planting Garlic, Lasagna Gardening, and Planting Fruit Trees), and community gardeners to organize a schedule for maintaining and expanding the gardens. Additionally, the CVH program in Cuyahoga County secured three written land leases for community garden preservation and aided in establishing a City Fresh Stop, a modified cooperative, community-owned agriculture program that distributes weekly fresh produce to local neighborhoods in East Cleveland. The CVH program in Cuyahoga County further improved residents’ access to affordable, healthy foods by helping three farmers’ markets implement the Electronic Benefits Transfer (EBT) program to allow individuals to use their food assistance benefits to purchase fresh, healthy food at local farmers’ markets. Combined, these efforts improved the community environment in a way that supports healthy fresh food consumption among East Cleveland residents.



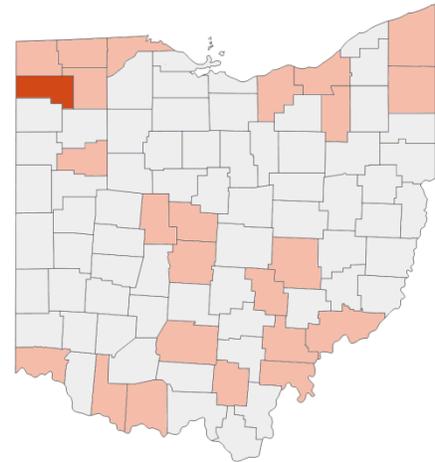
⁵³ Targeted populations include East Cleveland and Euclid City. Notable demographic differences: about a quarter of East Cleveland families are below poverty, with a median income almost \$20,000 less than the rest of the county. Both communities have much larger minority populations than Cuyahoga county, with East Cleveland comprised of nearly 95 percent black residents. See Appendix A for details.

Defiance County

All school, healthcare, community, and worksite activities potentially reached **51,251** Defiance County residents.

Residents Step Up and Step Out to a Physically Active Lifestyle

A 2005 Community Health Needs Assessment identified increased physical activity as a priority among residents of Defiance County; no walking paths existed in Defiance County at that time. To encourage and facilitate a physically active lifestyle, the CVH Program in Defiance County implemented the *Step Up and Step Out* walking program. They researched and measured walking trails throughout the county, developing a Defiance County Walking Guide that provided mileage and trail information, aerial maps of walking areas, guidance on how to begin a daily walking regimen, and an exercise log to track daily physical activity. In each community, the CVH program posted signs highlighting the walking trail, noting the trail’s mileage, and encouraging residents to walk. Four new walking trails were established that included rural communities of Defiance, Hicksville, and Sherwood. In addition, alternative walking areas such as high school tracks and a local shopping mall were marked. The Defiance County Walking Guide was distributed throughout the county, made available on the Defiance County Health Department website, and publicized in two local newspapers.



Defiance County ⁵⁴		
Gender	Male	49.3%
	Female	50.7%
Race/Ethnicity	White	97.2%
	Black	2.1%
	Hispanic/Latino ¹	7.3%
	Other	0.7%
Median Income		\$44,938
Families Below Poverty		4.5%

Source: U.S. Census Bureau, 2000
¹The Hispanic/Latino estimate includes individuals of other races

The Defiance County CVH program also supported health education initiatives in many community, workplace, and school settings. They organized annual Worksite Wellness Conferences for human resource personnel and worksite wellness committees, collaborated with Ohio Action for Healthy Kids to provide multiple School Health Team Training sessions, provided Little Changes Make Big Differences presentations to the community, contributed to monthly health education newsletters, and helped develop a cardiovascular risk factors informational packet for primary care providers customized for Hispanic/Latino patients.

Primary Impact:

Worksite

Community

⁵⁴ Targeted population: the City of Defiance. Notable demographic differences: Defiance has a larger proportion of black and Hispanic/Latino residents and a higher percentage of families below poverty than the overall county. See Appendix A for details.

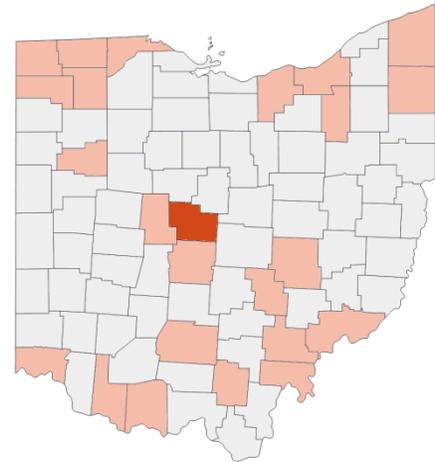
Worksite—Initiatives potentially impacted **610** employees.

School— Multiple school initiatives potentially impacted more than **400** students and staff.

Delaware County

Cultivating School and Work Systems that Foster Heart-Healthy Habits

In Delaware County, school wellness initiatives improved cafeteria choices, nutrition education, physical activity, and obesity prevention. All four county school districts established School Wellness Teams and implemented School Wellness Policies. Reducing student exposure to secondhand smoke, Ohio Wesleyan University and three local school districts instituted 100 percent tobacco-free campus policies. Delaware County schools diversified healthy snack choices. School vending options included more nutritious foods. Dempsey Middle School implemented the Snackwise® rating system to improve healthy nutrition awareness and consumption, which rates vending options as green (best snack choice), yellow (choose snack occasionally), or red (choose snack rarely). Buckeye Valley East Elementary School cultivated a community garden, and all elementary schools organized regular Veggie Challenges to encourage healthy eating.



Delaware County ⁵⁵		
Gender	Male	49.5%
	Female	50.5%
Race/Ethnicity	White	95.3%
	Black	2.8%
	Hispanic/Latino ¹	1.0%
	Other	1.9%
Median Income		\$67,258
Families Below Poverty		2.9%

Source: U.S. Census Bureau, 2000

¹The Hispanic/Latino estimate includes individuals of other races

Also promoting regular physical fitness, *Eat Well and Keep Moving*, an interdisciplinary curriculum teaching school nutrition and physical activity, was implemented in all Delaware County elementary schools. Walking challenges were initiated at two Buckeye Valley Local schools, and three Walk-A-Thon competitions were organized by Buckeye Valley East Elementary. These walking initiatives, however, expanded beyond school settings to include the broader community as well. The Cardiovascular Health Program partnered with the City of Delaware and identified indoor walking areas, created Delaware area walking maps, and established two new walking paths.

In collaboration with the Delaware General Health District, the worksite wellness program, *WorkWell*, was developed to assist and support Delaware County businesses in implementing worksite wellness programs that help employees make positive lifestyle changes. The *WorkWell* initiative provided nine companies with assistance in forming a wellness committee, establishing a wellness plan, identifying specific employee wellness goals and objectives, and evaluating measurable impact on employees' health. The *WorkWell* program helped modify worksite vending food options, organized a Worksite Wellness Conference, and hosted quarterly *WorkWell* breakfast meetings where guest speakers discussed various health and wellness topics.

Primary Impact:



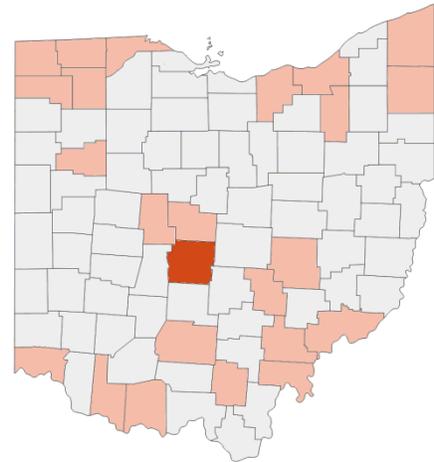
⁵⁵ Targeted populations: Village of Ashley, Woodward Elementary attendance area, and Delaware County (worksites). Notable demographic differences: Woodward Elementary has a slightly larger Black population, most have a larger percentage of families below poverty, and Ashley has a median income approximately \$25,000 less than Delaware County. See Appendix A for details.

Franklin County (Columbus City)

Community—all community activities potentially impacted
215,300 residents.

Improving Healthy Food Accessibility in Columbus

The Franklin County CVH Program improved access to healthy foods in high-need, low-income, urban neighborhoods in Columbus. The CVH program helped establish six community farmers’ markets and enabled three additional farmers’ markets to accept Electronic Benefit Transfer (EBT) cards so individuals receiving food assistance benefits could obtain fresh, affordable, healthy produce. With local partners, the CVH program helped a mobile produce market initiative expand to more than 30 locations and rotate among recreation centers in four local neighborhoods. Discussions with food pantry operators and garden organizers prompted additional community gardens to provide fresh produce directly to local food pantries. The Mid-Ohio Food Bank’s mobile truck provided healthy food twice a month to patients using the free clinic at Columbus Public Health. Additionally, the CVH program increased access to healthy foods by initiating an urban farm for Southwest Columbus residents.



Franklin County ⁵⁶		
Gender	Male	48.6%
	Female	51.4%
Race/Ethnicity	White	77.3%
	Black	18.9%
	Hispanic/Latino ¹	2.3%
	Other	3.8%
Median Income		\$42,734
Families Below Poverty		8.2%

Source: U.S. Census Bureau, 2000

¹The Hispanic/Latino estimate includes individuals of other races

To empower and assist additional communities in improving access to healthy food, the CVH program developed and widely disseminated the *Improving Access to Healthy Foods: A Community Planning Tool*. This tool helps local groups implement organized food access strategies, and guides community residents through the process of assessing community needs, developing and implementing strategies, and evaluating results of the community’s efforts.

The CVH program promoted increased physical activity. In partnership with Columbus Public Health, downtown walking route maps were made available online by the Greater Columbus Convention & Visitors Bureau and were advertised at the Columbus Convention Center. The CVH program also collaborated with Winner’s League Foundation and Columbus Health Works to create a healthy workforce DVD with two guided, 30-minute cardiovascular workouts. Other initiatives advocating physical activity included the Block Watch/Block Walk program, 33 radio *Health Power Moments*, and the *30 Minutes for the Soul, Make Physical Activity Your Goal* social marketing campaign targeting female African -American heads of households. Further promoting physical activity, the city began to provide free bike corral parking at all city- sponsored events downtown and The Ohio State University began to provide free valet bike parking for home football games.



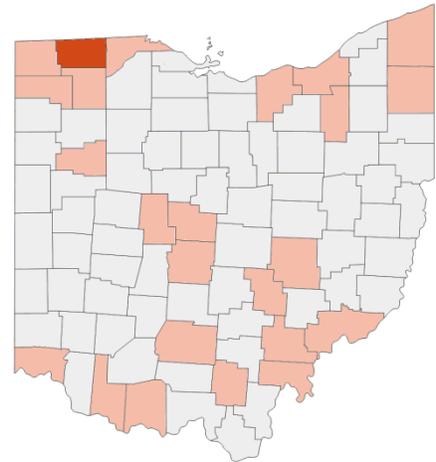
⁵⁶ Targeted populations: Hilltop, three areas of Franklinton (zip codes 43215, 43222, and 43223), and three areas of Linden (zip codes 43219, 43224, and 43211). Notable demographic differences: one part of Franklinton has a smaller female population, one area of Linden has a larger female population, in two areas of Linden the majority of residents are black, all populations have lower median incomes than the county, and the percentage of families below poverty ranges from 10.6 to 33.4 (all above the county percentage). See Appendix A for details.

Fulton County

School— 2 policies and 3 environmental/system changes impacted **2,047** students. Walking paths at new school building impacted **542** students and staff. The 71 individuals trained at the School Health Conference helped to form 11 school health teams, potentially impacting **4,365** students and staff.

Transforming School Nutrition

In Fulton County, CVH program coordinators started a School Wellness Program focused on promoting heart-healthy lifestyles in school settings. As part of the School Wellness Program, Fulton County implemented school breakfast programs for K-12 grade students in several school districts. After the inception of the school breakfast program, teachers noted improved classroom behavior, improved concentration, and higher test scores. In Fayette district schools, at least 524 students benefited from this initiative, receiving daily, nutritious breakfasts prior to the start of classes.



The Fulton County School Wellness Program included a Recess Before Lunch initiative for elementary students to enhance students’ physical activity. Following the start of this program, teachers reported improved recess socialization and lunchroom behavior. Additional nutritional improvements and policies were implemented to contribute to student wellness including:

- Providing more healthy vending options for students and staff.
- Committing to have 100 percent tobacco-free school campuses.
- Adding a salad bar to high school lunches.
- Eliminating all fried foods from school-provided meals.

School health and wellness teams were established in all seven school districts to provide continuous guidance, monitoring, and rejuvenation of School Wellness Programs.

Fulton County ⁵⁷		
Gender	Male	48.9%
	Female	51.1%
Race/Ethnicity	White	98.7%
	Black	0.4%
	Hispanic/Latino ¹	5.7%
	Other	0.8%
Median Income		\$44,074
Families Below Poverty		4.0%

Source: U.S. Census Bureau, 2000
¹The Hispanic/Latino estimate includes individuals of other races



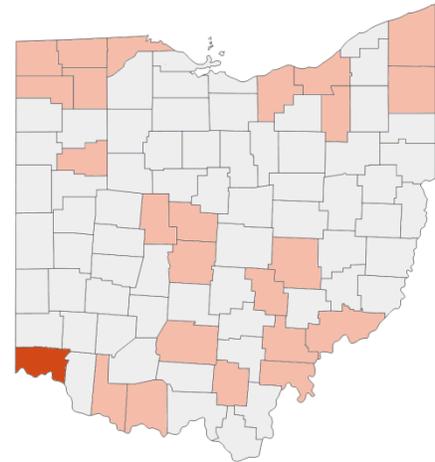
⁵⁷ Targeted populations: Delta and Fayette. No notable demographic differences. See Appendix A for demographic details.

Healthcare— 360 patients were potentially impacted by a childhood obesity workshop. All Cincinnati City healthcare activities potentially impacted 7,746 residents.

Hamilton County (Cincinnati City)

Treating Tobacco Dependence

One of the most impactful initiatives of the 2005-2009 Cincinnati City CVH program involved prevention and treatment of tobacco use in Cincinnati. In 2005, an assessment of medical center directors and nurses jointly conducted by the CVH program and the Cincinnati City Health Department (CCHD) indicated that training on tobacco treatment was needed among medical personnel. The CVH program, along with the Nursing Staff Development Office, the Cardiovascular Health Coalition of Hamilton County, and the Hamilton County Tobacco-Free Partnership co-sponsored tobacco cessation training, titled *Treating Tobacco Use and Dependence*, to 48 healthcare providers. As a result, representatives from seven CCHD work areas and additional external agencies formed a committee to develop and implement a standardized process for healthcare professionals to address client tobacco use and referral for treatment, using the *5 A's Model*. This model consists of a five-step clinical protocol:



Hamilton County ⁵⁸		
Gender	Male	47.7%
	Female	52.3%
Race/Ethnicity	White	73.9%
	Black	24.0%
	Hispanic/Latino ¹	1.1%
	Other	2.1%
Median Income		\$40,964
Families Below Poverty		8.8%

Source: U.S. Census Bureau, 2000
¹The Hispanic/Latino estimate includes individuals of other races

1. Ask about tobacco use.
2. Advise to quit smoking.
3. Assess willingness to make a quit attempt.
4. Assist in developing a quit plan.
5. Arrange follow-up contact.

The committee piloted the *5 A's Model* in the Cincinnati Health Department's Price Hill Health Center. The successful implementation of a standardized method for treating tobacco dependence prompted the creation of Tobacco Treatment Specialist Training, attended by eight Cincinnati Health Department staff members who subsequently implemented the program at their respective worksites.

In addition to addressing tobacco treatment, the CVH program organized and supported a number of other healthcare training initiatives, including three stroke risk reduction and treatment trainings, two healthcare staff and provider trainings at the Price Hill Health Center and the WIC program, two CCHD nursing staff development workshops, and a childhood obesity workshop.



⁵⁸ Targeted populations: Bond Hill (Cincinnati), Madisonville (Cincinnati), and Winton Terrance/Spring Grove. Notable demographic differences: Winton/Spring Grove area has a larger female population and almost 50 percent of families below poverty, and all areas have a larger black population than Hamilton County as a whole. See Appendix A for details.

