THE SECRETARY'S ADVISORY COMMITTEE ON NATIONAL HEALTH PROMOTION AND DISEASE PREVENTION OBJECTIVES FOR 2020

PHASE I REPORT

RECOMMENDATIONS FOR THE FRAMEWORK AND FORMAT OF HEALTHY PEOPLE 2020

October 28, 2008

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EXECUTIVE SUMMARY

Each decade since 1980, the U.S. Department of Health and Human Services (HHS) has released a comprehensive set of national public health objectives. Known as Healthy People, the initiative has been grounded in the notion that setting objectives and providing benchmarks to track and monitor progress can motivate, guide, and focus action. This year, HHS began developing the next decade's objectives, Healthy People 2020. HHS convened the Secretary's Advisory Committee on National Health Promotion and Disease Prevention Objectives for 2020 (hereinafter called the Advisory Committee) to aid in this process. The members are 13 nationally known experts with diverse expertise on different aspects of public health.

The Advisory Committee was charged with providing advice and consultation to the Secretary: 1) to facilitate the development and implementation of national health promotion and disease prevention goals and objectives, and 2) to inform the development of initiatives that will occur during initial implementation of the goals and objectives. During the first phase of its work (January 2008-October 2008), the Advisory Committee has produced recommendations for the Healthy People 2020 form (i.e., medium or format), framework (i.e., vision statement, mission statement, overarching goals, graphic model); and guidelines for implementation. The recommendations are summarized in this report.

The Advisory Committee has convened in six open, public meetings since January, 2008. It formed five subcommittees (including both internal and external members) and two informal, ad hoc groups to permit in-depth discussion of important topics. The products of these groups' efforts were presented to the full Advisory Committee at public meetings, where decisions were made about whether or not to adopt them. Advisory Committee members received input from the public through a public comment Web site; six regional meetings; and an in-person Advisory Committee meeting where the general public was invited to present oral comments.

Advisory Committee Findings and Recommendations

The Advisory Committee views Healthy People 2020 as a *national health agenda that communicates a vision and a strategy for improving the health of the Nation's population and achieving health equity.* It should offer overarching, national-level goals to show where we want to go as a nation and how we will get there, both collectively and individually. Healthy People should be both inspirational and action-oriented, offering leadership, guidance, and direction from HHS and its partners to public and private, health-interested organizations at all levels.

Healthy People 2020 should assist Federal agencies in setting priorities and in providing funding and support to organizations and institutions that are able to help achieve the objectives. It should enable state and local public health departments and their partners to set priorities and assign tasks to help achieve the objectives. Finally, it should offer guidance and direction to stakeholders at all levels, including local communities, and should redirect our attention from health care to health determinants in our social and physical environments.

The Healthy People initiative has been a long-term effort. It is important to reflect on lessons learned—both positive and negative—through this effort. The strengths of past Healthy People iterations are numerous, and include cross-agency collaboration within the Federal government and an extensive process of stakeholder and civic engagement. Yet it has encountered challenges as well. Some have said this resource is not easy to use; many potential users are not aware that it exists; and in some cases there has been a lack of progress or slow progress in achieving objectives. The recommendations in this report are meant to build on these strengths and to highlight opportunities for Healthy People 2020 to enhance its effectiveness.

The Advisory Committee recommends that Healthy People 2020 differ in form from previous iterations. It should no longer be known primarily as a print-based reference book to be kept on the shelf for a decade.[i] It should also be a Web-accessible database that is searchable, multilevel, and interactive. Through this medium, Healthy People 2020 can more effectively assist stakeholders to improve population health by helping them to access metrics and guidance about effective interventions. An electronic Healthy People 2020 would offer improved capacity to deliver information that is tailored to the needs of users. It would be successful to the extent that it has a user-friendly interface that is accessible to all levels of user.

Vision and Mission of Healthy People 2020

The Healthy People 2020 vision statement should be a crisp, brief statement that can easily be remembered. The mission statement—a framework element that has not been included in previous iterations of Healthy People—should offer clear information about what Healthy People does for the Nation and how the public can use it.

Vision
A society in which all people live long, healthy lives
Mission
To improve health through strengthening policy and practice, Healthy People will: ▪ Identify nationwide health improvement priorities; ▪ Increase public awareness and understanding of the determinants of health, disease, and disability and the opportunities for progress; ▪ Provide measurable objectives and goals that can be used at the national, state, and local levels; ▪ Engage multiple sectors to take actions that are driven by the best available evidence and knowledge; ▪ Identify critical research and data collection needs.

[i] Healthy People 2010 was also available as a CD-Rom.

Overarching Goals of Healthy People 2020

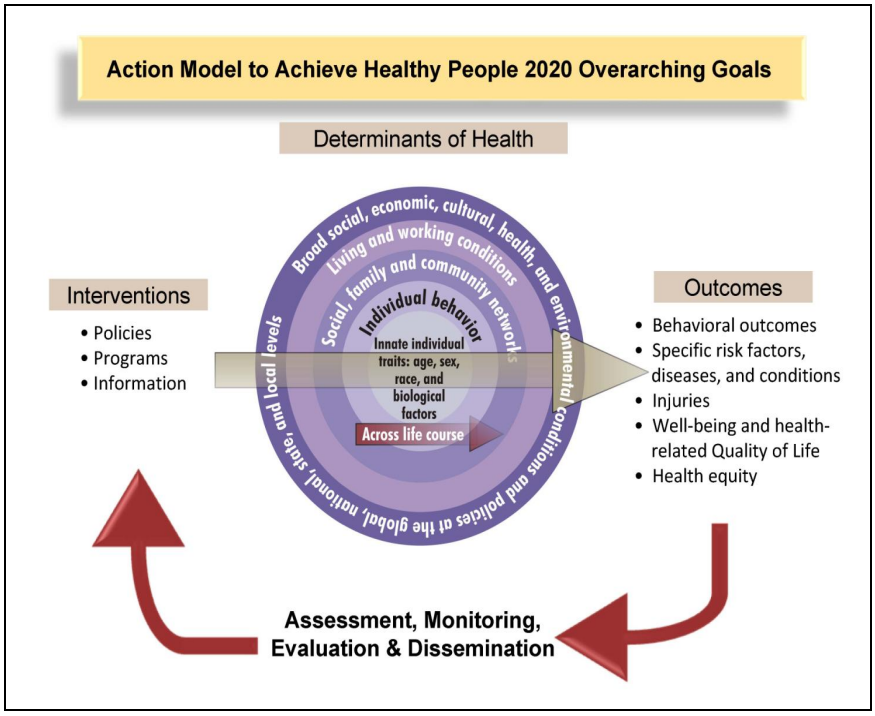
The recommended overarching goals for Healthy People 2020 continue the tradition of earlier Healthy People initiatives of advocating for improvements in the health of every person in our country. They address the environmental factors that contribute to our collective health and illness by placing particular emphasis on the determinants of health. Health determinants are the range of personal, social, economic, and environmental factors that determine the health status of individuals or populations. They are embedded in our social and physical environments. Social determinants include family, community, income, education, sex, race/ethnicity, geographic location, and access to health care, among others. Determinants in the physical environments include our natural and built environments.

Overarching Goals

- Eliminate preventable disease, disability, injury, and premature death.
- Achieve health equity, eliminate disparities, and improve the health of all groups.
- Create social and physical environments that promote good health for all.
- Promote healthy development and healthy behaviors across every stage of life.

