

INTRODUCTION

Why invest in community programs to prevent chronic disease and promote health?

In the United States, during the last century, the diseases that cause the most death, illness, and disability changed dramatically from infectious diseases to chronic diseases. Today, chronic diseases are among the most prevalent and costly of all health problems, with prolonged illness and disability resulting in decreased quality of life for millions of people nationwide. Among chronic diseases, obesity, diabetes, and asthma are three of the most significant contributors to morbidity and mortality in the United States.

To further reduce the burden of these diseases and risk factors, the Department of Health and Human Services (HHS) established the Steps to a HealthierUS Cooperative Agreement Program (Steps Program). The Centers for Disease Control and Prevention (CDC) coordinates day-to-day management and implementation of the Steps Program. CDC staff provide technical expertise to support program planning and implementation, disease and risk factor surveillance, and program evaluation. For example, CDC helps Steps communities meet fiduciary responsibilities established by the federal government, and coordinates national-level evaluation activities, including program-wide performance measurement. The Steps Program extends the reach of other chronic disease prevention and health promotion activities and advances the Agency's vision of healthy people in a healthy world through prevention.

To illustrate the effect of chronic diseases on public health, Table 1 shows estimates of morbidity, mortality, and cost associated with chronic diseases in general; obesity, diabetes, and asthma, in particular, and the primary risk factors for these diseases.

Table 1. Estimates of Morbidity, Mortality, and Cost Associated with All Chronic Diseases, Obesity, Diabetes, Asthma, and Related Risk Factors for these Diseases.

Condition or Risk Factor	Burden: Morbidity, Mortality, or Cost
All chronic diseases	<ul style="list-style-type: none"> ▪ More than 90 million Americans live with a chronic illness.¹ ▪ 7 of every 10 Americans who die each year, or more than 1.7 million people, die of a chronic disease.² ▪ Chronic disabling conditions cause major limitations in activity for more than 1 of every 10 Americans.² ▪ Chronic diseases account for more than 70% of the \$1 trillion spent on health care each year in the United States.²
Obesity	<ul style="list-style-type: none"> ▪ Obesity was associated with an estimated 111,909 deaths in 2000.³ ▪ The direct and indirect costs of obesity in the United States are about \$118 billion a year.⁴
Diabetes	<ul style="list-style-type: none"> ▪ Diabetes affects more than 20 million Americans and contributed to more than 224,000 deaths in 2002.⁵ ▪ The direct and indirect costs of diabetes are about \$132 billion a year.²
Asthma	<ul style="list-style-type: none"> ▪ In 2003, 29.8 million people in the United States had received a diagnosis of asthma at least once in their lives.⁶ ▪ Asthma accounted for 13.9 million outpatient visits, 1.9 million emergency department visits, and 484,000 hospitalizations in 2002.⁶ ▪ In 2004, the direct and indirect costs attributed to asthma totaled \$16.1 billion.⁶
Physical inactivity	<ul style="list-style-type: none"> ▪ Increasing physical activity by people who are currently inactive could save \$76.6 billion a year in direct medical costs.⁷
Tobacco use	<ul style="list-style-type: none"> ▪ In the United States, smoking causes about 440,000 premature deaths each year.⁸ ▪ The estimated direct medical costs associated with smoking exceed \$75 billion annually.⁸