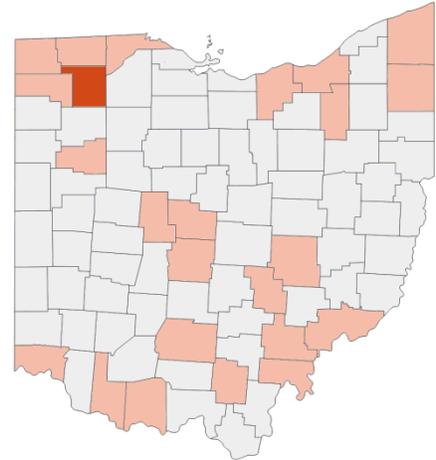
Henry County

School—the formation of 8 school health teams, implementation of wellness policies at 4 schools, and establishment of a tobacco-free campus at one school potentially impacted 3,990 students and staff.

Optimizing Students’ Healthy Eating Opportunities

Henry County CVH program developed a School Wellness Policy for all four school districts. These policies set goals for nutrition education and physical activity, for nutrition standards for food provided during school day, and for other school-based activities promoting student wellness. Eight School Health Teams were established in three school districts and six school health trainings were conducted to aid in the implementation of the wellness policies in schools. Furthermore, Henry County collaborated with Maumee Valley Vending Company to increase the number of healthy vending options provided in schools and worksites.

In addition to making efforts to improve overall child nutrition and wellness, Henry County also developed a strategy to reduce the prevalence of child hunger. Henry County initiated a School Breakfast Program, providing hungry children access to healthy morning meals. Since its inception, three school districts (Napoleon Area School District, Holgate School District, and Patrick Henry School District) as well as Liberty Center Elementary School adopted the School Breakfast Program. The percentage of students participating ranged from 10 to 57 percent, with well over 698 students regularly eating school breakfasts. Liberty Center Elementary School adapted the Breakfast Program to offer in-class morning meals to more than half of its students. After the implementation of the School Breakfast Program, school principals reported a reduction in tardiness, school nurses noted fewer morning stomach ache complaints, and teachers reported improved in-class student behavior.



Henry County ⁵⁹		
Gender	Male	49.4%
	Female	50.6%
Race/Ethnicity	White	98.4%
	Black	0.8%
	Hispanic/Latino ¹	5.4%
	Other	0.8%
Median Income		\$42,657
Families Below Poverty		5.3%

Source: U.S. Census Bureau, 2000
¹The Hispanic/Latino estimate includes individuals of other races



⁵⁹ Targeted populations: Napoleon and Liberty Center. Notable demographic differences: more families below poverty in Napoleon and larger percentage of black residents in Liberty Center compared to Henry County. See Appendix A for details.

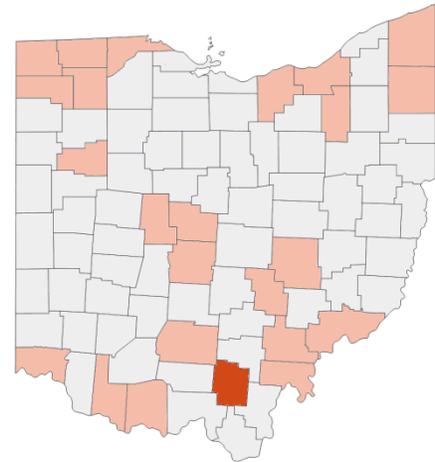
Jackson County

School— policies that lowered the cost of healthier drink option at lunch and eliminated junk foods at class parties potentially impacted **3,662** students and staff.

Worksite—14 wellness teams and 12 new worksite walking paths potentially impacted **1,050** employees.

Demonstrating the Fiscal Fitness of Worksite Wellness

Collaborating with a secondhand tobacco grant project, the Jackson County CVH Program organized two Worksite Wellness Conferences. The goal at each conference was to improve understanding of worksite wellness and how employee wellness benefits a company’s bottom line. Each of the Worksite Wellness Conferences had more than 100 participants who attended sessions focusing on topics such as the legal liability of secondhand smoke and the fiscal benefits of companies employing workplace wellness programs. In addition to informing southeastern Ohio businesses of available programs and resources supporting worksite wellness, vendors offered participants free health screenings (e.g., blood glucose testing, pulmonary intake testing, bone density analysis, body fat analysis, height and weight measurements, and blood pressure readings) to demonstrate the type of screenings that can be provided at company worksites. Attendees of the first Worksite Wellness Conference subsequently initiated worksite wellness programs, establishing 14 Wellness Teams and 12 new worksite walking paths.



Jackson County ⁶⁰		
Gender	Male	48.2%
	Female	51.8%
Race/Ethnicity	White	98.6%
	Black	0.8%
	Hispanic/Latino ¹	0.8%
	Other	0.6%
Median Income		\$30,661
Families Below Poverty		13.6%

Source: U.S. Census Bureau, 2000
¹The Hispanic/Latino estimate includes individuals of other races

Jackson County schools also embraced health and wellness initiatives, implementing:

- 100 percent tobacco-free campus policies in all county schools.
- Healthy vending guidelines.
- An Exercise Before Breakfast Program in Jackson City Elementary Schools.
- A Free Universal Breakfast Program for all Jackson City Schools.
- An after -school physical activity and nutrition program.
- A physical activity and nutrition summer program.

Schools’ efforts to integrate more physical activity into students’ routines were facilitated by the increased availability of community locations dedicated to physical activity (e.g., a community indoor track and fitness facility at Jackson High School, a community sports complex at Southview Elementary School, two baseball fields and one softball field in the City of Jackson, and the enhancement of the City of Jackson bike and fitness trail).

Primary Impact:

Worksite

School

⁶⁰ Targeted populations: Oak Hill and Wellston. Notable demographic differences: Oak Hill has a lower median income and greater percentage of families below poverty. See Appendix A for details.

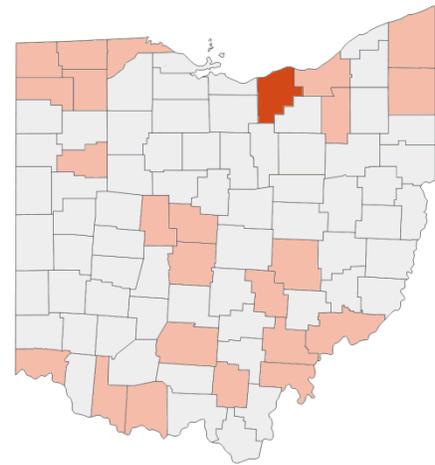
Healthcare— the Blood Glucose Monitoring workshop trained 65 healthcare workers, who had the potential of impacting **64,000** people.

All school, healthcare, community, and worksite activities potentially reached **60,461** residents.

Lorain County

Developing Knowledge and Skill of Healthcare Personnel

Given that blood glucose measurement standards periodically change, can be assessed in a wide range of settings by persons with varied levels of trainings, and are critical to the long-term treatment of diabetes, the Lorain County CVH program provided healthcare interventions targeting correct blood glucose measurement. The Cardiovascular Health Program organized an annual Blood Glucose Monitoring (BGM) workshop to educate participants about recommended measurement techniques, current guidelines, and difficulties in acquiring an accurate reading. This interactive, hands-on workshop promoted current best practices and tested the skill and accuracy of healthcare workers involved in the screening and monitoring of blood glucose. Evaluations indicated the workshop was very effective, with 100 percent of participants capable of correctly identifying best-practice procedures, correctly identifying diagnostic guidelines, and accurately describing blood glucose procedures. The success of the Cardiovascular Health Program’s *Annual Best Practices in Blood Glucose Monitoring Workshops* prompted the creation of two additional workshop series targeting knowledge and skill development of healthcare personnel: the *Annual Accurate Blood Pressure Measurement Workshop* and the *Annual Best Practice Cholesterol Monitoring Workshops*.



Lorain County ⁶¹		
Gender	Male	49.1%
	Female	50.9%
Race/Ethnicity	White	89.4%
	Black	9.4%
	Hispanic/Latino ¹	6.9%
	Other	1.2%
Median Income		\$45,042
Families Below Poverty		6.7%

Source: U.S. Census Bureau, 2000

¹The Hispanic/Latino estimate includes individuals of other races

Lorain County CVH program also promoted community wellness through the development of three new community gardens, the creation of the Community Vending Initiative, the promotion of fruit and vegetable consumption in local grocery stores, and the adoption of the Snackwise® nutritional rating system for foods offered in school and community settings. Additionally, the CVH program encouraged physical activity through the support of the Lorain County Walks Program and the establishment of a faith-based fitness center open to both the church congregation and the community.



⁶¹ Targeted populations: Village of Wellington School District, City of Oberlin, and City of Lorain (South)/Sheffield Township. Notable demographic differences: Larger percentage of female residents in Oberlin, Oberlin and Lorain have more racial/ethnic diversity among residents (e.g., Lorain has nearly 40 percent Hispanic/Latino population), Wellington School District has less racial/ethnic diversity, and Sheffield Township’s residents have a lower median income with more families below poverty than Lorain County. See Appendix A for details.

Worksite—715 residents participated in the Maintain Don't Gain Program.

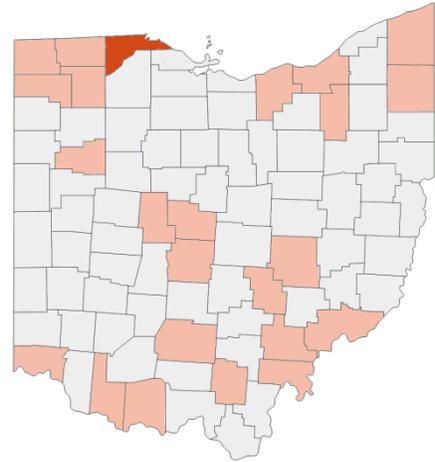
All school, community, healthcare, and worksite activities potentially impacted **45,115** residents.

Lucas County

Multiplying Physical Activity Opportunities in Toledo

The For Your Heart Coalition helped develop the Grace Temple Wellness Committee that promoted healthy behaviors among parishioners of Grace Temple Church and the surrounding Toledo community. The Coalition coordinated the *Step in the Name of Health* walking program that extended to all parishioners. Participants received a pedometer, a daily walking log to track progress, information on the health benefits of walking, and a list of local walking paths. Additionally, the church implemented a Maintain Don't Gain program, a Biggest Loser weight loss challenge, and a Healthy Food Policy to emphasize healthy eating and weight management habits. To encourage physical activity, six indoor walking paths were identified and advertised at Grace Temple Church, each one mile in length. The church also opened a fitness center in the church basement, open for use by both the community and congregation.

The Coalition's initiatives at Grace Temple Church increased the number of physical activity opportunities for parishioners. Additional interventions, such as the *Fit for Life* program hosted by Toledo-Lucas County Library Systems, targeted the broader community and aimed to improve health literacy. The Coalition also improved healthy food access and education in the Toledo-Lucas County area, establishing community gardens, providing heart healthy grocery tours, and conducting four focus groups about access to healthy foods. The Coalition also promoted heart healthy food pantry programs by creating a Best Foods to Donate flyer that encourages healthy donations and supporting the conversion of area food pantries into Choice Food Pantries that encourages individuals to choose healthy, balanced meals and snacks according to the U.S. Department of Agriculture MyPlate food groups.



Lucas County ⁶²		
Gender	Male	48.1%
	Female	51.9%
Race/Ethnicity	White	80.4%
	Black	17.9%
	Hispanic/Latino ¹	4.6%
	Other	1.7%
Median Income		\$38,004
Families Below Poverty		10.7%

Source: U.S. Census Bureau, 2000

¹The Hispanic/Latino estimate includes individuals of other races



⁶² Targeted populations: East Toledo, Old South End, and Neighbors in Partnership. Notable demographic differences: Neighbors in Partnership has a larger proportion of Black individuals (over 70 percent) than the county, all targeted populations have lower median incomes, and all have over 20 percent of families below poverty. See Appendix A for details.

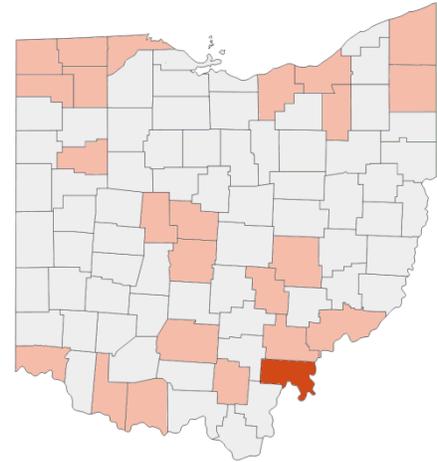
Meigs County

Community— More than **35,000** residents used the walking trails.

School— School activities potentially impacted **6,500** students and staff.

Expanding Number and Knowledge of Locations Dedicated to Physical Fitness

In Meigs County, the CVH program sought to expand the limited number of locations for physical activity. After conducting an assessment of existing hiking and biking trails in the area, partners found that there existed only one established hiking trail in the county. From this information, they designated nine new walking paths and developed the *Meigs County Walking Path Guide* that highlights trail locations, lengths, and surfaces. The walking guide was distributed to the Meigs County Tourism Board, the Meigs County Chamber of Commerce, the Meigs County Health Department, and the Meigs County Walks program. Meigs County Walking Club members hosted hikes along the various trails to publicize the new trails to the community. Additionally, the county dedicated more locations to physical activity, including six new fitness centers, an 18-hole disc golf course, 10 new community exercise classes, and a new outdoor fitness center available for public use.



Meigs County ⁶³		
Gender	Male	48.7%
	Female	51.3%
Race/Ethnicity	White	98.7%
	Black	0.9%
	Hispanic/Latino ¹	0.5%
	Other	0.4%
Median Income		\$27,287
Families Below Poverty		14.3%

Source: U.S. Census Bureau, 2000

¹The Hispanic/Latino estimate includes individuals of other races

Schools in Meigs County further promoted physical activity and nutrition by establishing School Health Teams and School Wellness Policies in all three school districts. Each school district offered a free school breakfast program offering students nutritious morning meals. Meigs and Southern Local School Districts adopted a tobacco-free campus policy. Additionally, most schools implemented the Snackwise® nutrition rating system in school vending machines to increase healthy snack selections for students by rating vending options (red, yellow, or green) according to their nutritious value and the recommended frequency of consumption.



⁶³ High-need target population included the entire county.

Worksite—725 employees were potentially impacted by the worksite activities.
Community—50 residents benefitted from the local church information.

Muskingum County

Educating and Implementing Work and School Wellness Initiatives

The CVH program in Muskingum County organized Worksite Wellness Conferences in Zanesville, Ohio, highlighting ideas and resources for implementing worksite wellness programs. Sixteen organizations attended the conference, which covered topics such as tobacco use, pandemic flu, worker’s compensation issues, and the impact of worksite wellness initiatives on a company’s health premiums. The conference also featured speakers discussing their company’s current wellness programs. Following the conference, six businesses met with CVH program staff to discuss the implementation of worksite wellness programs in their organizations, and three businesses implemented the American Cancer Society’s *Active for Life* physical activity program.

In addition to promoting wellness at work, Muskingum County also emphasized heart health in community and school settings. The CVH program helped to:

- Post signage highlighting county walking trails.
- Develop a Senior Walking Program at a local senior housing development.
- Distribute health information to local churches about healthy eating and physical activity.
- Encourage healthy holiday eating and use of Muskingum walking trails via local radio advertisements.
- Enhance the Dresden Farmers’ Market.

Additionally, from 2005 to 2009, the Cardiovascular Health Program made significant progress in developing relationships and promoting nutrition and physical activity in the schools, and assisted five of seven school districts in completing the CDC’s School Health Index, an assessment tool for improving health policies and programs.



Muskingum County ⁶⁴		
Gender	Male	47.9%
	Female	52.1%
Race/Ethnicity	White	94.7%
	Black	4.7%
	Hispanic/Latino ¹	0.5%
	Other	0.7%
Median Income		\$35,185
Families Below Poverty		9.9%

Primary Impact:

Worksite

Community

⁶⁴ Targeted populations: Zanesville and Tri-Valley School District. Notable demographic differences: Zanesville has a greater proportion of black residents compared to Muskingum County. See Appendix A for details.