A feedback loop of intervention, assessment, and dissemination of evidence and best practices would enable achievement of Healthy People 2020 goals. The Action Model to Achieve Healthy People Goals (shown in Exhibit A) represents the impact of interventions (i.e., policies, programs, and information) on determinants of health at multiple levels (e.g., individual; social, family and community; living and working conditions; and broad social, economic, cultural, health, and environmental conditions) to improve outcomes. The results of such interventions can be demonstrated through assessment, monitoring, and evaluation. Through dissemination of evidence-based practices and best practices, these findings would feed back to intervention planning to enable the identification of effective prevention strategies in the future.

Exhibit A. Action Model to Achieve Healthy People 2020 Overarching Goals



To close the gap between where we are now as a nation and where we would like to be by the Year 2020, Healthy People 2020 must provide clear priorities for action (i.e., it should articulate "what" needs to be done) and focused strategies for addressing them (i.e., it should explain "how" this work should be carried out). The summary below highlights the Advisory Committee's suggestions for each of the overarching goals in both of these areas.

Goal 1.
Eliminate Preventable Disease, Disability, Injury, and Premature Death.

WHAT? Emphasize the Importance of Prevention and Health Promotion

There are many instances when steps can be taken to promote and preserve health and to minimize the occurrence and consequences of disease and injury. This concept is inherent in the proposed four overarching goals of the Healthy People 2020 framework. Not all prevention activities save health care dollars, but those that do not may still be very valuable because they improve health and well-being and lead to other benefits. Health promotion and disease prevention apply to all people, not only those without evident health problems. Even people with significant diseases that cannot be prevented or cured with the application of current knowledge can benefit from health promotion and disease prevention efforts that slow functional declines or improve the ability to live independently and participate in daily activities and community life.

The need to identify current and enable future effective prevention strategies is especially critical for problems affecting large segments of the population. A mix of preventive and treatment or remedial strategies is needed to alter the complex dynamics of biological, environmental, and behavioral factors that contribute to the development and progression of chronic diseases and conditions. This is also true when considering problems like violence or lack of preparedness for natural and manmade disasters. Healthy People 2020 should help users to set priorities and create an appropriate balance and mix of these strategies.

WHAT? Address "All Hazards" Preparedness as a Public Health Issue

Since the 2000 launch of Healthy People 2010, the attacks of September 11, 2001, the subsequent anthrax attacks, the devastating effects of natural disasters such as hurricanes Katrina and Ike, and concerns about an Influenza panepidemic have added urgency to the importance of preparedness as a public health issue. Being prepared for any emergency must be a high priority for public health in the coming decade, and Healthy People 2020 should highlight this issue. Because preparedness for all emergencies involves common elements, an "all hazards" approach is necessary.

HOW? Multisectoral Approach, Strong Public Health Workforce, and Infrastructure

The Nation's public health infrastructure provides the resources to deliver the essential public health services to every community. It consists of the public health workforce, information and communication systems used to collect and disseminate accurate data, and public health organizations at the State and local levels. Environmental health, occupational health and safety, mental health, and substance abuse are integral to the provision of public health, as are health care organizations, schools, faith organizations, and businesses. To maximize population and individual health, multi-disciplinary, interdisciplinary and intersectoral partnerships are needed. Such partnerships can address the web of multi-level factors that affect health.

Goal 2.
Achieve health equity and eliminate health disparities.

WHAT? Achieving Health Equity and Eliminating Health Disparities

To eliminate health disparities and promote health equity, it would be necessary to address all important determinants of health disparities that can be influenced by institutional policies and practices. These include disparities in health care as well as other health determinants, such as the conditions of daily life and the circumstances in which people are born, grow, work, and age.

HOW? Measuring Health Equity and Health Disparities

Assessing health equity would require measuring changes over time in disparities in health status, health care, and the physical and social determinants of health–especially in relation to institutional policies and practices. As one approaches health equity, health disparities become smaller. Over the past 15 years, considerable work has been undertaken to monitor progress toward eliminating disparities. The data and methods that have been compiled in this body of work should guide future efforts to measure health equity.

Goal 3.

Create social and physical environments that promote good health for all.

WHAT? An Ecological Approach to Health Promotion

Health and health behaviors are determined by influences at multiple levels, including personal (i.e., biological, psychological), organizational/institutional, environmental (i.e., both social and physical), and policy levels. Because significant and dynamic inter-relationships exist among these different levels of health determinants, interventions are most likely to be effective when they address determinants at all levels. Historically, many health fields have focused on individual-level health determinants and interventions. Healthy People 2020 should therefore emphasize health-enhancing social and physical environments.

HOW? Addressing the Social and Physical Environments

Responsibilities for promoting healthful environments go beyond the traditional health care and public health sectors. Changes in social environments, physical environments, and policies can affect entire populations over extended periods of time and help people to respond to individual-level interventions. Policies that can increase the income of low income persons and communities (e.g., through education, job opportunities, and improvement in public infrastructure) may improve population health. Reducing inequalities in the physical environment (e.g., access to healthful foods, parks, and transportation) can also improve key health behaviors and other determinants, thereby helping to meet numerous health objectives.

Goal 4.

Promote healthy development and healthy behaviors at every stage of life.

WHAT? The Importance of Life Stages and Developmental Stages

Health is a consequence of multiple determinants operating in interacting genetic, biological, behavioral, social, and economic contexts that change as a person develops. A life course approach is therefore critical to population health improvement, improved length and quality of life, and reduced health disparities. There are three mechanisms by which exposures influence the development of health and disease over life span: *accumulation of risk* (whereby exposures and their effects accumulate, like weathering over time); *critical periods* (whereby biological or behavioral systems are "programmed" during periods of high sensitivity); and a *pathway process* (whereby factors in the social and physical environment reinforce other influences).

HOW? Tailored Clustering of Life Stages; Population Metrics for Healthy Development

There is no single, best way to cluster life stages, and they are not always age-determined. Healthy People 2020 data systems should permit tracking objectives by user-defined groups. Because development occurs across the life course, from pre-conception to the end of life, it is important to measure the building blocks of healthy development that occur throughout life.

Guidelines for Implementation of Healthy People 2020

The Intended Users of Healthy People 2020

Members of the public health community—especially federal, state and local health agencies—have traditionally been viewed as the primary audiences for Healthy People. The Advisory Committee proposes that Healthy People 2020 be designed for use by a wider range of key user groups in both the public and private sectors. Tailored messages and products are needed to make Healthy People useful for this expanded audience-base, which should include the general public, voluntary organizations, faith-based organizations, businesses, health care providers, decision-makers, researchers, community-based organizations, grass root advocates and other sectors whose actions have significant health consequences.

Criteria that Can Help Users to Prioritize Objectives

The Advisory Committee recommends that Healthy People 2020 seek to provide the best available information on key factors relating to each Healthy People 2020 objective in order to help organizations and individuals prioritize potential actions. Healthy People 2020 should assemble the best possible information on these factors for all objectives so that users can prioritize them as they prefer. Examples of prioritization criteria could include the effects of intervention strategies on specific at-risk groups on various outcomes, from survival to quality of life. Healthy People 2020 can help program planners in user organizations to select a realistic mix of points for intervention and action).

Organizing Objectives by Interventions, Determinants, and Outcomes

Past versions of Healthy People were primarily released in a printed, static format that could best be navigated through the use of easily recognizable chapter headings. These headings were called "priority areas" in the 1990 Health Objectives and Healthy People 2000 and "focus areas" in Healthy People 2010. For Healthy People 2020, the database approach recommended by the Advisory Committee would permit a more user-friendly approach that would not require assigning objectives to specific focus areas. Instead, objectives could be organized into three broad categories within the database: 1) interventions, 2) determinants, and 3) outcomes. These groupings would offer points of entry into the Healthy People 2020 user interface. The justification for specific objectives should include these categories to facilitate user searches.