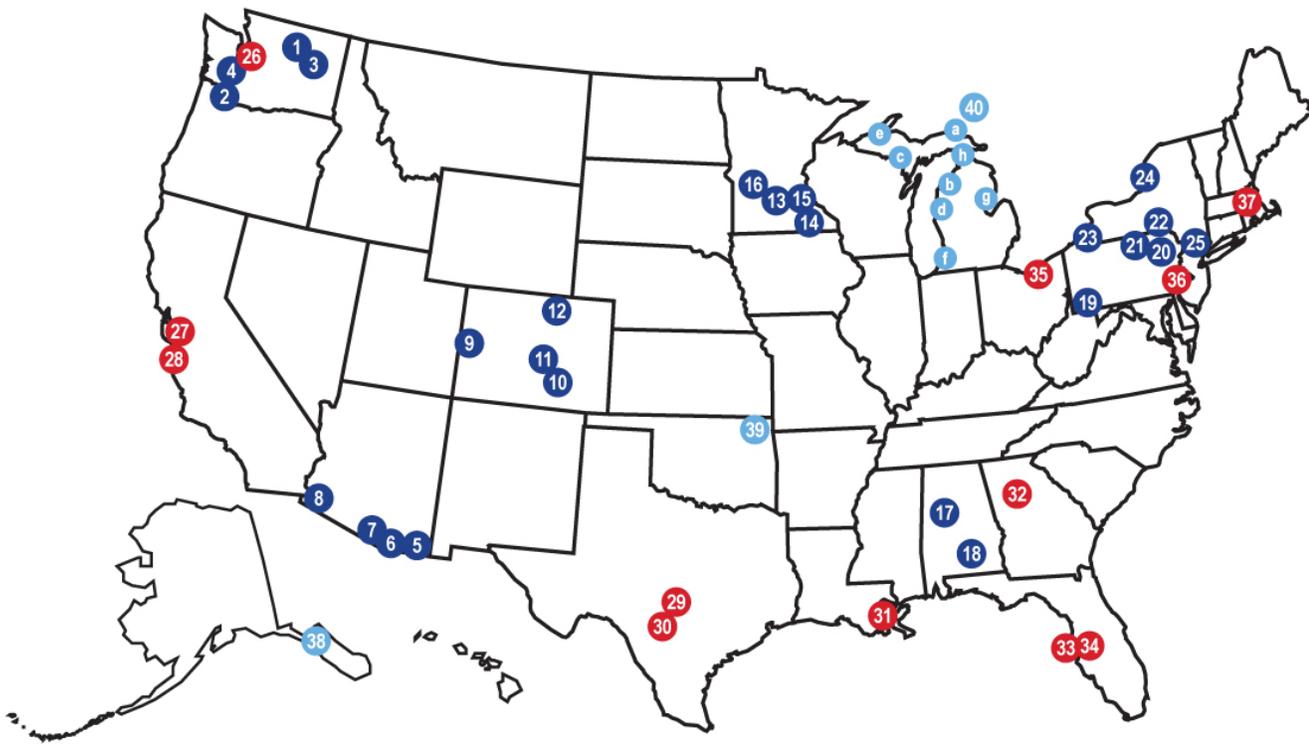
What is the Steps to a HealthierUS Cooperative Agreement Program?

The Steps Program addresses conditions of urgent importance to the public's health (obesity, diabetes, asthma) and three related risk factors (poor nutrition, physical inactivity, and tobacco use). Drawing upon recommendations from the Institute of Medicine,⁹ this program focuses on joining the resources and perspectives of a wide range of sectors and entities relevant to public health practice. These groups work in concert to craft, implement and evaluate evidence-based prevention and health promotion efforts to create measurable improvements in health and well-being community-wide.

CDC funds communities; program funds totaled \$13.6 million in 2003, \$35.8 million in 2004, and \$44 million in 2005 and 2006. As shown in Figure 1, the Steps Program includes activities in 40 communities nationwide. These programs fall into three categories:

- Small cities or rural areas whose activities are coordinated by a state health department. Each of these communities consists of two to four areas with a population of 10,000 to 400,000. The population of all communities coordinated by one state cannot exceed 800,000: 16 of these communities were funded in 2003 and 9 more in 2004. For these communities, the Steps Program funds the state department of health, and the department of health funds individual Steps communities.
- Large cities or urban areas (contiguous areas with a population of at least 400,000): 7 of these communities were funded in 2003 and 5 more in 2004.
- Tribes or tribal entities serving a population of at least 10,000: 1 community was funded in 2003 and 2 more in 2004.

Figure 1. Steps to a HealthierUS Cooperative Agreement Program Map of Communities by Categories of Eligibility, 2006



State-Coordinated Small Cities / Rural Communities

Washington

- 1. Chelan, Douglas & Okanogan Counties
- 2. Clark County
- 3. Colville Confederated Tribes
- 4. Thurston County

Arizona

- 5. Cochise County
- 6. Santa Cruz County
- 7. Tohono O'odham Tribe
- 8. Yuma County

Colorado

- 9. Mesa County
 - 10. Pueblo County
 - 11. Teller County
 - 12. Weld County
- Minnesota**
- 13. Minneapolis
 - 14. Rochester-Olmsted County
 - 15. St. Paul-Ramsey County
 - 16. Willmar

Alabama

- 17. River Region
- 18. Southeast Alabama

Pennsylvania

- 19. Fayette County
- 20. Luzerne County
- 21. Tioga County

New York

- 22. Broome County
- 23. Chautauqua County
- 24. Jefferson County
- 25. Rockland County