Perry County

Community—7 environmental /system changes potentially impacted **1,609** residents.
School—4 school health teams established, 4 schools implemented wellness policies, and 2 schools adopted tobacco-free campus policies, potentially impacting **5,200** students and staff.
 All school, community, healthcare, and worksite activities potentially impacted **8,032** residents.

Increasing Nutritional Content of School Lunches and Curriculum

The CVH program has been vital in addressing school wellness in Perry County, assisting school districts in forming School Wellness Teams to focus on improving student health and wellness. Wellness teams completed the CDC’s School Health Index evaluation tool to assess existing wellness activities within the school districts and evaluate the nutritional content of school lunches. This prompted the Perry County CVH program to conduct seven school food service conferences that provided nutrition resources and education to food service directors and staff in the community. The CVH program equipped teachers and school health teams with educational materials encouraging physical activity and nutrition education in their classrooms. Schools provided pedometers during physical education courses to encourage students to stay active throughout the entire class period. Schools further promoted students’ increased physical activity by identifying four new walking trails, developing student walking programs, and creating fitness stations at four local schools.



Gender	Male	49.7%
	Female	50.3%
Race/Ethnicity	White	99.2%
	Black	0.3%
	Hispanic/Latino ¹	0.5%
	Other	0.4%
Median Income		\$34,383
Families Below Poverty		9.4%

In the community, four walking trails were repaired or completed in Perry County. The CVH program and the Perry Wellness Coalition supported the development of four community gardens and four farmers’ markets in Perry County communities.



⁶⁵ Targeted populations: New Lexington and Crooksville. No notable demographic differences. See Appendix A for details.

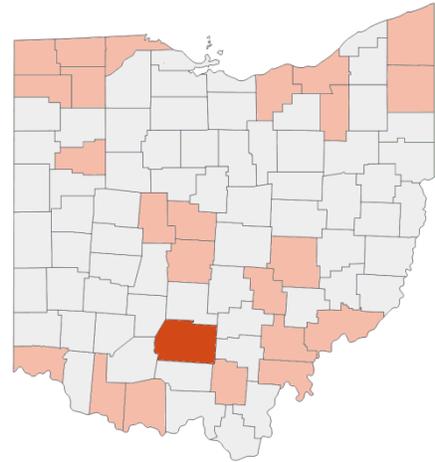
Ross County

Worksite—18 worksite wellness committees were initiated, potentially impacting **5,251** employees.

Employing Wellness Initiatives in Workplace Settings

The CVH program organized the Ross County Worksite Wellness Coalition to educate employers and employees on health and wellness, and to motivate them to take individual and organizational action towards improving employee health. The Coalition helped organizations establish worksite wellness teams and develop worksite health promotion programs and events. At Ohio University Chillicothe and Ross County Service Center, for example, results of worksite needs assessments and interest surveys stimulated the creation of eight tailored health workshops. The Worksite Wellness Coalition helped organize quarterly fitness challenges, such as the American Cancer Society’s *Active for Life* program and the Zero Weight Gain Challenge, to encourage heart healthy habits among employees.

The Ross County Worksite Wellness Coalition held multiple worksite wellness workshops, fairs, and screenings as well as a Worksite Wellness Conference in 2008 to educate and promote healthy workplaces. From such events, a group of Ross County employers collaborated and developed wellness resource kits distributed to employees. Additionally, the Ohio University Chillicothe campus instituted a policy banning smoking in front of campus buildings and the Department of Nursing enacted a policy prohibiting nursing students from using tobacco products while in uniform.



Ross County ⁶⁶		
Gender	Male	52.0%
	Female	48.0%
Race/Ethnicity	White	92.6%
	Black	6.6%
	Hispanic/Latino ¹	0.6%
	Other	0.8%
Median Income		\$37,117
Families Below Poverty		9.1%

Source: U.S. Census Bureau, 2000
¹The Hispanic/Latino estimate includes individuals of other races

⁶⁶ High-need target population included the entire county.



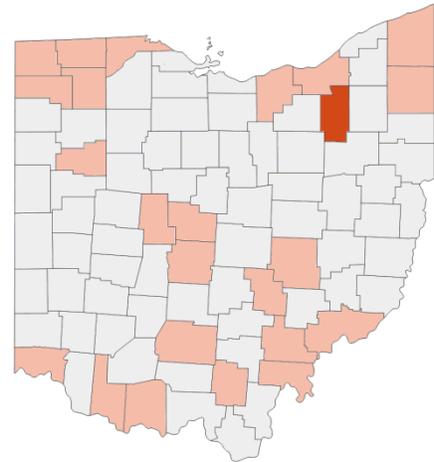
Community—1 environmental/system change and 4 trainings potentially impacted **1,149** residents.

All school, community, healthcare, and worksite activities potentially impacted **99,175** residents.

Summit County

Increasing Healthy Food Access in Lakemore Village

In 2006, there was no established grocery store and limited access to fresh produce in the Village of Lakemore. To address this, the Cardiovascular Health Program in Summit County partnered with the Lakemore Village Council to improve accessibility to fruits and vegetables in order to increase residents’ fruit and vegetable consumption. Together, the Lakemore Village Council and the Cardiovascular Health Coalition created the Lakemore Farmers’ Market, conveniently located next to the post office on the Village Municipal Building green space. To publicize the market, all Lakemore residents were sent postcards describing the farmers’ market and a local cable channel featured two months of free advertisements spotlighting the market. Each week during the season, between 100 and 200 individuals attended the Lakemore Farmers’ Market, purchasing fresh produce from local farmers. The Lakemore success spurred the creation of a farmers’ market in Barberton in 2007 that became self-sustaining in subsequent years.



Summit County ⁶⁷		
Gender	Male	48.2%
	Female	51.8%
Race/Ethnicity	White	84.4%
	Black	13.8%
	Hispanic/Latino ¹	0.9%
	Other	1.8%
Median Income		\$42,304
Families Below Poverty		7.5%

Source: U.S. Census Bureau, 2000
¹The Hispanic/Latino estimate includes individuals of other races

Since the inception of the CVH program, Summit County developed and adopted seven policies and five environmental/systems changes. The Coalition facilitated companies’ ability to perform Worksite Wellness Indexes assessing the state of workplace health and to develop worksite wellness program initiatives (e.g., the Joy Park Neighborhood Federation). Similar assistance was provided to schools, aiding in the completion of the CDC’s School Health Index that enables schools to self-assess and plan school health policies and programs, and in the development of School Health Teams that focus specifically on improving school wellness policies and practices.



⁶⁷ Targeted populations: Buchtel Community, Lakemore, and Summit Lake. Notable demographic differences: Buchtel’s population consists of primarily black residents (almost 75 percent), Summit Lake also has a more racially diverse population with a larger black population and more individuals of other races, and all target areas have lower median incomes and higher percentages of families below poverty than the county. See Appendix A for details.

All school, community, healthcare, and worksite activities potentially impacted **7,802** residents.

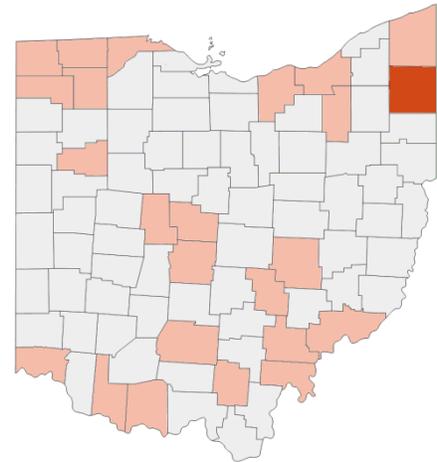
Trumbull County

Nurturing a Knowledgeable and Nutritious School Environment

Following a 2005 needs assessment of school nurses, the Trumbull Heart Healthy Community Coalition collaborated with 17 community partners and developed an emergency guide for properly dealing with students who have diabetes. This comprehensive emergency guide provides school staff with a quick reference of symptoms for hypoglycemic and hyperglycemic episodes and a list of actions to take in an emergency. The comprehensiveness of the *Emergency Guide for Diabetes* prompted its distribution to schools state-wide. Moreover, United Auto Workers/General Motors (UAW/GM) modified and adopted the guide as a workplace emergency resource, which has since been implemented in three states.

The Trumbull Heart Healthy Community Coalition also assisted Trumbull County schools in implementing health and wellness initiatives. As schools developed and employed School Wellness Policies, the Coalition provided School Wellness Policy training to seven school districts and tailored consultation to many schools throughout the county. Additionally, the Coalition organized 11 Ohio Action for Healthy Kids nutrition and physical activity conferences and an annual Food Service Conference, co-sponsored with Ashtabula County, attended by nearly 40 schools. Nine schools in Trumbull County increased student physical activity outside of physical education class, reporting increased fitness breaks, group walking, and recess time. Schools improved opportunities for physical activity by making fitness venues more accessible. Nineteen school districts and nine school building developed shared use agreements and Warren City Schools opened made its gym and pool available for public use. The schools also fostered an environment that encouraged good nutrition, reporting:

- Increased healthy concession stand options.
- The restriction or elimination of candy and cookie dough school fundraising programs.
- Improved school lunches that offer fresh fruit and vegetables, fat-free snacks, vegetarian meals, and whole grains.



Trumbull County ⁶⁸		
Gender	Male	48.4%
	Female	51.6%
Race/Ethnicity	White	91.0%
	Black	8.3%
	Hispanic/Latino ¹	0.8%
	Other	0.7%
Median Income		\$38,298
Families Below Poverty		7.9%

Source: U.S. Census Bureau, 2000

¹The Hispanic/Latino estimate includes individuals of other races



⁶⁸ Targeted populations: two areas of Warren City (zip codes 49206 and 49207) and Leavittsburg/Warren Township. Notable demographic differences: Warren City (zip 49206) has a larger female population, all have a greater proportion of black residents (Warren City 49206 is nearly 94 percent black), Leavittsburg has a larger Hispanic/Latino Population, and all have a larger percentage of families below poverty compared to the entire county. See Appendix A for details.

School—Implemented 9 school wellness policies, one environmental/system change, one student walk/bike policy, and 5 school health teams, potentially impacted 4,900 students and staff.

All school, community, healthcare, and worksite activities potentially impacted 9,289 residents.

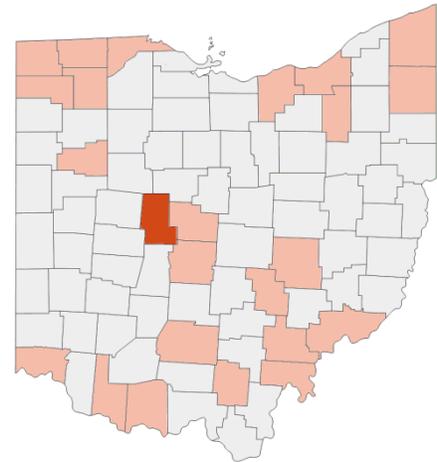
Union County

School Environments Reinforce Healthier Behaviors for Healthier Futures

The CVH program aimed to provide students in Union County the opportunity to learn and develop heart-healthy behaviors by supporting school health teams, developing five non-competitive physical activity programs, improving healthy food service and vending options, and integrating health education into classroom learning. Throughout Union County, schools addressed student nutrition by implementing nutrition rating systems, increasing healthy food options, establishing healthy party and snack policies, and educating students and staff on heart-healthy nutrition topics. Nine schools in Marysville School District adopted the Snackwise® Rating System in school cafeterias. New guidelines and nutrition standards for vending machines and Parent-Teacher Organization (PTO) fundraising activities were created. Fairbanks and Marysville School Districts each established a School Wellness Policy.

To increase student fruit, vegetable, and dairy consumption, Fairbanks Elementary School instituted a Grab-and-Go School Breakfast Program, offering convenient nutritious morning meals for students as well as the Tasty Tuesdays Program that presents students weekly opportunities to sample healthy food. Additionally, East Elementary School implemented a 100 percent healthy snack and party policy, which permits only nutritious food during classroom breaks and festivities. Moreover, fourth-grade students at Navin Elementary School participated in *Take Charge of Your Health: Read the Label* program to improve student understanding of nutritional information. In addition, Fairbanks, Marysville, and North Union School Districts revised curriculum to include expanded health education. Teachers and faculty received training on obesity in North Union schools and on BMI and heart health in Union County schools.

Policy and practice improvements were not limited to nutrition but also included physical activity. Nearly 10 schools marked walking routes and two schools operated regular walking and jogging programs during recess. Fairbanks schools implemented a Recess Before Lunch program for early elementary students. Increasing access to facilities that support physical activity, North Union School District extended the hours that school gyms and walking paths are available to students, staff, and community members.



Union County ⁶⁹		
Gender	Male	47.9%
	Female	52.1%
Race/Ethnicity	White	96.2%
	Black	3.1%
	Hispanic/Latino ¹	0.8%
	Other	0.8%
Median Income		\$41,207
Families Below Poverty		3.6%

Source: U.S. Census Bureau, 2000
¹The Hispanic/Latino estimate includes individuals of other races



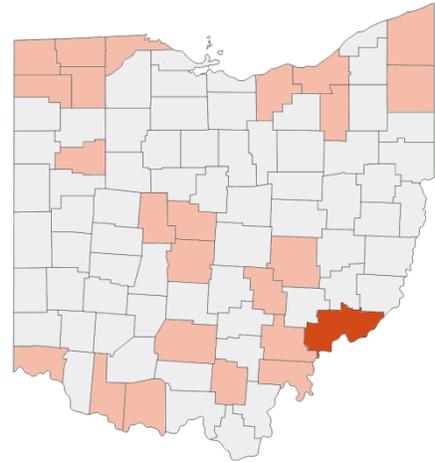
⁶⁹ Targeted populations: Marysville and Richwood. Notable demographic differences: Marysville has a larger female population and Richwood has a greater proportion of families below poverty relative to the entire county. See Appendix A for details.

Washington County

Community—10 environmental /system changes potentially impacted **14,270** residents.

Walking Trail Expansion Revitalizes Community Physical Activity Opportunities

Seeking to promote active lifestyles in rural communities of Washington County, the Washington County CVH program’s Coalition instituted the Washington County Walks initiative to develop active walking communities throughout the county. The Coalition developed and improved the accessibility of walking facilities and resources by helping local schools, governments, and communities create walking trails and tracks. They provided volunteer development, grant writing and support, and program planning assistance in addition to funding the purchase of trail supplies, surface materials, signage, and educational tools. The Washington Walks Club, initiated by the Coalition, provided participants with a pedometer, walking guide, monthly walking log, wristband, and a free one-month membership at the Marietta Family YMCA. From this group the Washington County Hiking Club was formed, sponsoring group hikes every Saturday throughout the year.



Washington County ⁷⁰		
Gender	Male	48.6%
	Female	51.4%
Race/Ethnicity	White	98.0%
	Black	1.2%
	Hispanic/Latino ¹	0.5%
	Other	0.8%
Median Income		\$34,275
Families Below Poverty		8.6%

Source: U.S. Census Bureau, 2000
¹The Hispanic/Latino estimate includes individuals of other races

As a result of the Washington County Walks initiative, 21 new walking tracks and trails were created, three existing trails were revitalized (at Wayne National Forest, Broughton’s Wildlife Area, and Warren Elementary School), and 10 walking paths were paved. Marietta High School Nature Trail expanded to two miles, and a trail extension was added to Kroger Wetlands. More than 400 county residents, including nine worksites and three community groups, have participated in the Washington County Walks initiative. This nature trail and walking path expansion project inspired Warren Local, Fort Frye Local, and Marietta City School Districts to introduce walking programs and clubs for their elementary students. The Marietta Disc Golf Association formed and CVH helped created a nine-basket disc golf course at Broughton’s Nature Area which was later expanded to 27 baskets.

⁷⁰ High-need target population included the entire county.



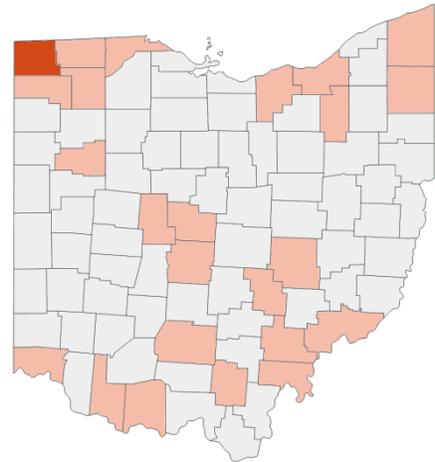
Worksite—12 worksite wellness committees potentially impacted **1,950** employees.
School—5 school health teams and 5 schools implemented wellness policies, potentially impacting **7,660** students and staff.