Development of Health Objectives

Users need to know how targets for objectives are set and who has formulated them. Some targets may be set by extrapolating from recent trends; others may be based on expert opinion of what it might be possible to achieve, without assuming any new medical or scientific breakthroughs. In the absence of reliable, valid, current data, targets can be set by using the best estimate of current burden, and then assuming that existing interventions could be used to reduce that burden by a certain percentage. To help users understand their context, Healthy People 2020 objectives should be presented by type. For example, some objectives may be about improving health outcomes, while others may address processes or infrastructure.

Health Information Technology (IT) and Health Communication

Health IT and health communication should be mobilized to support the implementation of Healthy People 2020. Efforts should include building the public health IT infrastructure in conjunction with the National Health Information Infrastructure; extending the IT Strategic Plan developed by the HHS Office of the National Coordinator; integrating IT to meet the direct needs of Healthy People 2020 for measures and interventions; building on current health literacy and health communication efforts.

Next Steps

The Advisory Committee has begun work on Phase II of the Healthy People 2020 objective development process. Early discussions have addressed issues such as criteria for selecting objectives and setting targets for objectives. In the coming months, the Advisory Committee will provide ongoing advice to the HHS Secretary on topics such as: principles for formatting and writing objectives for Healthy People 2020; additional guidance on user needs for Healthy People 2020; guidance about implementation strategies to be included in Healthy People 2020; and a set of system requirements for the proposed database.

SECTION I. INTRODUCTION

Purpose, Role, and Timeline of the Advisory Committee Efforts

Each decade since 1980, the U.S. Department of Health and Human Services (HHS) has released a comprehensive set of national public health objectives.[ii,iii] Known as Healthy People, the initiative has been grounded in the notion that setting objectives and providing benchmarks to track and monitor progress can motivate, guide, and focus action. This year, HHS began developing the next decade's objectives, known as Healthy People 2020.

As a key part of the Healthy People 2020 development process, HHS convened the Secretary's Advisory Committee on National Health Promotion and Disease Prevention Objectives for 2020 (hereinafter called the Advisory Committee). Convened under the ''Federal Advisory Committee Act'' (Pub. L. 92-463, Sec. 1, Oct. 6, 1972, 86 Stat. 770.), it represents the first fully public advisory committee to be involved in planning for Healthy People. (Development of past initiatives was guided by a Secretary's Council composed of HHS Operating Division heads and former HHS Assistant Secretaries for Health.)[1]

The Advisory Committee's members, 13 nationally known experts in their fields, were invited to share their expertise in areas related to health promotion and disease prevention, including: health policy, state and local public health, business, outcomes research, health economics, health communication, special populations, biostatistics, international health, health behaviors, environmental health, health systems, and epidemiology. These individuals serve in a variety of professional settings, including public, private, foundation, community-based, and academic organizations. A full list of the Advisory Committee's membership is provided in Appendix 1.

The HHS Secretary's Charge to the Advisory Committee

Advisory Committee members were formally appointed by the HHS Chief of Staff during the Advisory Committee's first meeting, which took place on January 31, 2008, in Washington, D.C. The Advisory Committee's charge is to:

- "Provide advice and consultation to the Secretary to facilitate the process of developing and implementing national health promotion and disease prevention goals and objectives; and
- Advise the Secretary about initiatives to occur during the initial implementation phase of the goals and objectives." [2]

[ii] The initiative was launched in 1979 with the publication of national goals in *Healthy People: the Surgeon General's Report on Health Promotion and Disease Prevention.* After a year-long process involving a broad set of participants, a companion document was published in 1980, establishing quantifiable objectives to attain these goals.

[iii] *Healthy People* was begun by the Cabinet-level Department of Health, Education, and Welfare (HEW) in 1979. The Department of Education Organization Act was signed into law that year, creating a separate Department of Education. HEW became the Department of Health and Human Services on May 4, 1980.

Organization of this Report

In the first phase of its work (January – October, 2008), the Advisory Committee responded to the Secretary's charge by preparing recommendations for a framework and overall approach to Healthy People 2020. Looking back to assess progress and learn from the past is important. Yet it is also imperative to look forward to provide a coherent, realistic vision of what health in our Nation can be in the coming decade. The Advisory Committee has embraced this opportunity.

After nine months of deliberations and discussions, the Advisory Committee presents in this Phase I report its broad recommendations for a framework and overall approach to Healthy People 2020. The report describes methods used to develop these recommendations; historical context; and proposed elements for a Healthy People 2020 framework, including:

- The purpose, form, and intended uses of Healthy People 2020;
- A vision statement;
- A mission statement;
- Overarching goals (including the rationale for their selection);
- A graphic model to depict key concepts and processes in Healthy People 2020; and
- Guidelines and processes for implementation.

The appendices provide additional detail on various topics that are covered in the report. Included (see Appendix 2) is a preamble—an explanatory narrative that is offered for use as an introduction to the Healthy People 2020 objectives themselves. The preamble is a statement of values that explains what the Healthy People initiative is about. A detailed description of the timeline for and phases of the Advisory Committee's work is presented in Appendix 3.

SECTION II. METHODOLOGY

The Advisory Committee held six meetings between January 31, 2008 and October 15, 2008. Two of these took place in the metropolitan Washington, D.C. area; the remaining four were conducted remotely, via Web-enhanced teleconferences. In keeping with the requirements of the Federal Advisory Committee Act, each meeting was open to the public. Committee members received briefing materials in advance of each meeting; the materials were also made available to the public. Key Advisory Committee recommendations were approved by formal votes during open, public meetings. (See Appendix 4 for brief descriptions of each meeting.)

Role and Contributions of Subcommittees and Ad Hoc Groups

At its first meeting, the Advisory Committee formed five subcommittees to permit in-depth discussion of important topics. In most cases, the charges for these groups related to the proposed overarching goals for Healthy People 2020. The membership of each subcommittee comprised a small number of Advisory Committee members and a larger number of external members who were selected by the Advisory Committee Chair and Vice-chair on the basis of their expertise. See Appendix 5 for a list of the charges and members of subcommittees. The five subcommittees (and corresponding goals, as applicable) were:

- Subcommittee on Health Equity and Disparities
- Subcommittee on Priorities
- Subcommittee on Environment and Determinants
- Subcommittee on Life Stages and Developmental Stages
- Subcommittee on User Questions and Needs

Later, the Advisory Committee convened two ad hoc groups to address special topics: Health IT and a graphic model for Healthy People 2020 (participation in these groups was limited to Advisory Committee members). Each subcommittee and ad hoc group held a series of discussions by conference call. The groups prepared written products and suggestions, which were presented to the full Advisory Committee for discussion and approval at public meetings.

Advisory Committee Receipt of Public Input

During Phase I, three mechanisms were used to gather public input into the Advisory Committee's work and the development of Healthy People 2020 in general. These processes allowed Committee members to incorporate public input into the recommendations.

- ODPHP created and maintained a public comment Web site, which went live on March 17, 2008. Users were invited to comment on the vision statement, mission statement, overarching goals, and dual focus of Healthy People 2020 on health determinants and disease-specific categories. Advisory Committee members received periodic analyses of comments submitted to the site.
- ODPHP held six regional meetings across the United States between March and May, 2008. At each meeting, a representative of the Advisory Committee was present.
- Members of the public were invited to present oral comments to the full Advisory Committee at one of its in-person meetings in Washington, D.C.

During phase II (late 2008-2009), the public will continue to be engaged in the process of developing Healthy People 2020 and will be able to comment on the actual objectives.