Large Cities / Urban Communities

- | | | |
|---------------------------------|--|-----------------------------------|
| 26. Seattle-King County, WA | 30. San Antonio-Bexar County, TX | 34. Tampa-Hillsborough County, FL |
| 27. Santa Clara County, CA | 31. New Orleans, LA | 35. Cleveland, OH |
| 28. Salinas-Monterey County, CA | 32. DeKalb County, GA | 36. Philadelphia, PA |
| 29. Austin-Travis County, TX | 33. St. Petersburg-Pinellas County, FL | 37. Boston, MA |

Tribes / Tribal Entities

- | | |
|--|--|
| 38. Southeast Alaska Regional Health Consortium, AK | d. Huron Potawatomi Indian Community |
| 39. Cherokee Nation Health Services Group, OK | e. Keweenaw Bay Indian Community |
| 40. Intertribal Council of Michigan, MI | f. Little Traverse Bay Band of Odawa Indians |
| a. Bay Mills Indian Community | g. Saginaw Chippewa Indian Tribe |
| b. Grand Traverse Bands of Ottawa & Chippewa Indians | h. Saut Ste. Marie Tribe of Chippewa Indians |
| c. Hannahville Indian Community | |

Steps Program Announcements 03135, 04234, and 04134 articulate the requirements of the program and establish key elements of the design and implementation of state and community-based activities.^{10,11,12} All Steps communities implement evidence-based chronic disease prevention and health promotion activities to generate progress toward 12 general outcomes:

- Prevent diabetes among those with pre-diabetes.
- Increase identification of those with undiagnosed diabetes.
- Reduce complications of diabetes.
- Prevent overweight and obesity.
- Reduce complications of asthma.
- Improve nutrition.
- Increase physical activity.
- Prevent tobacco use and exposure to tobacco smoke.
- Increase the number of tobacco users who quit.
- Increase the use of appropriate health care services.
- Improve the quality of care for people with chronic diseases.
- Increase effective self-management of chronic diseases such as asthma and diabetes.

Steps Program Announcements 03135, 04234, and 04134 also define specific activities to address these intended outcomes. These activities include, but are not limited to, the following:

- Implement multiple evidence-based public health strategies to address all targeted diseases and related risk factors community-wide, including strategies to improve disease self-management skills and health care access and quality.
- Establish a lead agency with fiduciary responsibilities such as allocating, dispensing, and monitoring funds given to partners; contracting for services; linking budget to performance; optimizing resources via coordination with existing programs; expanding resources available by securing grants, additional public funding, or in-kind contributions; working to sustain key Steps Program activities and interventions.
- Build an alliance of key partners and coalitions to form a community-based consortium committed to participating in program planning, implementation, and evaluation.

- Establish and coordinate a formal leadership team to provide strategic direction and expertise throughout program planning, implementation, and evaluation.
- Provide ongoing program management (e.g., establish and maintain appropriate staffing; ensure that program objectives and activities are consistent with, supportive of, and not duplicative of, relevant state activities).
- Expand existing surveillance mechanisms to collect representative data via the Behavioral Risk Factor Surveillance System (BRFSS) and Youth Risk Behavior Surveillance System (YRBSS).
- Collect data necessary to report on program-wide performance measures, and use surveillance and evaluation data to inform programmatic decision making.

We synthesize key elements of the program in a logic model (Figure 2). A logic model is a graphic presentation of the main elements of a program and its intended outcomes. Moreover, the logic model depicts the program's underlying theories and assumptions¹³. Specifically, the logic model includes program inputs, activities, immediate accomplishments (i.e., outputs), and the expected results of the program over time (i.e., outcomes). In this case, certain components of the logic model are presented in general terms because specific activities vary by community, in response to local needs. A well-designed logic model is founded on a clear understanding, or reasonably sound estimation, of how inputs and activities connect to the intended outcomes. However, there are challenges to capturing and conveying the underlying theory of this program in this format. The logic model must reflect the complexity of the Steps Program. For example, the program addresses multiple diseases and risk factors, and community-based activities that take place in various settings (e.g., schools, workplaces) and serve multiple populations (e.g., diverse racial and ethnic groups, children, adults). While there is much research on the effectiveness of categorical public health programs (e.g., efforts to promote physical activity or prevent initiation of smoking), there is far less documentation of programs that tackle multiple diseases and risk factors at the same time, or in a more integrated fashion. Several assumptions and theoretical constructs serve as the foundation for the logic model, and guide the organization of the specific components of the model.