All school, healthcare, community, and worksite activities potentially reached **24,193** residents.

Williams County

Implementing School and Workplace Wellness Initiatives

The Williams County Health Department was the lead agency for the Tri-County CVH Coalition, enabling the Williams, Fulton, and Henry County Health Departments to collaborate on policy and environmental changes in community, school, healthcare, and worksite settings. The Tri-County Coalition assisted in the development of tailored School Wellness Policies adopted by all eight school districts in Williams County. These policies initiated a student aerobics program three mornings a week prior to the start of school, a taste-testing of healthy school lunch foods to encourage healthy cafeteria choices, a measurement of indoor walking routes in six schools, and an after-school healthy snack program demonstrating how kindergarten through fourth grade students can make simple healthy snacks. Four schools conducted regular body mass index (BMI) surveillance to assess the percentage of overweight students. Six districts created School Health Teams to implement and expand school wellness activities, programs, and policies.



Williams County ⁷¹		
Gender	Male	49.7%
	Female	50.3%
Race/Ethnicity	White	98.3%
	Black	0.9%
	Hispanic/Latino ¹	2.7%
	Other	0.8%
Median Income		\$40,735
Families Below Poverty		3.9%

Source: U.S. Census Bureau, 2000
¹The Hispanic/Latino estimate includes individuals of other races

The Tri-County Cardiovascular Health Coalition also worked with local organizations to improve worksite wellness:

- Conducting Health Risk Assessments at four companies to measure employees' individual health risks and habits.
- Hosting two worksite wellness conferences on overall wellness and stress management.
- Measuring indoor walking routes for two companies.
- Helping to provide healthier workplace vending options.
- Assisting in the development and implementation of Worksite Wellness Policies at 10 companies in Williams County.



⁷¹ Targeted population: Montpelier. No notable demographic differences. See Appendix A for demographic details.

2005-2009 CVH Program Activity at a Glance

The 2005-2009 CVH Program used evidence-based public health strategies to transform the cardiovascular health of high-need communities through population-level policy, systems, and environmental changes. Strategies focused on improving six modifiable risk factors of cardiovascular disease (physical inactivity, tobacco use and exposure, elevated blood pressure, poor nutrition/obesity, high blood cholesterol, and diabetes) and were implemented in school, community, workplace, and healthcare settings.



In 2009, CVH established:

73 Farmers' Markets

165 Tobacco-Free Schools

218 School Health Teams

264 Community Gardens

303 Worksite Wellness Committees

354 School Wellness Policies

343 Policy Changes Adopted

957 Environmental/Systems Changes Adopted

826 Trainings Conducted

Source: CVH Program 2009 Summary Report, CVH Program Then and Now (2007), CVH Program 2005 Project Summary Data

(In the last 2 years of the program)

CVH Interventions Potentially Reached:

27%

Of Ohio's Total Population¹
(2008)

3,012,601

Ohioans in 2008



32%

Of Ohio's Total Population¹
(2009)

3,877,072

Ohioans in 2009

Source: CVH Program 2009 Summary Report
¹ Ohio's Total Population, U.S. Census 2000



Community Heart-Health Checklist



Heart-Health Checklist

The Community Heart-Health Checklist

Created by the Ohio Department of Health and the CVH program, the Community Heart-Health Checklist (CHHC) is an assessment tool for Ohio communities addressing chronic disease. The CHHC focuses on the evaluation of population-based, community-level interventions of modifiable health risk indicators.

All CVH grantees completed the CHHC in 2005 at the beginning of their five-year grant cycle. The 2005 CHHC results are a baseline against which the CVH program can measure cumulative, program-wide changes that occurred from 2005 to 2008.⁷² As such, the CHHC provides the opportunity to benchmark the progress of the CVH program in an objective way; it provides an assessment of the changes that occurred in CVH program communities.

CHH Checklist Description

The CHHC measures the degree to which communities engage in two types of intervention strategies: 1) **Information and Skill Building** and 2) **Policy/Regulation and Environmental Change**.

Information and skill-building strategies impact individuals' health awareness, communication, and skills. Conversely, policy regulation and environmental change strategies influence the formal and informal policies, laws and regulations, as well as the social, economic, or physical environment in ways that are more conducive to health and well-being.

The CHHC assesses the degree to which communities have implemented intervention strategies that target nutrition, physical activity, tobacco use, and clinical chronic disease risk factors (i.e., high blood glucose, high cholesterol, obesity, and high blood pressure) in school, general community, worksite, and healthcare settings. The CHHC asks the degree to which communities have implemented initiatives such as:⁷³

- The presences of farmers' markets, co-ops, community gardens, or produce vendors.
- Policies/programs for providing outdoor activity facilities (e.g., biking and walking trails).
- Policies/programs for promoting healthy food and beverages outside of school meal services
- Policies prohibiting tobacco use on all school property.
- Assessments/screenings for CVH-related risk factors occurring in the community.
- CVH continuing education opportunities for healthcare providers.
- Policies/programs for offering healthy food and beverage choices in vending machines and/or cafeterias at workplaces.
- Events/incentives to motivate employees to practice healthy eating and physical activity.
- Policies/programs for including physical activity facilities in worksites.

⁷² CHH Checklist data was not collected in 2009; thus, 2008 data are presented.

⁷³ The 53-page, 143 item CHH Checklist is available upon request (contact Ann Weidenbenner at ann.weidenbenner@odh.ohio.gov). The revised checklist currently used in the *Creating Healthy Communities* program is available at www.healthyohioprogram.org.

Each item on the CHHC assesses the degree to which health indicators were addressed in the previous year. Respondents rate the degree of implementation of various initiatives relative to a given reference point for each item. The reference point describes a specific level of intervention activity and provides a similar point of comparison across all CVH programs. Examples of reference points are provided below:

- Intervention Activity: Presence of farmers' markets, co-ops, community gardens, or produce vendors (*Reference Point: 2 per community*).
- Intervention Activity: Policies/programs promoting healthy food and beverages outside of school meal services (*Reference Point: 25 percent of schools*).

Respondents rate the degree of intervention implementation of various initiatives (relative to the given reference point) by choosing one of the following five response options:

- *The action or activity is absent or has not been in progress recently.*
- *The action or activity does exist but falls below the reference point suggested.*
- *The action or activity meets the reference point suggested.*
- *The action or activity exceeds the reference point suggested.*
- *Data not available to determine if the action or activity meets the reference point suggested.*

CHHC Implementation

CVH program coordinators in participating counties, working with coalition partners and other community stakeholders, completed the self-administered CHHC in both 2005 and 2008. CVH coordinators first identified target communities to assess based on the county's high-need target populations. The CHHC allowed for multiple submissions from a single county so groups could separately assess target communities within each county. Individuals were then identified to complete the CHHC. A single integral individual or a collaboration of several individuals could complete different sections of the CHHC, enabling the counties to enlist participation from the most knowledgeable stakeholders in each of the four settings. Respondents received the CHHC, reviewed the rating scheme, and reported their level of intervention activity for each health indicator.

In 2005, CVH completion of the CHHC for the four settings ranged from 19 to 21 ($n = 20$, school; $n = 21$, community; $n = 18$, worksite; $n = 19$, healthcare). In 2008, CVH completion of the CHHC for the four settings ranged from 47 to 49 ($n = 47$, school; $n = 48$, community; $n = 48$, worksite; $n = 49$, healthcare).

CHHC Analytic Approach

Analyses were conducted to compare the degree of intervention activity among CVH communities in 2005 to the level of activity in 2008. Specifically, the percentage of CVH communities engaged in various levels of intervention activity was compared.

Recall that each individual question on the CHHC was rated relative to a reference point specific to only that item. The rating scheme requires respondents to indicate whether a CVH community's intervention activity is absent, below the reference point, meets the reference point, or exceeds the reference point (or cannot be determined). Because the communities are categorized based on a reference point, a specific count of the number of interventions enacted in the communities cannot be determined. Rather, the rating system of the CHHC identifies whether CVH communities are above or below a minimum level of intervention activity. Thus, the proportion of the total number of responding CVH communities that fall into each category can be assessed and compared.

To determine whether activity increased from 2005 to 2008, the analysis focused on the percentage of CVH communities that met or exceeded reference points for intervention activity. Communities meeting or exceeding reference points are engaging in minimum levels of intervention action. These two response categories (meeting reference point and exceeding reference point), therefore, were combined because communities at these levels are adequately fulfilling minimum intervention activity expectations (i.e., "succeeding").

For both 2005 and 2008, the percentage of CVH communities engaged in minimum levels of intervention activity (i.e., that met or exceeded the reference point) was calculated for each item and then averaged for each health indicator (i.e., nutrition, physical activity, tobacco, and chronic disease risk factors) in each setting (i.e., school, community, worksite, and healthcare). These percentages represent the average proportion of CVH communities engaged in a level of intervention activity that meets or exceeds a given reference point.

The following results compare these proportions of CVH communities meeting or exceeding baseline levels of intervention activity in 2005 to 2008. Results detail how these percentages changed during the CVH grant period, comparing the degree of intervention activity targeting:

- Information and Skill Building and Policy/Regulation and Environmental Change.
- School, Community, Worksite, and Healthcare Settings.
- Health Indicators—Nutrition, Physical Activity, Tobacco Use, and Chronic Disease Risk Factors.

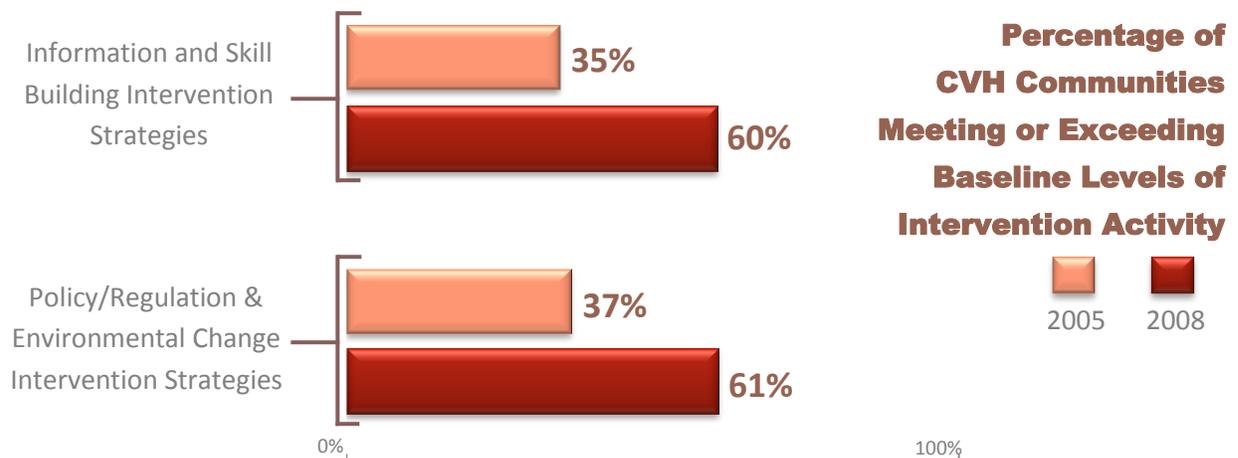
Results

From 2005 to 2008, CVH communities amplified the extent to which they implemented population-level, environmental interventions. Specifically, the CHHC indicates that **CVH programs increased the degree of intervention activity**. In this section, comparisons between intervention activity in 2005 and activity in 2008 are presented by:

- Intervention Strategies: Information and Skill and Policy/Regulation and Environmental Change.
- Target Settings: School, Community, Worksite, and Healthcare.
- Health Indicators: Nutrition, Physical Activity, Tobacco, and Chronic Disease Risk Factors.

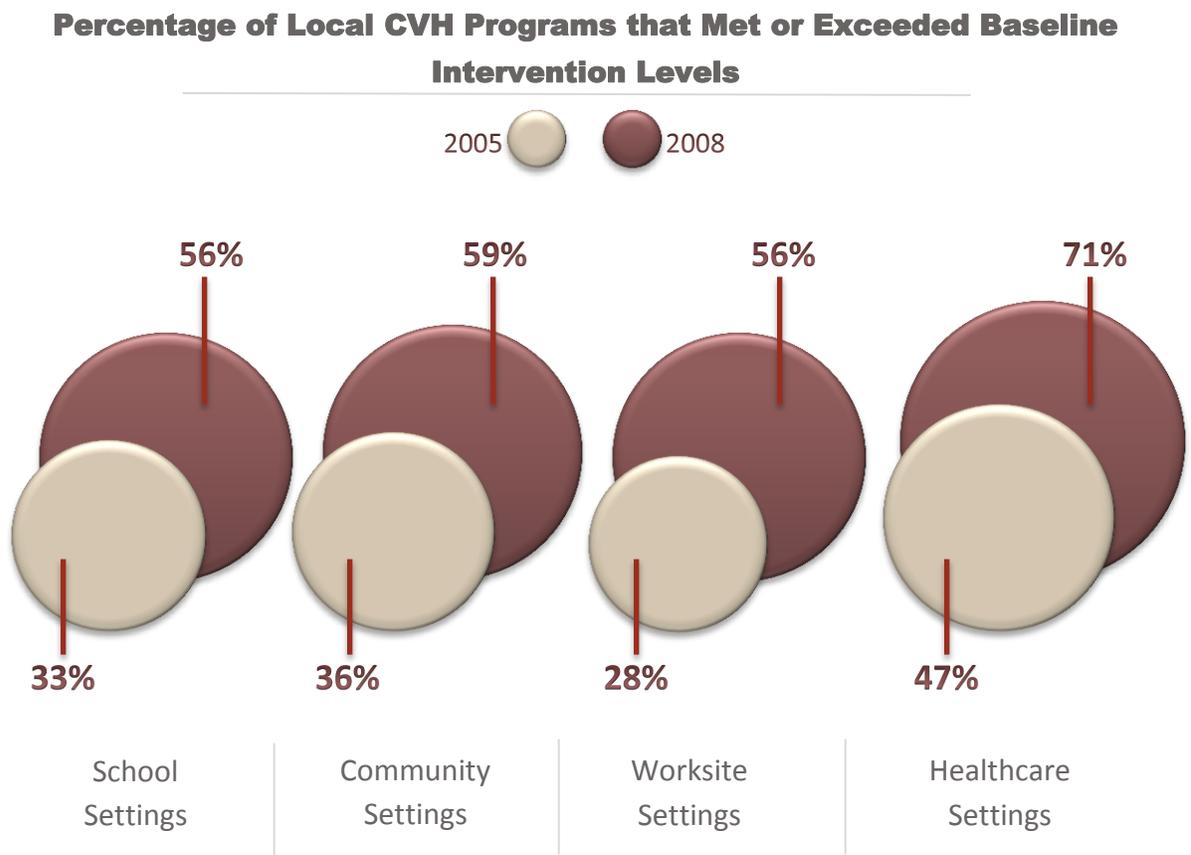
Intervention Strategies. The CHHC measured the degree to which communities engaged in Information and Skill Building, and Policy/Regulation and Environmental Change. From 2005 to 2008, CVH communities increased the degree to which they engaged in both types of intervention strategies. Compared to 2005, in 2008 a larger percentage of CVH communities met or exceeded baseline reference points for information and skill building interventions, and policy/regulation and environmental change interventions.

Whereas 35 percent of communities engaged in baseline levels of information and skill building interventions in 2005, 60 percent of communities in 2008 reported similar levels of intervention efforts. This represents a 71 percent increase in the degree of intervention implementation. Additionally, the percentage of communities implementing baseline numbers of policy, regulation, and environmental change interventions increased from 37 percent in 2005 to 61 percent in 2008, a 65 percent increase over this four-year period. Overall, these results suggest that as the CVH program progressed, CVH communities intensified their intervention efforts, implementing and advancing more population-level policies and environmental changes.