SECTION III. HISTORICAL CONTEXT FOR DEVELOPING HEALTHY PEOPLE 2020

The Healthy People initiative was launched with the publication of *Healthy People: the Surgeon General's Report on Health Promotion and Disease Prevention,* a document presenting quantitative goals to reduce preventable death and injury by 1990. The U.S. Public Health Service released a companion document the next year, setting out specific, quantifiable objectives to attain these broad goals. Since then, HHS has issued updated national health promotion and disease prevention goals and objectives each decade, i.e., Healthy People 2000 (issued in 1990) and Healthy People 2010 (issued in 2000).

How Previous Iterations of Healthy People were Developed

As it has moved through the decades, the Healthy People initiative has expanded in size (see Exhibit 1). The number of objectives increased with each update, as did the number of categories for organizing those objectives (termed "priority areas" in the 1990 *Health Objectives for the Nation* and Healthy People 2000, and "focus areas" in Healthy People 2010).[iv]

This trend toward expansion was due, at least in part, to the increasingly participatory nature of the objective development process over the decades. As summarized in Appendix 6, the process for creating objectives evolved from one that was largely expert-driven with opportunities for feedback from the public (for the 1990 Health Objectives), to one that emphasized public engagement, feedback, and participation throughout the development process (for Healthy People 2010). Emphasis on public participation has continued in the two-phased process for developing Healthy People 2020 (as noted earlier, in the methodology section).

Exhibit 1. Expansion of the Healthy People Initiative Over Three Decades

	1990 Health Objectives	Healthy People 2000	Healthy People 2010
Number of categories	15 priority areas	22 priority areas	28 focus areas
Number of objectives	226	319	467

Why Historical Context is Important

The Healthy People initiative has been a long-term effort, spanning three decades. It has evolved in response to the changing needs and circumstances of the Nation. As a result of the Healthy People initiative, a wealth of experience has been accumulated in developing, monitoring, maintaining, and assessing progress on national objectives. It is important to reflect on the lessons learned—both positive and negative—through this effort.

[iv] For the 1990 health objectives and Healthy People2000, the categories were called "priority areas." The term led some to mistakenly conclude that topics had been ranked in order of importance. Healthy People 2010 used the term "focus areas" to avoid this confusion.

The strengths of past Healthy People efforts are numerous. They include cross-agency collaboration within the federal government and an extensive process of stakeholder and civic engagement. Healthy People has yielded a comprehensive database of measures and has prompted the creation of data sources for many objectives that previously lacked data (i.e., developmental objectives). Since the 1980's, states and some metropolitan areas have also used Healthy People to develop their own goals and objectives, patterned on the national model.[3, 4, 5] The recommendations in this report are intended to build on these strengths, and to make Healthy People 2020 more effective in some areas that have proved challenging in the past.

Examples of past challenges have included: an unwieldy printed format that detracted from the usability of Healthy People; a lengthy list of objectives that was difficult to manage; a disease-specific approach to organizing objectives that has not encouraged cross-cutting collaboration around risk factors; lack of transparency about target-setting methods for specific objectives; lack of progress or slow progress in achieving objective targets; lack of tracking data to assess progress; inadequate guidance on how to achieve the objectives; and lack of guidance to users in setting priorities. Appendix 7 offers a detailed discussion of these challenges and highlights opportunities for Healthy People 2020 to address them.

Progress in Achieving the National Objectives

Although no comprehensive evaluation of the Healthy People initiative has been conducted, the Office of the Assistant Secretary for Planning and Evaluation (ASPE) and the Office of Disease Prevention and Health Promotion (ODPHP) launched a study in 2002 to examine how Healthy People 2010 was being used. The study's overall conclusions were that Healthy People 2010 is a visible, practical tool that is being used by public health agencies at the state and regional levels. Barriers to usage were also identified, including a lack of implementation tools that could be used to achieve the objectives, and resource constraints. Results are summarized in Appendix 8.

HHS conducts midcourse reviews to assess progress in reaching Healthy People objectives midway through each decade. Final reviews are conducted at the end of the decade. In 1991, the National Center for Health Statistics (NCHS) published data on the final attainment status of each of the 1990 Health Objectives. The report indicated that 266 targets had been measured for the 226 objectives. Among the 266 measured targets, 32 percent (85) were attained and 34 percent (90) progressed in the right direction. Another 23 percent (61) could not be evaluated because data were unavailable. For the remaining 11 percent (29), the attained value moved away from the target.[6] (See Exhibit 2).

A final review of Healthy People 2000 that was conducted by NCHS showed that 21 percent of the objectives (68) met their year 2000 targets and another 41 percent (129) moved toward their targets. Fifteen percent of the objectives (47) moved away from the targets, and 2 percent showed no change from the baseline (labeled "unlikely to achieve"). The status of 32 objectives (10 percent) could not be assessed. Another 11 percent of objectives (35) showed mixed results (objectives with mixed results are not displayed in Exhibit 2).[7]

Exhibit 2. Most Recent Data on Achievement of Past Healthy People Objectives

Most Recent Data Source	Number of Objectives/ Targets	Achieved Target	Progressed Toward Target	Showed no Progress or Regressed from Target	Data Unavailable
1990 Health Objectives *(Final Review)* *NCHS, 1992*	226 objectives, 266 targets*	32%	34%	11%	23%
Healthy People 2000♣ *(Final review)* *NCHS, 2001*	319	21%	41%	17%	10%
Healthy People 2010 *(Midcourse Review)* *HHS, 2006*♦	467	6%	30%	16%	40%γ

∗ All percentages for the 1990 Health objectives reflect attainment of the 266 measured *targets.*

♣ Percentages for Healthy People 2000 objectives do not add up to 100% in this table because 11 percent of objectives (35) that showed mixed progress have been excluded.

♦ Percentages for Healthy People 2010 objectives do not add up to 100% in this table because 12 percent of objectives (57 out of 467) showed mixed progress have been excluded.

γ This percentage includes 28 objectives that were deleted, as well as 158 objectives that could not be assessed due to a lack of tracking data.

The midcourse review for Healthy People 2010 was published in 2006. Although there were 467 objectives in the initiative, "tracking data" were not available to assess trends over time for 34 percent of them (158) as of January 2005.[v] Another 28 objectives were deleted from the remaining 309, either "because data were not available or because of a change in science." [8] A review of individual chapters from the midcourse review shows 27 objectives lacking data, and one deleted due to a change in science. This left only 60 percent of Healthy People 2010 objectives (281) for which progress could be assessed at midcourse.

In the set of 281 Healthy People 2010 objectives with tracking data, 10 percent (29) met the target and 49 percent (138) moved toward the target. Twenty percent (57) moved away from the target, and another six percent (17) showed no change from the baseline. The remaining 14 percent of objectives (57) showed mixed progress.[9] To facilitate comparison across decades, percentages in Exhibit 2 have been recalculated to show progress across all 467 of the original Healthy People 2010 objectives (including those lacking data or tracking data). Objectives with mixed progress are not included.

[v] In the midcourse review for Healthy People 2010, objectives were considered to have "tracking data" if both baseline measures and measures more recent than the baseline were available.

SECTION IV. ADVISORY COMMITTEE FINDINGS AND RECOMMENDATIONS

The Role and Function of Healthy People 2020

What is Healthy People 2020? What should it Do, and Why?

The Advisory Committee believes Healthy People 2020 can best be described as a *national health agenda that communicates a vision and a strategy for the Nation*. Healthy People 2020 should provide overarching, national-level goals. On a practical level, it is a road map showing where we want to go as a nation and how we are going to get there—both collectively and individually. Healthy People 2020 must be both inspirational and action-oriented. It should offer leadership, guidance, and direction from HHS and its many partners to stakeholders and users at all levels.