Assumptions and Theoretical Constructs

Evidence Based Strategies

Steps communities implement evidence-based interventions drawn from the existing and emerging research base and careful scientific reviews such as the Guide to Community Preventive Services (<http://www.thecommunityguide.org/>), the Guide to Clinical Preventive Services (<http://www.ahrq.gov/clinic/prevnew.htm>), and Promising Practices in Chronic Disease Prevention and Control (http://www.cdc.gov/nccdphp/promising_practices/). Programming in Steps communities should be based on the best available evidence for chronic disease prevention and health promotion. As such, the logic model reflects the selection of activities with the greatest promise of results.

Socio-ecological Model

The ecological perspective emphasizes the interaction between, and interdependence of, factors within and across all levels of a health problem¹⁴. McLeroy et al identify five levels of influence for health-related behaviors and conditions¹⁵. These levels include: individual, interpersonal, organizational, community, and public policy. Recognizing the contributions of both individual and social environmental influences to the diseases and risk factors relevant to this program, Steps communities are encouraged to include interventions aimed at all levels of the socio-ecological model. In many cases, a single intervention might impact multiple levels of influence. For example, a community-wide walking program aims to increase individuals' knowledge and change attitudes by providing information on the benefits of regular physical activity (i.e., individual level). This same program could target social influences by establishing and supporting walking groups (i.e., interpersonal level). Finally, the walking program can address relevant community structures by providing free transportation to walking sites or promoting the use of malls or schools for this activity (i.e., community level). The logic model takes into account the thoughtful selection of programmatic activities across the five levels of influence discussed here, and the synergistic effects of these activities on the path to results.

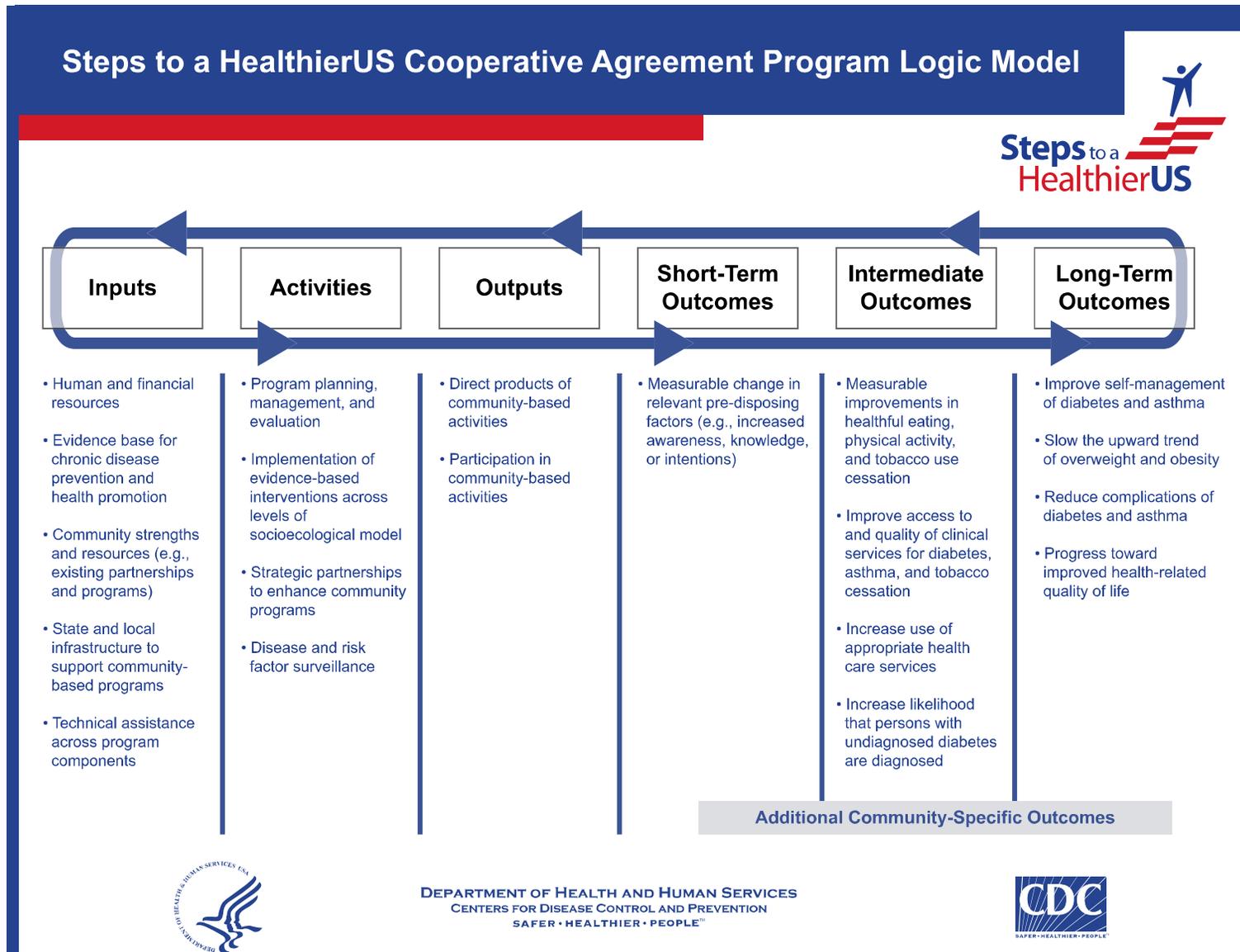
Integration of Chronic Disease Prevention and Health Promotion Efforts