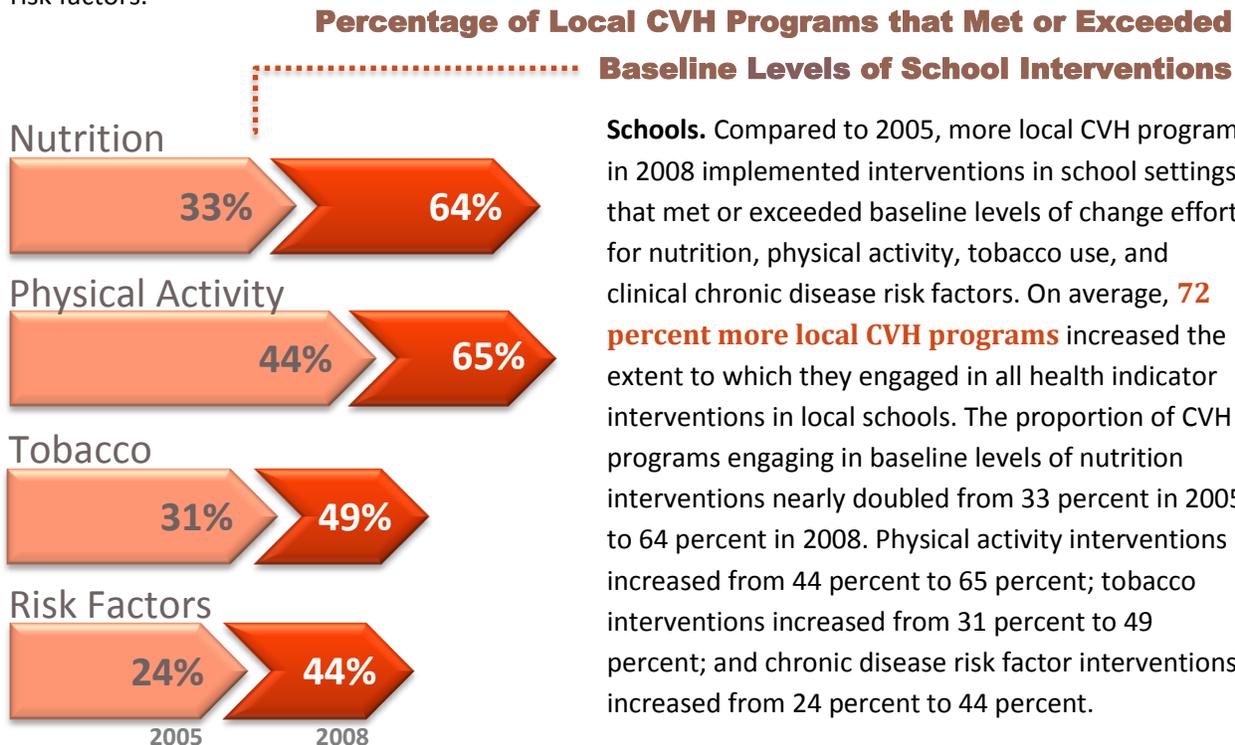


Four Settings. The CHHC also evaluated the degree to which the CVH program engaged in interventions in school, community, worksite, and healthcare settings. Between 2005 and 2008, communities increased the extent to which they engaged in interventions impacting each of the four domains. Specifically, a greater percentage of local CVH programs reported meeting or exceeding baseline reference points for interventions in schools, the community, workplaces, and healthcare institutions in 2008, compared to 2005.

Over this period of time, the percentage of local CVH programs increased the degree to which they engaged in interventions by 70 percent in schools, 64 percent in the general community, 100 percent in worksites, and 51 percent in healthcare settings. Cumulatively, these results suggest that CVH communities enhanced intervention efforts in all four domains, implementing more initiatives targeting school, community, worksite, and healthcare settings as the grant advanced.



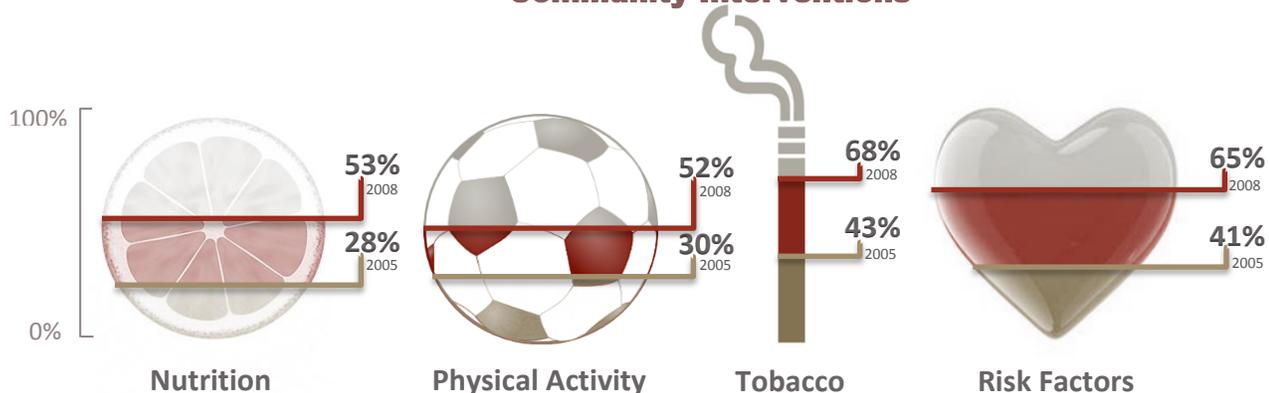
Within each setting, local CVH programs increased the degree to which they engaged in interventions focusing on the heart health indicators of nutrition, physical activity, tobacco use, and chronic disease risk factors.



Schools. Compared to 2005, more local CVH programs in 2008 implemented interventions in school settings that met or exceeded baseline levels of change efforts for nutrition, physical activity, tobacco use, and clinical chronic disease risk factors. On average, **72 percent more local CVH programs** increased the extent to which they engaged in all health indicator interventions in local schools. The proportion of CVH programs engaging in baseline levels of nutrition interventions nearly doubled from 33 percent in 2005 to 64 percent in 2008. Physical activity interventions increased from 44 percent to 65 percent; tobacco interventions increased from 31 percent to 49 percent; and chronic disease risk factor interventions increased from 24 percent to 44 percent.

Communities. From 2005 to 2008, local CVH programs increased the degree to which they implemented interventions in community settings that met or exceeded baseline levels of all health indicator interventions (i.e., nutrition, physical activity, tobacco, risk factors). During this period of time, the percentage of local CVH programs that engaged in interventions at or above the baseline reference point increased from 28 percent to 53 percent for nutrition interventions, from 30 percent to 52 percent for physical activity interventions, from 43 percent to 68 percent for tobacco interventions, and from 41 percent to 65 percent for chronic disease risk factor interventions.

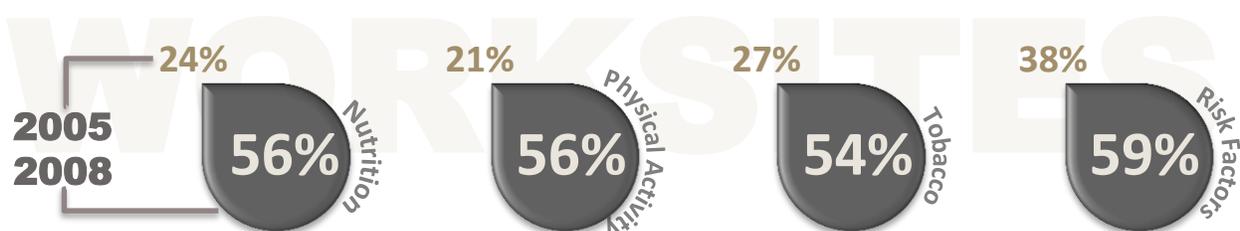
Percentage of CVH Communities that Met or Exceeded Baseline Levels of Community Interventions





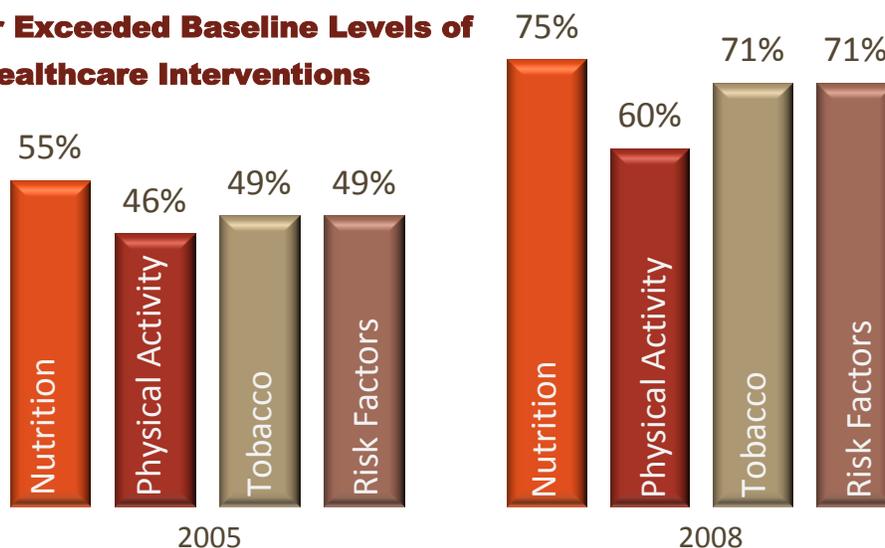
Worksites. Across all health indicator interventions in worksite settings, CVH communities increased their level of intervention activity from 2005 to 2008. The percentage of local CVH programs that met or exceeded baseline levels of health indicator interventions increased from 24 percent to 56 percent for nutrition interventions, from 21 percent to 56 percent for physical activity interventions, from 27 percent to 54 percent for tobacco interventions, and from 38 percent to 59 percent for chronic disease risk factor interventions. Across all health indicators, the percentage of local CVH programs engaged in worksite change efforts at baseline activity levels **increased by 112 percent** from 2005 to 2008. This indicates that CVH communities greatly improved their degree of intervention action within worksite settings over this period.

Percentage of Local CVH Programs that Met or Exceeded Baseline Levels of Worksite Interventions



Healthcare. The proportion of local CVH programs that met or exceeded the baseline level of change efforts for each health indicator increased from 2005 to 2008. Nutrition interventions increased from 55 percent to 75 percent, physical activity interventions increased from 46 percent to 60 percent, tobacco interventions increased from 49 percent to 71 percent, and chronic disease risk factor interventions increased from 49 percent to 71 percent. This suggests that as the grant progressed, local CVH programs engaged in a greater intensity of health indicator intervention efforts.

Percentage of Local CVH Programs that Met or Exceeded Baseline Levels of Healthcare Interventions



Community Heart-Health Checklist Summary

Overall, local CVH programs increased the extent to which they implemented interventions, likely influencing an increased number of individuals and creating more impactful systematic changes in high-need Ohio communities. Key findings from the CHH Checklist indicate the following:

- All CVH programs increased the degree to which they engaged in information and skill building interventions, and in policy/regulation and environmental change interventions.
- All CVH programs intensified the extent to which they engaged in interventions impacting school, community, worksite, and healthcare settings.
- Within each community domain, All CVH programs increased their activity level for each type of health care indicator intervention (i.e., nutrition, physical activity, tobacco, and clinical chronic disease risk factor interventions).

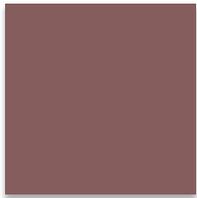


CHH Checklist data indicate that **all CVH programs made progress** since 2005, increasing the degree to which they engaged in intervention activity.

In summary, results of the CHH Checklist data indicate that all CVH programs made significant progress. From 2005 to 2008, CVH programs intensified change efforts, implementing a higher degree of population-level, environmental interventions aimed at enhancing or implementing the policies and systems that affect individual health behavior.



Health Trends in Ohio



Health Trends in Ohio

Ohio's health trends reveal the magnitude of the cardiovascular health crisis. Poor cardiovascular health has been pervasive throughout Ohio and the entire country. Heart disease continues to be the most common cause of death in Ohio⁷⁴ and the U.S.,^{75, 76} imposing a major financial burden on patients and the healthcare system. The American Heart Association estimates that the direct cost of cardiovascular disease (CVD) in the U.S. was \$272.5 billion in 2010, and will increase to \$818.1 billion by 2030.⁷⁷

This section details changes that occurred in the state's cardiovascular health from 2005 to 2009. Data provided highlight health trends and are not a statistical analysis of health changes. Rather, the figures provide an overview for stakeholders to be knowledgeable about the status of cardiovascular health in Ohio from 2005 to 2009. It was during the period of time that CVH programs implemented population-based change interventions that support healthy living in 24 Ohio counties. The CVH program initiated changes in community infrastructures, facilitated schools and worksites in transforming the culture of health and wellness in their organizations, built community capacity for providing chronic disease prevention and management services, and improved community awareness and support of systems change initiatives. Over these five years, CVH programs instituted 343 policy changes and 957 environmental/system changes in high-need Ohio communities,⁷⁸ potentially impacting 3,877,072 million Ohioans in 2009 alone.⁷⁹

Throughout the duration of the CVH program, there was indication of improvement in Ohio's cardiovascular health. Ohio's 2009 heart disease mortality rate, for example, decreased relative to 2004. The following pages detail Ohio's health trends from 2000 to 2010. Cumulatively, the data suggest modest improvements and highlight ongoing challenges, demonstrating a critical need for continued CVD prevention efforts.

It must be noted, however, that *statewide* health trends cannot be directly linked to CVH programming. Despite the tremendous prevention activity by the CVH program from 2005 to 2009, the degree of impact may not be adequately reflected in the Ohio health trends discussed in this section. Additionally, these are statewide trends and the CVH program was only active in select areas of the state (i.e., 24 counties). Thus, state health trends do not necessarily demonstrate the potential impact of CVH prevention efforts. The trends do, however, identify Ohio's overall improvement and continued challenges.

⁷⁴ Roger, V., et al. (2010). Heart disease and stroke statistics—2011 update: A report from the American Heart Association. *Circulation*, 123, 18-209.

⁷⁵ Ibid.

⁷⁶ Centers for Disease Control and Prevention National Vital Statistics Reports, 59, Table 19 (for example, see http://www.cdc.gov/nchs/pressroom/states/OH_2012.pdf).

⁷⁷ Weintraub, W. et al. (2011). Value of primordial and primary prevention for cardiovascular disease: A policy statement from the American Heart Association. *Circulation*, 124, 976-990.

⁷⁸ Calculated from the Cardiovascular Health Program 2009 Summary Report, Cardiovascular Health Program Then and Now (2007), Cardiovascular Health Program 2005 Project Summary Data.

⁷⁹ Cardiovascular Health Program 2009 Summary Report.

Unfortunately, making significant, long-lasting changes takes time and sustained effort in prevention, and substantive change in rates of CVD may not be seen for as long as a generation. According to the American Heart Association (AHA), the national prevalence of CVD will increase by approximately 10 percent over the next 20 years if current policies, systems, and environments remain as they are now.⁸⁰ Furthermore, the AHA estimates that direct costs of CVD will triple.⁸¹

By 2030, AHA estimates that more than 40 percent of U.S. adults, or 116 million people, will have one or more forms of CVD. These estimates assume no change in policy but do reflect the demographics of an aging population.⁸² Conversely, projections which include recommended prevention activities suggested that heart attacks and strokes would be reduced by 63 percent and 31 percent, respectively, although that change would occur over a 30-year period—and only if everyone received all of 11 recommended prevention activities; at more “feasible” levels of performance, heart attacks and strokes would be reduced by 36 percent and 20 percent.⁸³

Current adoption of prevention activities is considered “suboptimal” by the AHA. In such a context, the five years of prevention represented by the CVH program are only the first steps in what must be a much longer timeframe before substantive change will be seen in rates of cardiovascular disease.

⁸⁰ Heidenriech, PA, et al. (2011). Forecasting the future of cardiovascular disease in the United States: A policy statement from the American Heart Association. *Circulation*, 123, 933-944.

⁸¹ Ibid.