To close the gap between where we are now and where we would like to be by the year 2020, Healthy People 2020 should assist Federal agencies in setting priorities and in providing funding and support to organizations and institutions that are able to help achieve the objectives. It should enable state and local public health departments and their many partner organizations to set priorities and assign tasks to help achieve the objectives. Finally, it should offer guidance and direction to stakeholders at all levels, including local communities. In so doing, Healthy People 2020 can touch the lives of every American.

What Form Should Health People 2020 Take?

The Advisory Committee recommends that Healthy People 2020 differ in form from previous iterations. Healthy People should no longer be known primarily as a print-based reference book that will be kept on the shelf for a decade. Instead, it should also be a Web-accessible database. Through this medium, Healthy People 2020 can more effectively help stakeholders to improve population health by helping them to access metrics and guidance.

In its electronic form, Healthy People 2020 would offer an improved capacity to deliver information that is tailored to the needs of users. It would be successful to the extent that it has a user-friendly interface, accessible to all user-levels. Insights gained from the process of developing a Web-accessible database (e.g., understanding how different objectives relate to one another within categories) can be used to prepare a more intuitive, user-friendly version of the printed volume of Healthy People 2020.

What is the Intended "End-product" of Healthy People Use?

In the past, Healthy People has given users a wealth of data, including baselines and targets, but it has not provided clear guidance on what users should do to help reach the targets. An interactive, Web-based version of Healthy People could generate state-, region-, and community-specific implementation plans based on information entered by users. As a Web-accessible database, Healthy People 2020 should engage users in an interactive, action-oriented process that would help them to: 1) enter criteria based on their own interests and needs, 2) assess priorities using Healthy People 2020 objectives and data, 3) identify research-tested intervention programs and products, and 4) act on opportunities.

One of the benefits of this proposed approach to Healthy People 2020 is that it can be used by many different groups to identify opportunities based on their respective missions, visions, and goals. Healthy People 2020 users who are focused on different populations (e.g., by geographic location, population, risk, and disease characteristics) have different informational needs. Examples of questions that may motivate users to seek out Healthy People 2020 are presented in Appendix 9.

The Vision and Mission of Healthy People 2020

The Advisory Committee believes that the Healthy People 2020 vision statement should be a crisp, brief, statement that can easily be remembered.

Vision Statement for Healthy People 2020
A society in which all people live long, healthy lives.

The mission statement—a framework element that has not been included in previous iterations of Healthy People—is meant to offer clear information about what Healthy People does for the Nation, and how the public can use it. It reflects the view that Healthy People offers practical guidance on using data and knowledge, as well as education and other actions to improve population health in communities.

Mission Statement for Healthy People 2020

To improve health through strengthening policy and practice, Healthy People will:

- Identify nationwide health improvement priorities;
- Increase public awareness and understanding of the determinants of health, disease, and disability and the opportunities for progress;
- Provide measurable objectives and goals that can be used at the national, state, and local levels;
- Engage multiple sectors to take actions that are driven by the best available evidence and knowledge;
- Identify critical research and data collection needs.

Overarching Goals of Healthy People 2020

The recommended overarching goals for Healthy People 2020 continue the tradition of earlier Healthy People initiatives of advocating for improvements in the health of every person in our country. They address the environmental factors that contribute to our collective health and illness by calling for healthy places and supportive public policies, placing particular emphasis on the determinants of health. They reflect the Advisory Committee recommendation that Healthy People 2020 be designed to redirect our attention from health care to health determinants. Health determinants should be a primary focus of Healthy People 2020; health care, a secondary focus.

Health determinants are the range of personal, social, economic, and environmental factors that determine the health status of individuals or populations. They are embedded in our social and physical environments. To improve health in the coming decade, Healthy People 2020 should target reductions in adverse social and physical determinants as important areas for assessment and intervention.

- *Social determinants* include family, community, income, education, sex, race/ethnicity, place of residence, and access to health care, among others. People who lack social and economic resources are likely to be less healthy, which may both result in and result from discrimination. Frequently, issues of equity and social justice are involved in the social determinants of health.
- *Physical determinants* include our natural and built environments. Exposure to natural toxins (e.g., coal tar), manmade pollutants, or substandard housing are examples of physical determinants that can adversely affect our health.

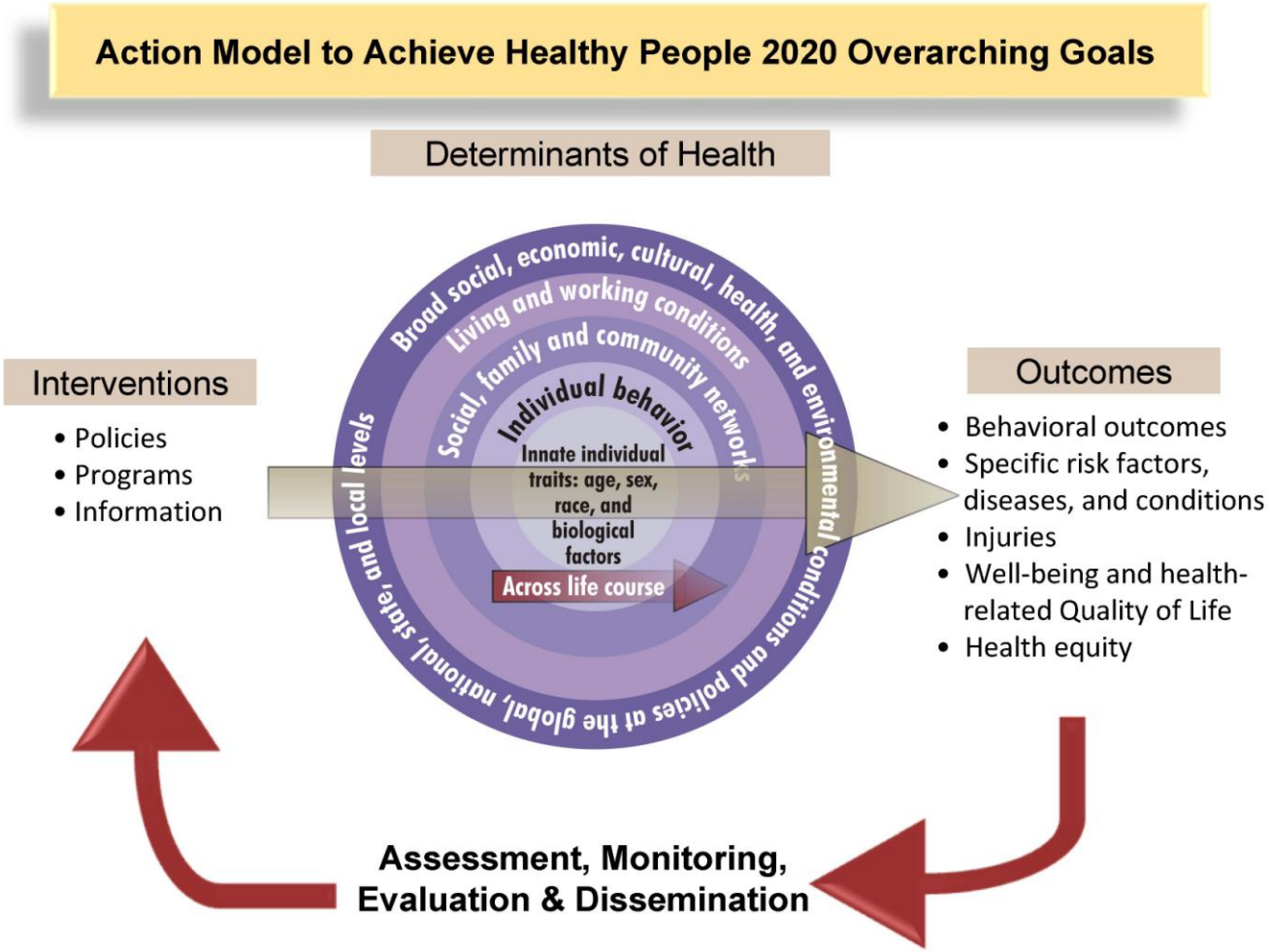
The four proposed overarching goals for Healthy People 2020 are listed below, and are described in greater detail in this section. These goals are highly interrelated. In the discussion that follows, an explanation is provided for each proposed goal in terms of *WHAT* the goal is about, and *HOW* it can be implemented or achieved.