Integration is a term commonly used in health and human service programs with limited consistency in definition. As noted by the Institute of Medicine, a recommendation for ensuring quality of services in public health is to “experiment with clustering or consolidation of categorical grants for the purpose of increasing local flexibility to address priority health concerns and enhance the efficient use of limited resources.”⁹ In short, a more integrated approach to improving the nation’s health may result in improved operational effectiveness, enhanced sustainability in a climate of finite resources, and a system that attends to the complex inter-relationships between risk factors and health outcomes¹⁶. Given the diseases and risk factors addressed here, the logic model reflects efforts to better integrate or connect disease prevention and health promotion efforts in Steps communities. Thus, it is considered relevant to program implementation and progress toward the desired outcomes.

Disease and Risk Factor Surveillance

The Steps Program emphasizes the importance of community-based disease and risk factor surveillance. Thus, the logic model includes disease and risk factor surveillance among the key activities. These data, combined with information on program implementation, provide evidence for decision-making throughout the life of the program (e.g., identifying populations at risk for disease, documenting progress toward intended outcomes). As such, the logic model also suggests the use of data via a large, circular arrow across the column headers. This arrow represents a feedback loop, or pathway, whereby information about the program is put back into the system in the form of meaningful data. The inclusion of an explicit feedback loop emphasizes the use of data to facilitate program development or quality improvement, make shifts in the program to stabilize or improve operations, or identify points along the way where additional information is required.

Figure 2. Steps to a HealthierUS Cooperative Agreement Program Logic Model for Program and Evaluation Planning



Components of the Logic Model

Inputs are the people, money, and information used to establish and implement a program.¹⁷ The logic model shows the Steps Program's primary inputs: human and financial resources, the evidence base for chronic disease prevention and health promotion, community strengths and resources, state and local infrastructure to support community-based programs, and technical assistance across program components. Program staff use the inputs to implement *activities*. Steps Program activities span four broad categories: 1) program planning, management, and evaluation; 2) implementation of evidence-based interventions across the socio-ecological model; 3) strategic partnerships to enhance community programs; and 4) disease and risk factor surveillance. *Outputs* are the direct products of program activities (e.g., a physical activity class held for elderly people).¹⁷ Steps Program outputs include completed community-based activities and participation in those activities; specific products vary across Steps communities.

Program *Outcomes* are the expected results of our investments in chronic disease prevention and health promotion (e.g., local smoking laws or school curriculums).¹⁷ The logic model includes *short-term*, *intermediate*, and *long-term outcomes*.

- Short-term outcomes include measurable change in relevant pre-disposing factors (e.g., increased awareness, knowledge, or intentions).
- Intermediate outcomes include measurable improvements in healthful eating, physical activity, and tobacco use cessation; improved access to and quality of clinical services for diabetes, asthma, and tobacco use cessation; increased use of appropriate health care services; and increased likelihood that persons with undiagnosed diabetes are diagnosed.
- Long term outcomes include improved self-management of diabetes and asthma; slowing the upward trend of overweight and obesity; reduced complications of diabetes and asthma; and, ultimately, progress toward improved health-related quality of life.

Taken in sum, these outcomes reflect the expected results of the program as described in Steps Program Announcements 03135, 04234, and 04134^{10,11,12}. In addition to these outcomes, Steps communities identify additional, community-specific outcomes as appropriate to their context and local populations. Finally, this logic model is expected to evolve as this program matures and lessons learned are incorporated into program design and operations.