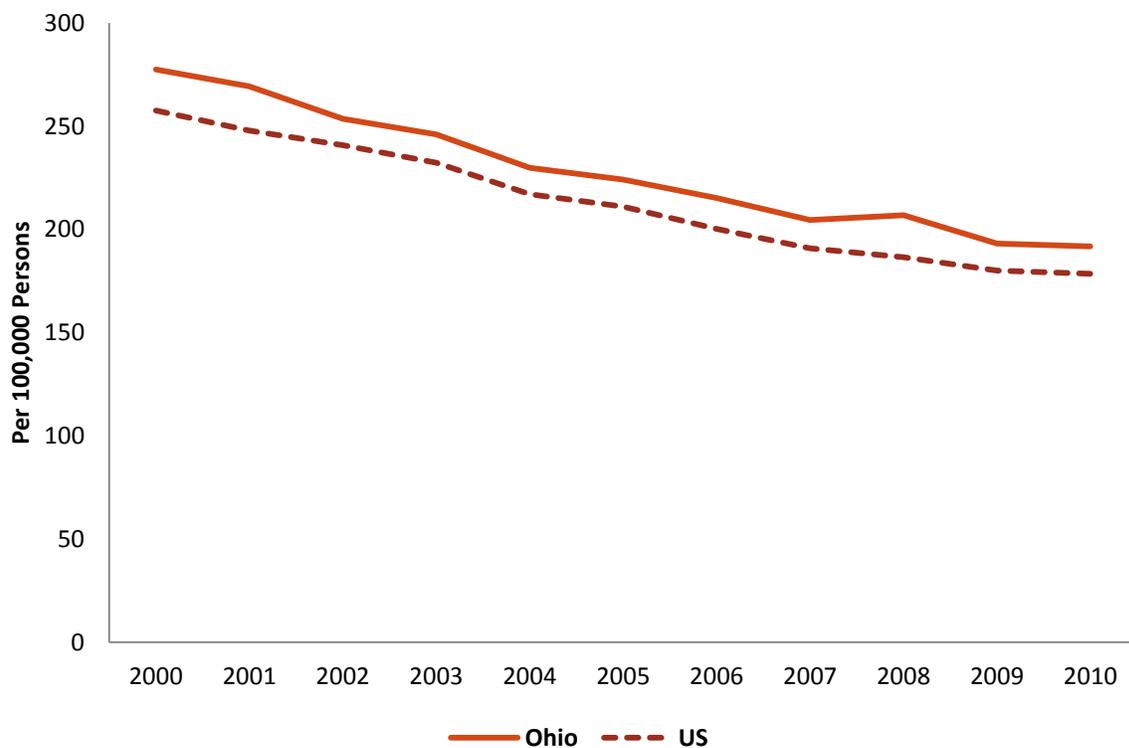
⁸² Ibid.

⁸³ Ibid.

Ohio Health Trends: Coronary Heart Disease

Coronary Heart Disease Mortality. Coronary heart disease remained the leading cause of death for adults in Ohio⁸⁴ and the U.S.⁸⁵ from 2000 to 2009, accounting for 27.4 percent of Ohio deaths in 2004 and 25.0 percent in 2008.⁸⁶ Additionally, Ohio continued to have a higher rate of heart disease mortality than the U.S. overall. Despite this, the mortality rate for heart disease has generally declined over the duration of the CVH program. In Ohio, the age-adjusted mortality rate for heart disease was 229.9 (per 100,000 persons) in 2004, compared to 193.2 (per 100,000 persons) in 2009. Following the end of the 2005-2009 grant period, heart disease mortality continued to decrease both in Ohio (191.7 per 100,000 persons) and the U.S. (178.5 per 100,000 persons).

Age-Adjusted Heart Disease Mortality Rate per 100,000 Persons, Ohio and U.S., 2000-2010^{1,2,3}



¹ Source: Leading Causes of Death, Number and Average Age-Adjusted Death Rates Per 100,000 Population, Ohio and Counties, 2000-2010. Ohio Department of Health, Center for Public Health Statistics and Informatics.

² Source: Kochanek, K.D., Xu, J., Murphy, S.L., Miniño, A.M., & Kung H. (2012). Deaths: Final data for 2009. National vital statistics reports, vol 60 no 3. Hyattsville, MD: National Center for Health Statistics.

³ Source: Murphy, S.L., Xu, J., & Kochanek, K.D. (2012). Deaths: Preliminary data for 2010. National vital statistics reports, vol 60 no 4. Hyattsville, MD: National Center for Health Statistics.

⁸⁴ Ohio Department of Health, Center for Public Health Statistics and Informatics. Leading Causes of Death, Number and Average Age-Adjusted Death Rates Per 100,000 Population, Ohio and Counties, 2000-2010.

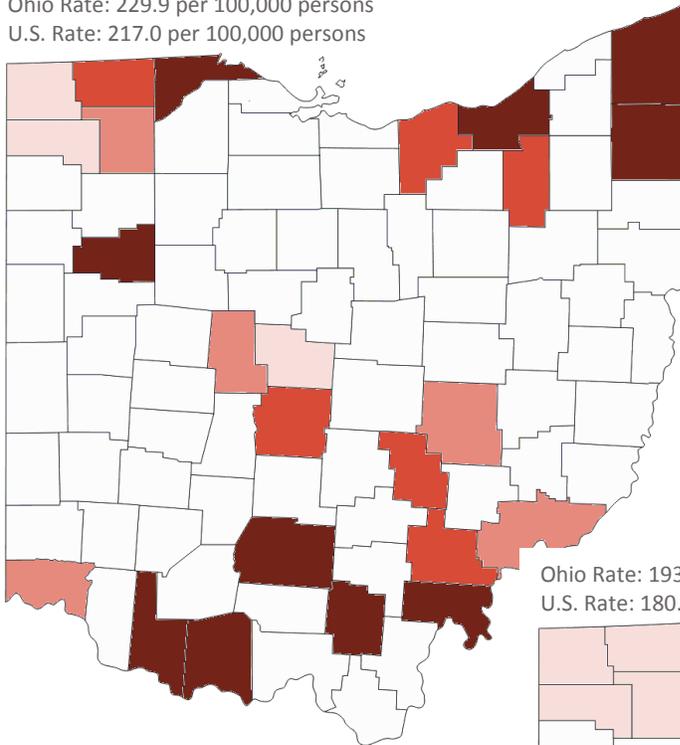
⁸⁵ Kochanek, K.D., Xu, J., Murphy, S.L., Miniño, A.M., & Kung, H. (2010). Deaths: Final data for 2009. National vital statistics reports; vol 60 no 3. Hyattsville, MD: National Center for Health Statistics.

⁸⁶ Ohio Department of Health, Vital Statistics. Ohio Resident Deaths, 2000-2008.

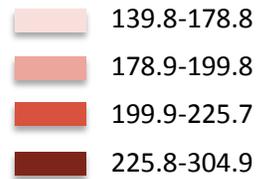
Age-Adjusted Heart Disease Mortality Rate per 100,000 Persons, CVH Counties, 2004 and 2009^{1,2}

2004

Ohio Rate: 229.9 per 100,000 persons
U.S. Rate: 217.0 per 100,000 persons

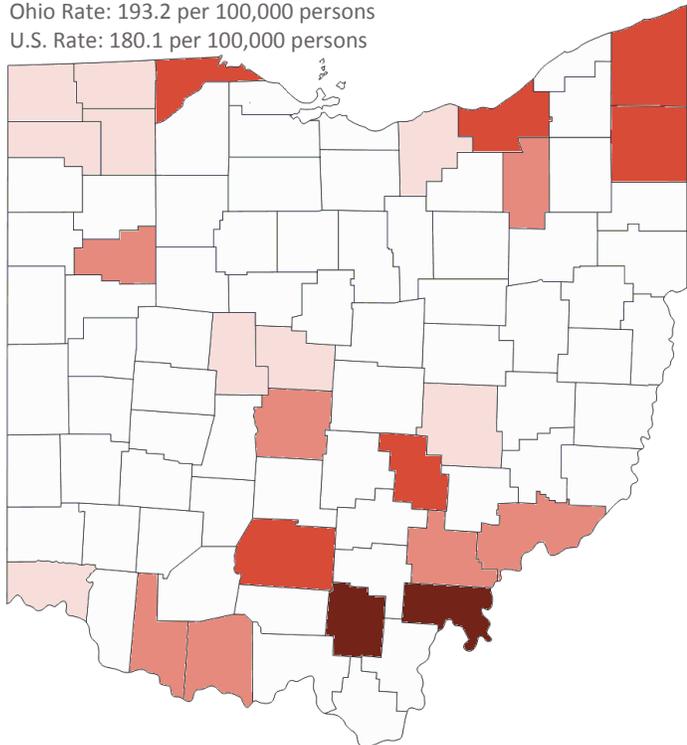


Rate per 100,000 persons



2009

Ohio Rate: 193.2 per 100,000 persons
U.S. Rate: 180.1 per 100,000 persons



From 2004 to 2009, 96 percent of CVH program counties decreased coronary heart disease mortality rates.

The percentage of CVH program counties with heart disease mortality rates lower than the state average increased from 58 percent in 2004 to 67 percent in 2009.

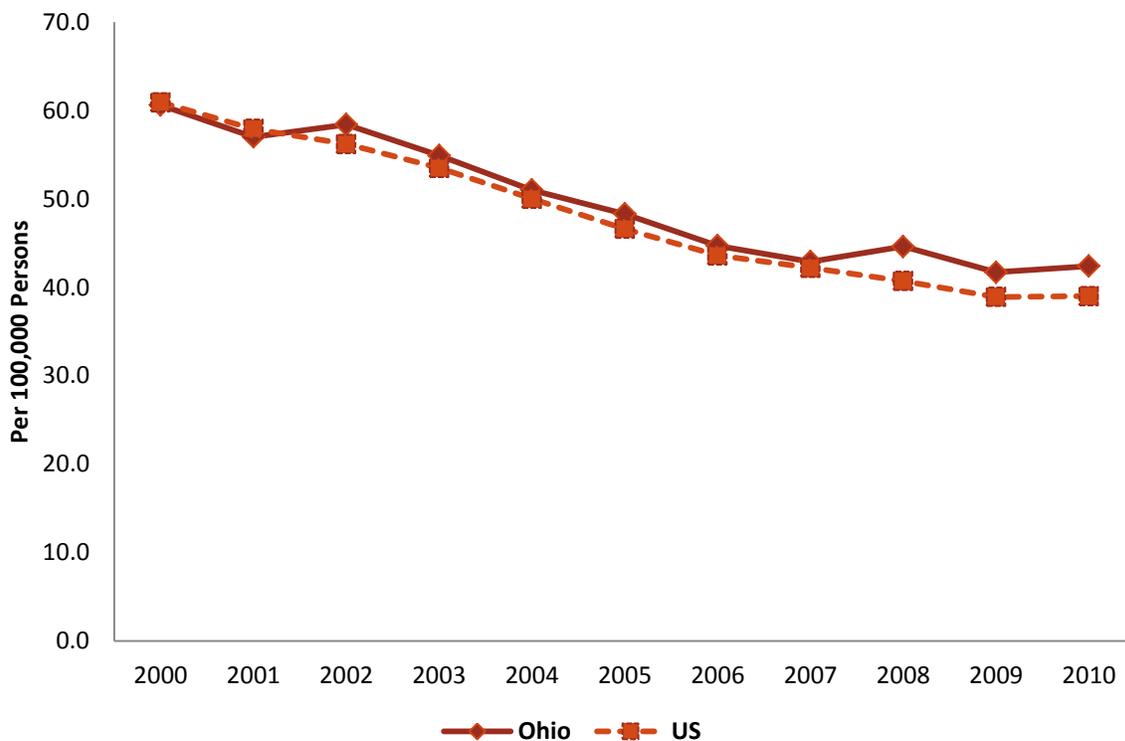
¹ Source: Ohio Department of Health, Center for Public Health Statistics and Informatics. Leading Causes of Death, Number and Average Age-Adjusted Death Rates Per 100,000 Population, Ohio and Counties, 2000-2010.

² Source: Kochanek, K.D., Xu, J., Murphy, S.L, Miniño, A.M., & Kung H. (2012). Deaths: Final data for 2009. National vital statistics reports, vol 60 no 3. Hyattsville, MD: National Center for Health Statistics.

Ohio Health Trends: Stroke

Cerebrovascular Disease (Stroke) Mortality. From 2000 to 2009, stroke was one of the top six leading causes of death among Ohioans.⁸⁷ The mortality rate for stroke, however, generally decreased over this time period, stabilizing somewhat after 2007. Prior to the CVH program in 2004, the Ohio age-adjusted stroke mortality rate was 51.0 (per 100,000 persons), compared to 41.7 (per 100,000 persons) in 2009. In 2010, following the end of the CVH Program, however, the stroke mortality rate slightly increased for both Ohio (42.4 per 100,000 persons) and the U.S. (39.0 per 100,000 persons).

Age-Adjusted Stroke Mortality Rate per 100,000 Persons, Ohio and U.S., 2000-2010^{1,2,3}



¹ Source: Leading Causes of Death, Number and Average Age-Adjusted Death Rates Per 100,000 Population, Ohio and Counties, 2000-2010. Ohio Department of Health, Center for Public Health Statistics and Informatics.

² Source: Kochanek, K.D., Xu, J., Murphy, S.L., Miniño, A.M., & Kung H. (2012). Deaths: Final data for 2009. National vital statistics reports, vol 60 no 3. Hyattsville, MD: National Center for Health Statistics.

³ Source: Murphy, S.L., Xu, J., & Kochanek, K.D. (2012). Deaths: Preliminary data for 2010. National vital statistics reports, vol 60 no 4. Hyattsville, MD: National Center for Health Statistics.

⁸⁷ Ohio Department of Health, Center for Public Health Statistics and Informatics. Leading Causes of Death, Number and Average Age-Adjusted Death Rates Per 100,000 Population, Ohio and Counties, 2000-2010.

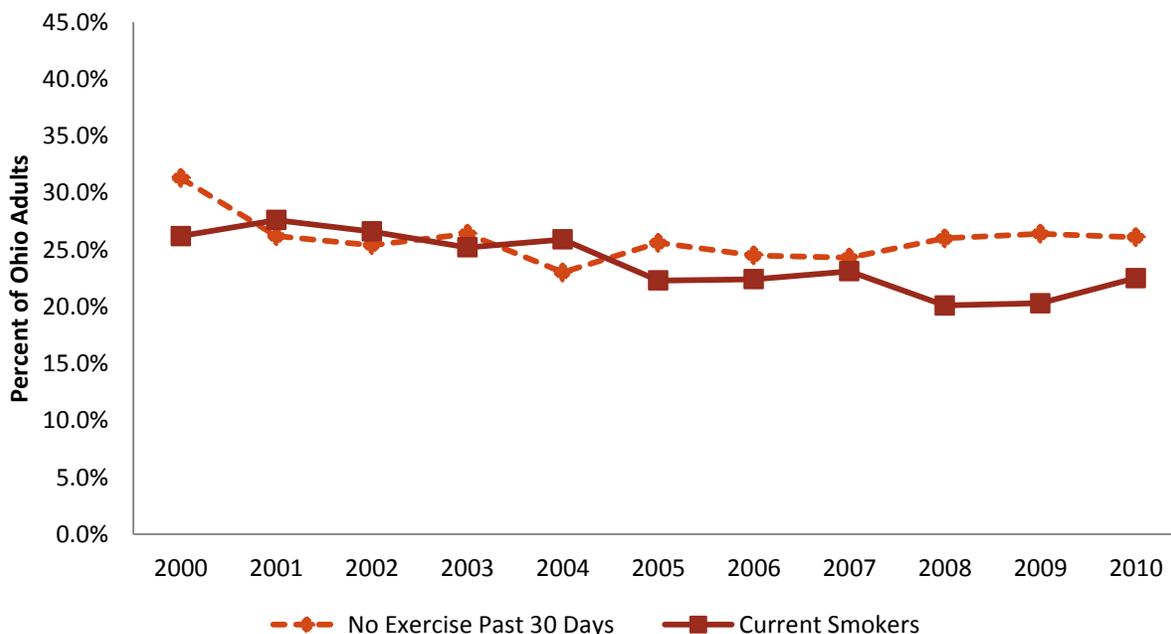
Ohio Health Trends: Modifiable Risk Factor Prevalence

Modifiable risk factors for heart disease are traits and lifestyle habits that increase the risk of developing heart disease, such as high blood pressure, elevated blood cholesterol, physical inactivity, tobacco use, obesity, and diabetes. From 2003 to 2009, Ohioans reduced cigarette smoking by approximately 19 percent and did not reduce levels of physical activity.⁸⁸ Despite these improvements in preventing heart disease in Ohio, the prevalence of additional risk factors grew, highlighting the need for continuing heart disease prevention efforts.