Overarching Goals for Healthy People 2020
1) Eliminate preventable disease, disability, injury, and premature death.
2) Achieve health equity and eliminate health disparities.
3) Create social and physical environments that promote good health for all.
4) Promote healthy development and healthy behaviors at every stage of life.

Action Model to Achieve Healthy People 2020 Goals

The action model on the next page (Exhibit 3) shows a feedback loop of intervention, assessment, and dissemination that would enable achievement of Healthy People 2020 overarching goals. It is adapted from an Institute of Medicine (IOM) model that illustrates the determinants and ecological nature of health across the life course.[10] Interventions (i.e., policies, programs, and information) impact the determinants of health at multiple levels (e.g., individual; social, family and community; living and working conditions; and broad social, economic, cultural, health, and environmental conditions) to improve outcomes. Results of such interventions are demonstrated through assessment, monitoring, and evaluation. Through dissemination of evidence-based and best practices, these findings feed back to intervention planning to enable the identification of effective prevention strategies in the future.

Exhibit 3. Action Model to Achieve Healthy People 2020 Overarching Goals



Goal 1.
Eliminate Preventable Disease, Disability, Injury, and Premature Death.

GOAL 1: WHAT? Emphasize the Importance of Prevention and Health Promotion

Healthy People 2020 serves as a champion, a guide, and a resource for the Nation's health promotion and disease prevention efforts. Since the start of Healthy People three decades ago, health promotion and disease prevention have been important emphases of the initiative. There are many instances when steps can be taken to promote and preserve health and to minimize the occurrence and consequences of disease and injury. This concept is inherent in the proposed overarching goals of Healthy People 2020.

Health promotion and disease prevention apply to all people, not only those without evident health problems. Even in people with significant diseases or conditions that cannot be prevented or cured with the application of current knowledge, health promotion and disease prevention efforts can slow functional declines or improve their ability to live independently and participate in daily activities and community life.

The World Health Organization defines *prevention* as approaches and activities aimed at reducing the likelihood that a disease or disorder will affect an individual, interrupting or slowing the progress of the disorder, or reducing disability.[11] This broad explanation encompasses more specific categorizations of types of prevention, such as the three levels of prevention of the Commission on Chronic Illness[12] (primary, secondary, and tertiary),[vi] which is based on the continuum of disease development, or Gordon's[13] three tiers of prevention (universal, selective, and indicated),[vii] which is based on the segment of the population targeted.

Health promotion is *a process of enabling people to increase control over their health and its determinants, and thereby improving their health*.[14] On a global scale, guiding principles in health promotion include: empowerment of individuals and communities for health promotion; achievement of health equity; development of infrastructure for health promotion; social responsibility of the public and private sectors in promoting health; partnerships, networking and building alliances for health; and improvement of individuals' attention to their own health.

[vi] *Primary prevention* decreases the number of new cases of a disorder or illness, *secondary prevention* lowers the rate of established cases of the disorder or illness in the population, and *tertiary prevention* reduces the amount of disability associated with an existing disorder or illness.

[vii] *Universal prevention:* preventive interventions that are desirable for the entire population; *selective prevention*: preventive interventions that are only desirable when an individual is at above average risk, and *indicated prevention:* preventive interventions that are appropriate when an individual is at high risk.

A potential benefit of health promotion and disease prevention efforts is that they seek to control and limit the development of new cases of disease and disability. Improvements in the population's overall health, functional status, and longevity result when effective prevention strategies are applied to entire populations to limit the number of new occurrences of a health problem. Within a population, screening to identify established cases of disease and disorder, and early treatment for these cases, can also lead to improvements in population health.

Not all prevention activities save health care dollars, but those that do not may still be very valuable because they improve health and well-being and lead to other benefits. For example, a body of evidence on community-based approaches and interventions, such as using community health workers and promotoras to encourage healthy behaviors (e.g., condom use, healthy eating) suggest positive outcomes in terms of empowerment, adoption of healthy behaviors, and reduction of risks.[15,16]

The need to identify current and enable future effective prevention strategies is especially critical for problems affecting large segments of the population. The obesity epidemic offers a good example of this need. The large numbers of people affected and the high cost of effective treatment on a continuous basis for obesity and its associated health consequences highlight the importance of prevention.

Health promotion and disease prevention strategies include a diverse array of activities that are applied at multiple levels to improve underlying and more immediate determinants of health in the population and among individuals. Long term investments in upstream strategies (i.e., addressing factors that are rooted in broad social systems, and processes that are beyond the control of individuals or specific sectors) are as important as strategies that focus on shorter-term clinical prevention and other direct services to individuals.

A mix of preventive and treatment or remedial strategies is needed to alter the complex dynamics of biological, environmental, and psychological factors that contribute to the development and progression of chronic diseases and conditions. This is also true when considering problems like violence, or lack of preparedness for natural and manmade disasters. Healthy People 2020 should help users to set priorities and create an appropriate balance and mix of these strategies.

GOAL 1: WHAT? Address All Hazards Preparedness as a Public Health Issue

Since the 2000 launch of Healthy People 2010, the attacks of September 11, 2001, the subsequent anthrax attacks, the devastating effects of natural disasters such as hurricanes Katrina and Ike and concern about an influenza pandemic have added urgency to the importance of preparedness as a public health issue. Being prepared for any emergency must be a high priority for public health in the coming decade, and the issue should be highlighted in Healthy People 2020. Because preparedness for all emergencies involves common elements, an "all hazards" approach is necessary.

Most emergencies have the potential for serious adverse effects on the health of the public. Public health has primary responsibility for working to minimize the health consequences of natural or man made disasters. Preparedness requires the effective deployment of most of the core public health functions. For example, surveillance is critical to detect specific problems, to identify populations at risk, to allocate emergency resources, and to monitor the response and its effectiveness.

Establishing effective communication systems to alert and deploy personnel and other resources is also essential, as is developing timely and sensitive messages to communicate to a public that is diverse with respect to culture, language, and literacy skills. Such systems must take into consideration that many members of the pubic have been marginalized by poverty or other forms of social disadvantage. Effective communication should convey the nature of the problem, the steps being employed to ameliorate it, and what the public should do to minimize their risk, seek treatment, and help others.

Minimizing adverse health, social, and economic effects requires collaborative effort from a variety of public sector stakeholders, including agencies concerned with public health, health care, fire, law enforcement, intelligence, social service, and critical infrastructure agencies (e.g., transportation). Private sector stakeholders such as businesses must also be engaged. Persons with significant health problems and disabilities are at particular risk.

The nature of threats from some natural disasters differs substantially by geography. Different regions of the country are prone to earthquakes, wildfires, hurricanes, tornadoes, and floods. While some risks are predictable by region, others are not. For example, the first case of a novel or easily transmissible infectious diseases such as H5N1 influenza (or other new strains), SARS, or Ebola could start in one or more places almost anywhere in the United States. Emergencies also rarely respect geo-political boundaries, so inter-jurisdictional planning for coordinated response is needed.

The timing of public health responses to natural and man made disasters is critical. Often a very rapid response can reduce the number of deaths and minimize the number or and severity of illnesses and injuries. This response includes rapid assessment of the nature and extent of the problem, mobilization of appropriate assets, definition of exposure groups and countermeasures (prophylaxis, treatment, etc.) and development and delivery of key messages to the public. The rapidity and accuracy of these measures determines the degree to which human health consequences can be limited.

Various sets of requirements for preparedness of public agencies and their community partners have been developed. These are frequently modified based on changes in the nature of the threats, technology and experience. Examples of Federal agencies that have been involved in this work include the HHS Centers for Disease Control and Prevention (CDC) and the Office of the Assistant Secretary for Preparedness and Response (ASPR). Preparedness objectives for Healthy People 2020 could relate to existing preparedness goals contained in the CDC's Public Health Emergency Preparedness Cooperative Agreement, defined as follows:

- DETECT – Identify the cause and distribution of potential threats to the public's health through epidemiologic, laboratory, and intelligence agency surveillance.
- CONTROL – Provide medical countermeasures and health guidance to those affected by threats to the public's health.
- MAINTAIN – Assure continuity of essential services during a public health emergency.
- RECOVER – Restore public health services and assure environmental safety following threats to the public's health.
- PLAN – Complete and refine key public health response plans.
- TRAIN & EXERCISE – Improve the ability of the public health workforce to respond to emergencies.

Emergency preparedness health objectives should be developed for all of the intended user groups of Healthy People 2020. Since preparedness addresses our collective safety, it is essential that these objectives be compatible with those developed for and by other agencies responsible for public safety, including fire, police and intelligence agencies, the National Guard, and the military. As there is significant investment in preparedness, in new technology, in improving systems, and in enhanced training, frequent review and revision of objectives for this area would be required.

GOAL 1: HOW? Multisectoral Approach, Strong Public Health Workforce, and Infrastructure

The Nation's public health infrastructure provides the resources to deliver the essential public health services to every community. It consists of a trained public health workforce, information and communication systems used to collect and disseminate accurate data, and public health organizations at the state and local levels. Essential public health services include the three core public health functions (*assessment* of information on the health of the community, comprehensive public health *policy development*, and *assurance* that public health services are provided to the community) and the 10 essential public health services.[viii] All governmental and nongovernmental agencies delivering these services are part of the public health infrastructure.[17] A major task of Healthy People 2020 will be to enlist the support of other institutional sectors in improving community health.

[viii] The 10 Essential Public Health Services are: 1) Monitor health status to identify and solve community health problems.; 2) Diagnose and investigate health problems and health hazards in the community 3) Inform, educate, and empower people about health issues; 4) Mobilize community partnerships and action to identify and solve health problems; 5) Develop policies and plans that support individual and community health efforts; 6) Enforce laws and regulations that protect health and ensure safety; 7) Link people to needed personal health services and assure the provision of health care when otherwise unavailable.; 8) Assure competent public and personal health care workforce; 9)Evaluate effectiveness, accessibility, and quality of personal and population-based health services; 10)Research for new insights and innovative solutions to health problems.

To maximize population and individual health, multi-disciplinary, interdisciplinary and intersectoral partnerships are needed. Such intersectoral partnerships should occur with all major institutional sectors—government, business, education, religion, and families. Government must be involved at all levels. Examples of stakeholders who should be engaged in efforts to improve population health include: public health, health care financing, social services, cultural organizations, schools, employers, health care organizations, municipal planners, transportation departments, food industry manufacturers and suppliers, builders, media companies, community businesses, faith-based organizations, and families. By working together, such partnerships can address the web of multi-level factors that affect health. The process of building dynamic, productive, self-determining partnerships and collaborations is critical. The partners should ultimately decide which objectives to adopt and maintain.

The Healthy People 2020 Action Model points the way to multi-level interventions that take into account the multiple determinants of health over the life course. In the IOM model upon which the Healthy People 2020 Action Model is based, "social conditions" are defined as including, but not being limited to: economic inequality, urbanization, mobility, cultural values, attitudes, and policies related to discrimination and intolerance on the basis of race, gender, and other differences. At the national level, other conditions might include major sociopolitical shifts such as recession, war, and governmental collapse. The "built environment" includes transportation, water and sanitation, housing, and other dimensions of urban planning.[18]

The Healthy People 2020 objectives guide interventions and enable the monitoring of progress in achieving improved outcomes. Objectives can be layered in levels of detail appropriate to the nature of the objective, the level at which action must occur (e.g., federal, state, or local), and the needs of various user groups. For example, such mapping could highlight:

- objectives that relate to different issues, but operate at the same level;
- objectives that relate to the same issue, but operate at different levels;
- objectives that work through different mechanisms;
- objectives that offer complementary influences on a single pathway; and
- coverage of priorities.

Goal 2.
Achieve health equity and eliminate health disparities.

GOAL 2: WHAT? Achieving Health Equity and Eliminating Health Disparities

Eliminating health disparities and promoting health equity will require addressing all important determinants of health disparities that can be influenced by institutional policies and practices. These include disparities in health care, but also in other health determinants, such as the living and working conditions that are needed for health. Social policies related to education, income, transportation, and housing are powerful influences on health, as they affect factors such as the types of food one can buy, the quality of the housing and neighborhood where one can live, the quality of one's education, and one's access to good quality medical care. There are a variety of definitions of health disparity and health equity. For the purposes of this report, the Advisory Committee has defined the terms as follows.

A health disparity is a particular type of health difference that is closely linked with social or economic disadvantage. Health disparities adversely affect groups of people who have systematically experienced greater social or economic obstacles to health based on their racial or ethnic group, religion, socioeconomic status, gender, mental health, cognitive, sensory, or physical disability, sexual orientation, geographic location, or other characteristics historically linked to discrimination or exclusion.[19]

The general public usually understands the term "health disparity" as referring to any difference in health. However, in the U.S. public health community and as defined by the Advisory Committee in this document, the term refers to a particular type of health difference between individuals or groups that is unfair because it is caused by social or economic disadvantage.

Health equity is a desirable goal/standard that *entails special efforts to improve the health of those who have experienced social or economic disadvantage. It requires: (1) continuous efforts focused on elimination of health disparities, including disparities in health care and in the living and working conditions that influence health, and (2) continuous efforts to maintain a desired state of equity after particular health disparities are eliminated.*[20,21,22,23] Health equity is oriented toward achieving the highest level of health possible for all groups. Achieving health equity requires both short- and long-term actions:

- Particular attention to groups that have experienced major obstacles to health associated with being socially or economically disadvantaged.
- Promotion of equal opportunities for all people to be healthy and to seek the highest level of health possible.
- Distribution of the social and economic resources needed to be healthy in a manner that progressively reduces health disparities and improves health for all.

- Attention to the root causes of health disparities, specifically health determinants, a principal focus of Healthy People 2020.

The concepts of health equity and health disparity are inseparable in their practical implementation. Policies and practices aimed at promoting the goal of health equity will not immediately eliminate all health disparities, but they will provide a foundation for moving closer to that goal. (See Appendix 10 for illustrative examples of Health Disparities and Health Equity.)

GOAL 2: HOW? Measuring Health Equity and Health Disparities

Assessing health equity will require measuring changes over time in disparities in health status, health care, and the physical and social determinants of health–especially in relation to institutional policies and practices. As one approaches health equity, health disparities become smaller.