Physical Activity. From 2003 to 2009, the percentage of adults who reported they had engaged in physical activity (in the past 30 days) generally did not change. In both years, 26.4 percent of Ohioans did not engage in physical activity in the prior month. Similarly, in 2010, 26.1 percent of Ohioans did not engage in physical activity in the prior month.

Cigarette Smoking. The prevalence of cigarette smoking among Ohio adults decreased from 25.2 percent in 2003 to 20.3 percent in 2009. This is a 19.4 percent decrease over this six-year period. Following the end of the 2005-2009 CVH Program, however, the prevalence of cigarette smoking in Ohio grew to 22.5 percent.

Prevalence of Lack of Physical Activity in Past Month and of Cigarette Smoking, Ohio, 2000-2010^{1,2}



¹ Source: 2000-2010 Ohio Behavioral Risk Factor Surveillance System, Chronic Disease and Behavioral Epidemiology, Center for Public Health Statistics and Informatics, Ohio Department of Health.

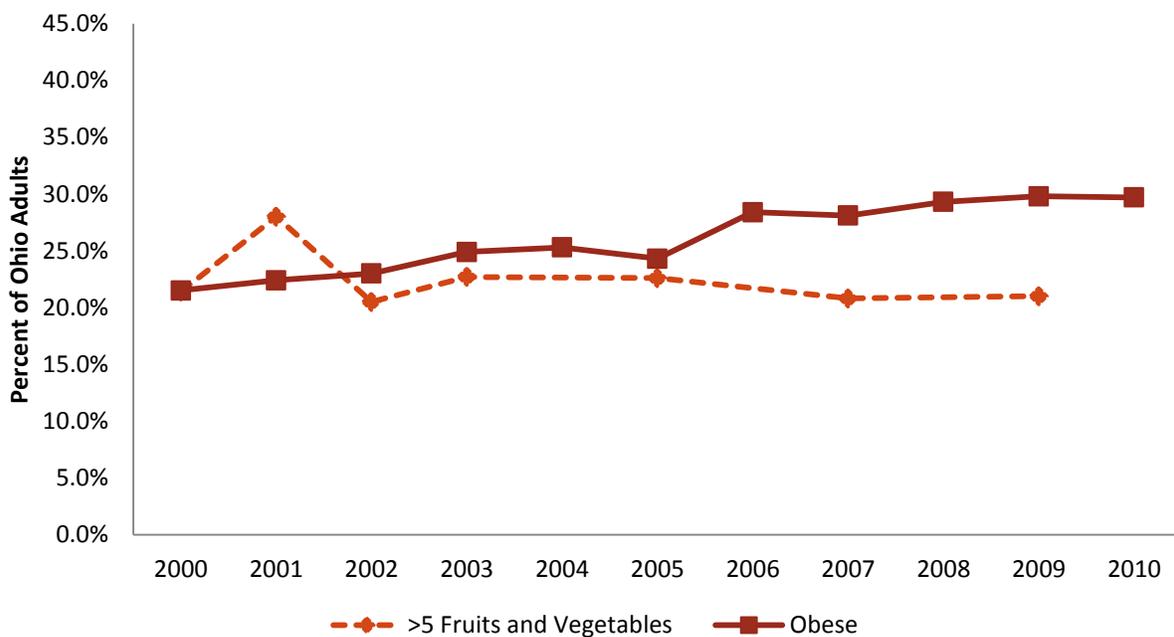
² Adults 18 years and older.

⁸⁸ The reference year for modifiable risk factors is 2003 because that is the most recent year before the CVH Program began in which all modifiable risk factors were assessed through the Ohio Behavioral Risk Factor Surveillance System.

Fruit and Vegetable Consumption. Despite a marked improvement in 2001, the percentage of Ohioans consuming five or more servings of fruits and vegetables has remained relatively stable. Approximately 22.7 percent of Ohio adults consumed five or more servings of fruits and vegetables per day in 2003, compared to 21.0 percent in 2009.

Obesity. Individuals are considered obese when their Body Mass Index (BMI) is greater than or equal to 30. Between 2003 and 2009 the prevalence of obesity among Ohioans increased from 24.9 percent to 29.8 percent. In 2006, there was a large increase in the percentage of obese Ohioans (from 24.3 in 2005 to 28.4 in 2006), after which the prevalence of obesity appears to stabilize. In 2010, for example, the percentage of obesity among Ohio adults (29.7 percent) is only slightly less than the percentage in 2009 (29.8 percent).

Prevalence of Adults Who Consumed Less Than Five Servings of Fruits and Vegetables per Day and Prevalence of Obesity, Ohio, 2000-2010^{1,2,3}



¹ Source: 2000-2010 Ohio Behavioral Risk Factor Surveillance System, Chronic Disease and Behavioral Epidemiology, Center for Public Health Statistics and Informatics, Ohio Department of Health.

² Adults 18 years and older.

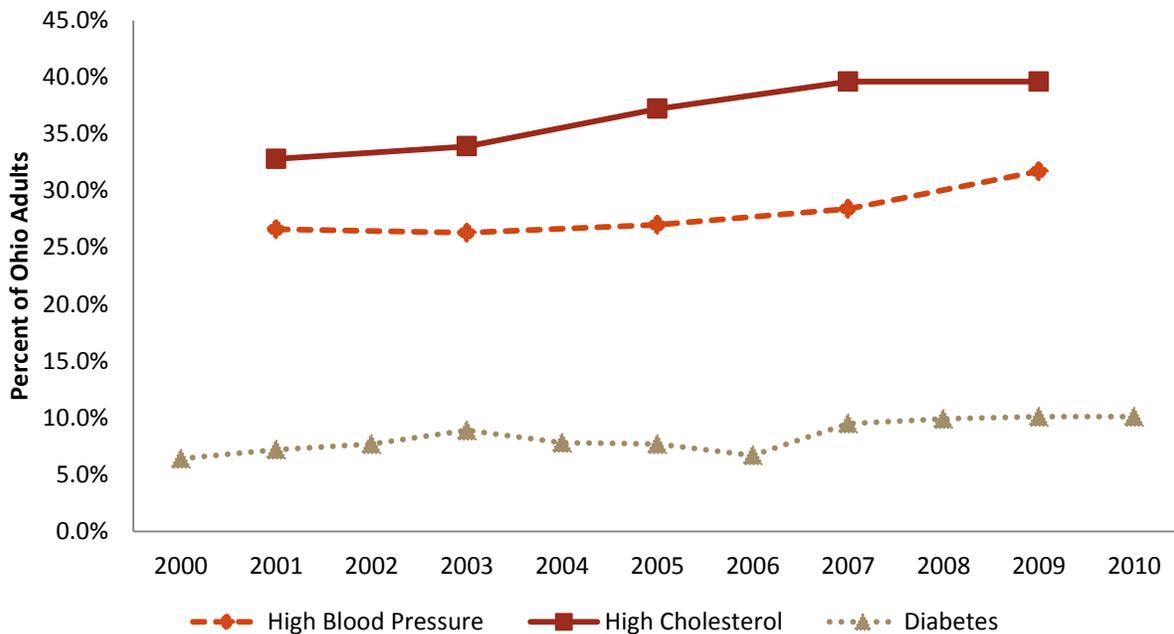
³ Data on fruit and vegetable consumption not collected in 2004, 2006, 2008, and 2010.

Diabetes. In 2003, 8.9 percent of Ohio adults had diabetes, compared to 10.1 percent of adults in 2009. Although this suggests an overall increase, it appears that the prevalence of diabetes may have been relatively stable from 2001 to 2006 (ranging from 6.7 percent to 7.8 percent), with the exception of 2003 (8.9 percent), and then increased in 2007 to 9.5 percent, at which point the prevalence of diabetes appears to have again somewhat stabilized. For example, there is no change in the percentage of Ohio adults with diabetes from 2009 to 2010 (both at 10.1 percent).

Elevated Blood Pressure. The prevalence of high blood pressure (a.k.a. hypertension) among Ohio adults increased from 26.3 percent in 2003 to 31.7 percent in 2009.

High Cholesterol. From 2003 to 2009, the prevalence of high cholesterol among Ohio adults increased from 33.9 percent to 39.6 percent. From 2007 to 2009, however, rates of high cholesterol remained the same, suggesting a possible slowed or stable prevalence.

Prevalence of Lack of High Blood Pressure, High Cholesterol, and Diabetes, Ohio, 2000-2010^{1,2,3}



¹ Source: 2000-2010 Ohio Behavioral Risk Factor Surveillance System, Chronic Disease and Behavioral Epidemiology, Center for Public Health Statistics and Informatics, Ohio Department of Health.

² Adults 18 years and older.

³ Data on high blood pressure and high cholesterol not collected in 2000, 2002, 2004, 2006, 2008, and 2010.

Ohio Health Trends: Summary

These data indicate that there have been clear but modest improvements in Ohio's health and reductions in modifiable risk factors since the start of the CVH program:

- Heart disease mortality decreased overall and in almost all of the CVH counties.
- Stroke mortality decreased.
- The number of current smokers decreased.
- Physical inactivity did not increase.

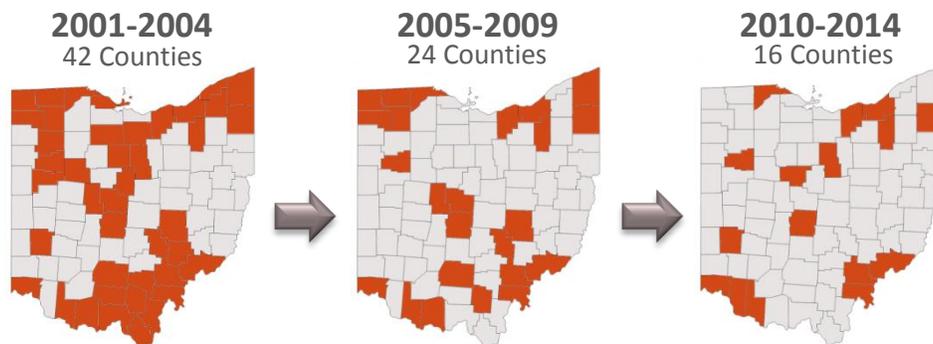
Despite this progress, critical contributors to heart health remain significant challenges:

- Prevalence of obesity and diabetes increased.
- Consumption of the recommended five servings of fruits and vegetables a day decreased.
- Proportion of Ohioans with elevated blood pressure and high cholesterol increased.

The CVH program made substantial efforts from 2005 to 2009 to address Ohio's cardiovascular health crisis. The CVH program facilitated the adoption of 343 policy changes and 957 environmental and systems changes in high-need communities.⁸⁹ In 2009, for example, 303 worksite wellness communities were formed, 218 school health teams were established, 75 walking trails were completed, 73 farmers' markets were created, and 264 community gardens were developed.⁹⁰ In 2008 and 2009, CVH initiatives potentially impacted an estimated 3,012,601 and 3,877,072 high-need Ohioans, respectively.⁹¹

Still, prevention efforts must at minimum continue, if not increase, if Ohio is to see real change in cardiovascular health. Cardiovascular disease remains a critical health issue; even with a tremendous increase in prevention, Ohio would be fortunate to see a clear reduction in CVD in the next generation. Further, the prevention activities outlined in this report are currently limited to the counties funded through the PHHS Block Grant only—and the number of counties funded has steadily decreased. The costs of treating CVD will only increase without a sustained focus on prevention.

Decreasing CVH Prevention Funded by the PHHS Block Grant Ohio



⁸⁹ CVH Program 2009 Summary Report, CVH Program Then and Now (2007), and CVH Program 2005 Project Summary Data.

⁹⁰ CVH Program 2009 Summary Report.

⁹¹ Ibid.



Conclusion



Conclusion

Heart disease remains the leading cause of death in Ohio and across the U.S. To address a health issue of this magnitude will take time, resources, commitment, and the cooperative partnership of private and public organizations across the state and country.⁹² The situation is urgent and worsening daily; projections suggest that the direct and indirect costs of cardiovascular disease (CVD) will reach \$818.1 and \$275.8 billion, respectively, by 2030.⁹³

Although risk factors for heart disease and stroke such as age, sex, family history, and genetics are immutable, others such as hypertension, high cholesterol, obesity, poor nutrition, a sedentary lifestyle, and diabetes are modifiable. Yet these changes cannot happen without widespread understanding of and support for CVD prevention. Schools must integrate healthy practices into each school day, healthcare providers must adhere to established clinical guidelines to address diabetes, heart disease, and stroke, employers must ensure that worksites implement policies and environmental supports for employees, and communities must build environments and set policies that support a healthy lifestyle. Early detection, treatment, and control of risk factors can prolong and improve the quality of life for people affected by heart disease and stroke. A robust prevention approach can mean less CVD to detect and treat in the first place.

Through strategic, systematic, population-based efforts, the CVH program made large-scale changes to the policies, systems, and environments in Ohio between 2005 and 2009. Some effects have been immediately evident; for example, during this timeframe Ohioans were smoking less.⁹⁴ Despite these improvements, however, Ohio has seen little to no change in other modifiable risk factors and CVD remains as the leading cause of death for Ohioans. A sustained and concerted effort and focus on prevention is still needed to impact Ohio's high (and still growing) rates of diabetes, high blood pressure, and high cholesterol—and research suggests it may take as long as a generation to see even modest results of these prevention activities in mortality rates, even with an increased focus on prevention.⁹⁵

⁹² Edwards, J., DeFiore-Hyrmer, J., & Pryor, B. (2009). The Ohio plan to prevent health disease and stroke 2008-2012 (2nd ed.). Ohio Department of Health.

⁹³ Weintraub, W. et al. (2011). Value of primordial and primary prevention for cardiovascular disease: A policy statement from the American Heart Association. *Circulation*, 124, 976-990.

⁹⁴ 2000-2010 Ohio Behavioral Risk Factor Surveillance System, Chronic Disease and Behavioral Epidemiology, Center for Public Health Statistics and Informatics, Ohio Department of Health.

⁹⁵ Heidenreich, PA, et al. (2011). Forecasting the future of cardiovascular disease in the United States: A policy statement from the American Heart Association. *Circulation*, 123, 933-944.

At the conclusion of the Preventive Health and Health Services (PHHS) Block Grant's five-year cycle in 2009, it was clear that the CVH program was strong, successful, and had the potential to positively impact more than cardiovascular disease. Indeed, it had become clear that the work of creating healthy policy, systems, and environments in the places that people live, work, and play will improve physical activity and nutrition for all Ohioans—reducing not only the rate and burden of cardiovascular disease but of all chronic diseases.

From 2005-2009, high-need Ohio communities adopted:

- **343** policy changes
- **957** environmental/system changes

Source: CVH Program 2009 Summary Report, CVH Program Then and Now (2007), CVH Program 2005 Project Summary Data

As further evidence of excellence in prevention, Ohio received the **Preventive Health and Health Services (PHHS) Block Grant 2010 Champion Award for Program Delivery** from the U.S. Department of Health and Human Services for the achievements of the 2005-2009 CVH program. This award is presented to individuals and/or groups for extraordinary national, state, and community efforts supporting the mission of the PHHS Block Grant. This award recognized Ohio's CVH program for exceptional leadership, program delivery, public policy achievements in prevention, public policy achievements in promotion and protection of the health and safety of all people, and fiscal integrity of the PHHS Block Grant.

From Cardiovascular Health to Creating Healthy Communities

In 2009, the Ohio Department of Health, Bureau of Health Promotion and Risk Reduction engaged in a strategic planning process, prompting a thorough review of the PHHS Block Grant objectives. In the course of this planning, the Bureau identified as “guiding principles” for prevention a sustained focus on disparate, high-need populations as well as geographically diverse populations who are at the highest risk of developing chronic diseases. In reviewing the results of Ohio's CVH prevention program from its earliest inception in 2001 through the 2005-2009 CVH program, it was clear that these efforts had an impact that reached beyond cardiovascular disease alone. As a result, the program was renamed to reflect the many ways a healthy lifestyle improves quality of life: the CVH program was retitled the “Creating Healthy Communities” program.

As a new funding cycle began in 2010, the CVH program took on a new name to better represent this important work. The **Creating Healthy Communities (CHC)** program currently serves high-need communities in 16 counties with a collective population of 5,797,335. In this new program, counties with the highest need were given priority, as determined by weighted data based on the number and percentage of individuals below poverty level (based on 2007 data) as well as the number and percentage of deaths from prioritized chronic diseases. Within these targeted areas, CHC continues to emphasize a grassroots, population-based approach to prevention in schools, workplaces, communities, and healthcare institutions.

Like its predecessor, the CHC program is designed to enhance local communities' abilities to develop and implement policy, systems, and environmental change strategies that can help prevent or manage health risk factors for heart disease, stroke, diabetes, cancer and obesity. The CHC program enhanced the *Heart Health Checklist* to become a **Healthy Communities Checklist**—an environmental scan for these 16 urban and rural/suburban communities to establish a baseline of health programs available in each priority community as they relate to policy, systems, and environmental issues specific to chronic diseases. The community coalition, composed of community partners and residents, uses these assessments to identify resources, capacity, and needs; to establish priorities and interventions; and to focus project direction on population-based activities. Coalitions work in high-need areas to improve nutrition and increase physical activity in schools and communities, promote worksite wellness, and support prevention in health care settings.

The CHC program is guided by the following key principles:

- High-level community leaders are involved at every step, utilizing their positions, influence, and ability to make changes within their organization and within the greater community.
- Multiple sectors and diverse organizations are involved to maximize experience, assets, resources, and skills.
- The ultimate goal is to influence policy and environmental changes to improve community environments.
- Local initiatives are grassroots efforts with strategies specific to the needs of each community.

Interventions in CHC communities continue to be directed towards high-need populations residing in urban, rural, and suburban communities; hard-to-reach populations (low-income, underserved, and racial and ethnic populations); and geographically diverse populations who are at highest risk of developing chronic diseases.

Just a few of the successful outcomes of the 2010 CHC program's first year include:

- Community gardens were cultivated in Allen, Cuyahoga, Franklin (Columbus), Hamilton (Cincinnati), Lorain, Summit, Trumbull, and Washington Counties. In Washington County alone, 254 individuals from 12 area pantries/agencies were served 1,336 pounds of produce from local gardens. In Columbus, 6,100 pounds of produce was donated to food pantries from community gardens.
- CHC programs supported farmers' markets in Toledo and Nelsonville. In Toledo in 2011, more than \$50,000 in farmers' market sales were recorded, and 750 new low-income shoppers were drawn to the farmers' market through the grassroots promotions sponsored by the Lucas County CHC program.
- Worksite teams participating in a county-wide weight loss promotion in Allen County significantly increased physical activity and weight loss; 75 percent of participants maintained new behaviors initiated during the promotion, and a large percentage of individuals who participated in worksite teams were more likely to report maintaining new healthy behaviors.
- Increasing physical activity for employees through worksite-incentivized walking programs was a priority in Lorain County. At Bay Mechanical and Electrical Corporation, participating employees increased daily steps by 68 percent, and employees at the City of Oberlin increased daily steps by 125 percent.

Can Ohio Commit to Health Prevention?

Despite the five years of successful CVH prevention efforts from 2005 through 2009 and the early successes of the CHC program from 2010 to the present, more action and commitment to prevention is needed. There remains a desperate need for more evidence-based, population-level prevention not only for cardiovascular disease but also for public health issues that continue to grow, such as obesity and diabetes.^{96,97,98} Further, funding for the 2010 CHC program was reduced from \$1.93 million awarded to the 2005-2009 CVH program to \$1.675 million. As PHHS Block Grant funding for preventive health decreased, only 16 counties could be funded through the CHC grant, compared to the 24 counties from 2005-2009. Unfortunately, agencies that had previously received Block Grant funding (some for as long as 10 years) could no longer be funded under the CHC program, despite the infrastructure, coalitions, and partnerships established in those communities through the CVH program. As a result of this decrease in funding, prevention work has greatly diminished in these counties.

The CDC PHHS Block Grant funded the CVH program and currently funds the CHC Program. The President's 2013 budget request eliminates the PHHS Block Grant. If this funding is lost, this will result in the elimination of the CHC and other vital programs. Ohio will be unable to sustain critical preventive health issues. The PHHS Block grant is needed to continue to address preventive health issues in Ohio.

The possible elimination of PHHS Block Grant funding is regrettable, given that experts agree prevention is the most cost-effective way of reducing future health care costs. Investing \$10 per person per year in proven community-based programs to increase physical activity, improve nutrition, reduce injury, and prevent tobacco use and exposure can save Ohio more than \$685 million annually, within five years.⁹⁹ This is a return on investment of approximately \$6 for every \$1 spent on prevention.

The future of prevention in Ohio and nationally is uncertain, although the dangers of cardiovascular disease, obesity, and diabetes seem clear. The following quote from public health expert George Hardy, MD, MPH summarizes the opportunity and risk ahead:

“Imagine what could be done if a real national commitment were made to provide the resources necessary to truly address the challenges and opportunities of an aging population and the risk factors attendant to chronic diseases. Because of the increasing burden of chronic diseases, the United States faces a potential financial and health care crisis of unparalleled proportion. We must not lose this opportunity to do whatever we can to reduce the costly and unnecessary burden of chronic disease that will continue to fuel that crisis.”¹⁰⁰

⁹⁶ Centers for Disease Control and Prevention (2011). Diabetes: Successes and opportunities for population-based prevention and control. <http://www.cdc.gov/chronicdisease/resources/publications/aag/pdf/2011/Diabetes-AAG-2011-508.pdf>.

⁹⁷ Brownson, R.C., Baker, E.A., & Leet, T.L. (2012). *Evidence-based public health* (2nd ed.). New York, NY: Oxford University Press.

⁹⁸ Kumanyika, S.K., et al. (2008). The need for comprehensive promotion of healthful eating, physical activity, and energy balance: A scientific statement from American Heart Association Council on Epidemiology and Prevention, Interdisciplinary Committee for Prevention. *Circulation*, 118, 428-424.

⁹⁹ Trust for America's Health (2008). Prevention for a healthier America: Investments in disease prevention yield significant savings, stronger communities.

¹⁰⁰ Hardy, G.E. Jr. (2004). The future is prevention. Introduction to Dr. James Marks' presentation: The burden of chronic disease and the future of public health. *Preventing Chronic Disease*, 1, 1-2.: http://www.cdc.gov/pcd/issues/2004/apr/pdf/04_0006.pdf.

Appendix A

High-Need Targeted Populations in CVH Counties, 2005-2009¹

	Gender		Race/Ethnicity				Economic Prosperity	
	Male	Female	White	Black	Hispanic/ Latino	Other	Median Income ²	Families Below Poverty
Adams County³	49.0%	51.0%	98.7%	0.3%	0.6%	1.0%	\$29,315	12.8%
Brown County³	49.2%	50.8%	98.6%	1.1%	0.4%	0.4%	\$38,303	8.8%
Allen County	50.0%	50.0%	86.2%	13.0%	1.4%	0.9%	\$37,048	9.6%
Lima City	48.4%	51.6%	70.6%	23.5%	3.0%	1.3%	\$27,067	22.4%
Lutheran Social Services Patients Population ⁴	46.0%	54.0%	82.0%	11.0%	—	—	—	—
Ashtabula County	48.7%	51.3%	95.8%	3.6%	2.2%	0.7%	\$35,607	9.2%
Ashtabula City	47.6%	52.4%	89.3%	6.6%	3.7%	0.7%	\$27,354	12.2%
Geneva	49.3%	50.7%	96.0%	0.9%	3.7%	0.7%	\$35,048	6.7%
Conneaut	48.7%	51.3%	96.7%	1.0%	1.0%	0.6%	\$31,717	9.6%
Athens County	48.9%	51.1%	94.5%	2.8%	1.1%	2.7%	\$27,322	14.0%
Chauncey	47.4%	52.6%	93.7%	1.6%	0.9%	2.7%	\$24,821	21.8%
Nelsonville	52.9%	47.1%	96.4%	2.4%	1.2%	1.7%	\$20,634	22.9%
Trimble Township	47.4%	52.6%	96.5%	0.9%	0.8%	0.2%	\$25,431	22.1%
Cuyahoga County	47.2%	52.8%	69.5%	28.2%	3.4%	2.3%	\$39,168	10.3%
City East Cleveland	44.3%	55.7%	4.9%	94.5%	1.1%	1.0%	\$20,542	25.9%
Euclid City	45.6%	54.4%	53.0%	45.2%	1.5%	1.8%	\$35,151	7.9%
Defiance County	49.3%	50.7%	97.2%	2.1%	7.3%	0.7%	\$44,938	4.5%
City Defiance	48.5%	51.5%	87.1%	3.4%	12.8%	0.8%	\$41,670	7.4%
Delaware County	49.5%	50.5%	95.3%	2.8%	1.0%	1.9%	\$67,258	2.9%
Village of Ashley	49.3%	50.7%	97.6%	0.9%	0.6%	0.4%	\$39,239	5.2%
Woodward Elementary Attendance Area	48.4%	51.6%	91.3%	5.3%	1.6%	1.2%	\$51,422	21.8%
Delaware County (Worksites)	49.5%	50.5%	94.2%	2.5%	1.0%	1.7%	—	2.9%
Franklin County	48.6%	51.4%	77.3%	18.9%	2.3%	3.8%	\$42,734	8.2%
Franklinton (zip code 43215)	55.5%	44.5%	70.1%	23.5%	2.8%	2.8%	\$23,562	23.9%
Franklinton (zip code 43222)	50.8%	49.2%	80.4%	13.1%	2.2%	2.5%	\$19,617	33.4%
Franklinton (zip code 43223)	48.7%	51.3%	77.0%	16.6%	1.4%	2.0%	\$31,520	16.3%
Linden (zip code 43219)	44.0%	56.0%	17.8%	77.7%	1.4%	0.9%	\$28,321	22.0%
Linden (zip code 43224)	48.3%	51.7%	59.2%	31.8%	3.0%	2.5%	\$31,548	11.8%
Linden (zip code 43211)	46.7%	53.3%	29.6%	65.6%	1.5%	1.1%	\$25,972	23.4%
Hilltop	48.4%	51.6%	83.9%	9.5%	2.2%	3.5%	\$36,336	10.6%
Fulton County	48.9%	51.1%	98.7%	0.4%	5.7%	0.8%	\$44,074	4.0%
Delta	49.4%	50.6%	96.3%	0.1%	4.1%	0.7%	\$43,625	5.0%
Fayette	49.5%	50.5%	95.9%	0.2%	6.2%	0.6%	\$35,859	5.6%
Hamilton County	47.7%	52.3%	73.9%	24.0%	1.1%	2.1%	\$40,964	8.8%
Bond Hill (Cincinnati)	44.9%	55.1%	24.1%	72.7%	0.8%	1.8%	\$31,047	14.5%
Madisonville (Cincinnati)	45.9%	54.1%	59.0%	37.5%	1.0%	2.2%	\$36,440	7.7%
Winton Terrace/Spring Grove	41.8%	58.2%	23.4%	73.6%	1.3%	1.2%	\$16,961	48.3%

	Gender		Race/Ethnicity				Economic Prosperity	
	Male	Female	White	Black	Hispanic/ Latino	Other	Median Income ²	Families Below Poverty
Henry County	49.4%	50.6%	98.4%	0.8%	5.4%	0.8%	\$42,657	5.3%
Napoleon	48.4%	51.6%	95.0%	0.6%	5.2%	0.8%	\$42,722	6.3%
Liberty Center	51.0%	49.0%	95.7%	1.7%	2.5%	0.7%	\$45,044	3.1%
Jackson County	48.2%	51.8%	98.6%	0.8%	0.8%	0.6%	\$30,661	13.6%
Oak Hill	45.0%	50.9%	98.3%	0.2%	0.1%	0.7%	\$26,996	14.2%
Wellston	47.0%	53.0%	98.1%	0.4%	0.6%	0.4%	\$31,318	15.8%
Lorain County	49.1%	50.9%	89.4%	9.4%	6.9%	1.2%	\$45,042	6.7%
Village of Wellington School District	49.8%	50.2%	98.0%	0.7%	1.0%	0.3%	\$45,515	2.2%
City of Oberlin	43.7%	56.3%	71.9%	18.5%	3.0%	4.1%	\$45,625	6.7%
City of Lorain (South)/Sheffield Township	47.9%	52.1%	63.3%	15.3%	33.9%	0.9%	\$31,177	16.5%
Lucas County	48.1%	51.9%	80.4%	17.9%	4.6%	1.7%	\$38,004	10.7%
East Toledo	48.3%	51.7%	81.4%	8.8%	12.6%	2.3%	\$27,546	22.0%
Old South End	49.0%	51.0%	75.6%	13.2%	12.8%	1.6%	\$27,177	22.1%
Neighbors in Partnership	48.1%	51.9%	24.0%	71.1%	3.2%	0.6%	\$19,974	26.8%
Meigs County³	48.7%	51.3%	98.7%	0.9%	0.5%	0.4%	\$27,287	14.3%
Muskingum County	47.9%	52.1%	94.7%	4.7%	0.5%	0.7%	\$35,185	9.9%
Zanesville City	46.0%	54.0%	85.5%	10.8%	0.8%	0.6%	\$26,642	4.8%
Tri-Valley School District	49.4%	50.6%	—	—	—	—	—	7.5%
Perry County	49.7%	50.3%	99.2%	0.3%	0.5%	0.4%	\$34,383	9.4% ⁵
New Lexington	47.7%	52.3%	98.8%	0.2%	0.4%	0.4%	\$33,963	9.4% ⁵
Crooksville	47.1%	52.9%	98.5%	0.2%	0.4%	0.2%	\$30,091	9.4% ⁵
Ross County³	52.0%	48.0%	92.6%	6.6%	0.6%	0.8%	\$37,117	9.1%
Summit County	48.2%	51.8%	84.4%	13.8%	0.9%	1.8%	\$42,304	7.5%
Buchtel Community	45.3%	54.7%	22.4%	74.6%	0.7%	1.4%	\$31,336	13.4%
Lakemore	50.0%	50.0%	97.2%	0.4%	0.4%	2.2%	\$32,237	8.5%
Summit Lake	51.0%	49.0%	52.7%	37.6%	2.0%	7.2%	\$19,576	29.7%
Trumbull County	48.4%	51.6%	91.0%	8.3%	0.8%	0.7%	\$38,298	7.9%
Warren City (zip code 49206)	43.8%	56.2%	20.8%	93.9%	0.5%	0.2%	\$21,023	27.5%
Warren City (zip code 49207)	45.5%	54.5%	48.4%	47.7%	0.3%	0.2%	\$25,000	25.2%
Leavittsburg	47.7%	52.3%	63.0%	31.1%	2.8%	2.0%	\$37,031	23.0%
Union County	47.9%	52.1%	96.2%	3.1%	0.8%	0.8%	\$41,207	3.6%
Marysville	43.5%	56.5%	91.3%	6.2%	1.0%	1.1%	\$51,599	4.0%
Richwood	47.4%	52.6%	99.3%	0.6%	0.3%	1.0%	\$50,040	6.6%
Washington County³	48.6%	51.4%	98.0%	1.2%	0.5%	0.8%	\$34,275	8.6%
Williams County	49.7%	50.3%	98.3%	0.9%	2.7%	0.8%	\$40,735	3.9%
Montpelier	47.4%	52.6%	96.6%	0.3%	1.5%	1.7%	\$31,678	4.3%

¹ Source: 2000 U.S. Census data.

² This is the median household income, not median individual income.

³ The high-need target population included the entire county.

⁴ Source: Lutheran Social Services Practice Management System, 2009.

⁵ Source: Ohio Department of Development.