Over the past 15 years, considerable work has been undertaken to monitor progress toward eliminating disparities by several HHS agencies and offices (i.e., the Office of Minority Health, the CDC, the Agency for Healthcare Research and Quality, the National Cancer Institute, the World Health Organization, and others). The data, methods, and standards for measuring and monitoring health determinants that have been compiled in this work should guide future efforts to measure health equity, and should inform immediate action by public health agencies at the federal, state, and local levels to improve capacity to monitor health equity. (See Appendix 11 for additional detail on measuring these concepts).

Goal 3.
Create social and physical environments that promote good health for all.

GOAL 3: WHAT? An Ecological Approach to health promotion

Health and health behaviors are determined by influences at multiple levels, including personal (i.e., biological, psychological), organizational/institutional, environmental (i.e., social and physical), and policy levels. Because significant and dynamic interrelationships exist among these of health determinants, interventions are most likely to be effective when they address determinants at all levels.

The tobacco control experience indicates that multi-level interventions, including strong environmental and policy components, can be effective in creating long-term, population-wide improvements in health behavior and health outcomes. Intervention at one or two levels is usually insufficient to produce widespread and long-lasting change. Motivating people to change health-related behaviors when social and physical environments are not supportive often leads to weak, temporary change. Similarly, creating favorable physical environments does not ensure that people will take advantage of opportunities; motivation and instruction also are needed.

Healthy People 2020 should identify the most promising intervention strategies at each level and across levels. Whenever possible, it should also encourage implementation of multi-level interventions for each health area. (See Appendix 12 for a matrix intended to guide planning of such interventions.)

Given the historical focus of many health fields on individual-level health determinants and interventions, health-enhancing social and physical environments should be emphasized in Healthy People 2020. The interactions between individuals and their environments, both physical and social, can impact a wide range of health, functioning, and quality of life outcomes. Changes in social environments, physical environments, and policies can affect entire populations over extended periods of time, and help people to respond to individual-level interventions. Improved environments may be most beneficial for those population groups who are in less favorable environments, with fewer personal resources to counteract these environments. Depending on the policies, positive or negative health impacts are more likely to be felt in low income populations.

The *social environment* includes interactions with family, friends, coworkers, and others in the community, as well as societal attitudes, norms, and expectations. It encompasses social relationships and policies within settings such as schools, neighborhoods, workplaces, businesses, places of worship, health care settings, recreation facilities, and other public places. It includes the social aspects of health-related behaviors (e.g., tobacco use, substance use, physical activity) in the community. It also encompasses social institutions, such as law enforcement and governmental as well as non-governmental organizations. Economic policy is one important component of the social environment.

At the community level, the social environment reflects culture, language, political and religious beliefs, social norms and attitudes (e.g., discriminatory or stigmatizing attitudes). It also includes socioeconomic conditions (e.g., poverty), exposure to crime and violence, social cohesion, and social disorder (e.g., the presence of trash and graffiti). Mass media and emerging communication and information technologies, such as the Web and cellular telephone technology, are ubiquitous components of the social environment that can affect health and wellbeing. The availability of resources to meet basic daily needs (e.g., educational and job opportunities, adequate incomes, health insurance, personal assistance services, and healthful foods) is an important facet of the social environment.

At a societal level, policies made in governmental, corporate, and non-governmental sectors can impact health and health behaviors in whole populations both positively and negatively. At the same time, individuals, their behaviors, and their ability to interact with the larger community contribute to the quality of the social environment, as do the resources available in neighborhoods and the community.

Physical environment includes the natural environment (i.e., plants, atmosphere, weather, and topography) and the built environment (i.e., buildings, spaces, transportation systems, and products that are created or modified by people). Physical environments can consist of particular individual or institutional settings, such as homes, worksites, schools, health care settings, or recreational settings. Surrounding neighborhoods and related community areas where individuals live, work, travel, play, and conduct their other daily activities are elements of the physical environment.

The physical environment can harm individual and community health, especially when it exposes individuals and communities to toxic substances, irritants, infectious agents, stress-producing factors (e.g., noise) and physical hazards. Such exposures can occur in homes, schools, worksites, and other settings, and through transportation systems. Physical barriers within these environments can present tangible safety hazards or impediments to persons with disabling conditions. The physical environment also can promote good health and wellbeing. For example, aesthetic elements can be included in a neighborhood, or community settings and environments can be provided to facilitate healthful behavioral choices in such areas as diet, physical activity, alcohol use, and tobacco use.

GOAL 3: HOW? Addressing the Social Environment

Because social environment is important to the determinants of health, interventions that can improve the social environment should be considered as a component of producing a healthy population. Policies that can improve the income of low income persons and communities–for example through education, job opportunities, and improvements to public infrastructure–may improve population health.

Improving rewards for productive economic activity, whether by eliminating disparities in pay for equal work due to discrimination, or by reducing taxes for earnings by lower income persons, could promote economic well being of vulnerable populations and thereby contribute to their health. Better education can increase incomes and empower individuals to more effectively promote their own health. These examples are not meant to suggest specific policy options. Rather, they offer a reminder that policies affecting the underlying socioeconomic determinants of health, whether positively or negatively, should be considered as a part of producing a healthier population in the United States in the coming years.

Addressing the Physical Environment by Promoting Environmental Justice

According to a 1991 report submitted by Delegates of the National People of Color Environmental Leadership Summit to the U.S. Environmental Protection Agency, the environmental justice movement represents, “the confluence of three of America’s greatest challenges: the struggle against racism and poverty; the effort to preserve and improve the environment; and the compelling need to shift social institutions from class division and environmental depletion to social unity and global sustainability.”[24]

An important aim of harnessing social and physical environmental factors is to increase health equity and to decrease health-related inequalities. Doing so involves recognizing the substantial, often cumulative effects of socioeconomic status and related factors on health, functioning, and well being from birth throughout the life course. These effects occur across all determinants levels (individual, social and physical environmental, societal). Reducing inequalities in the social environment (e.g., crime) and inequalities in the physical environment (e.g., access to healthful foods, parks, and transportation) can help to improve key health behaviors and other determinants and, consequently, meet numerous health objectives.

Responsibilities for promoting healthful environments at multiple levels—including the individual, social, physical, and policy environments— go beyond the traditional health care and public health sectors. Economic incentives aimed at organizations and institutions as well as individuals can be used to promote health-enhancing policies and programs across multiple sectors of society (e.g., private and public institutions and entities). National agricultural policy affects the *absolute costs* (i.e., the amount of money that must be spent to acquire one unit of a commodity) of fruits, vegetables, grains, and animal products. This in turn affects their *relative price* (i.e., the price of a product as compared to the price of similar products on the market) and consumption.

Ensuring compliance with relevant federal statutes can help to reduce environmental barriers that compromise health and health care. For example, meeting the requirements of the Americans with Disabilities Act can ensure accessible health care services and communication accommodations for patients with vision, hearing, and speech deficits. [25]

Highlighting Emerging Social and Physical Environments

Societal changes emerging from the rapid adoption of computer-based communication environments and similar technological advances deserve further study with respect to their current and potential impacts on the Nation's health. There is the potential for positive and negative health effects of technology, and the positive effects have not been adequately realized (e.g., social networking for health, improved health information at point-of-decision, "exer-gaming", etc.) (See Appendix 13 for information and activities that the Advisory Committee recommends for inclusion in Healthy People 2020 to address the multi-level nature of health.)

Encouraging a Focus on "Upstream" Interventions When Possible

Identifying "passive prevention" strategies that can impact the health related exposures or behaviors of broad segments of the population with minimal individual-level decision-making can be a powerful prevention tool. Examples of such strategies include: tobacco control measures such as non-smoking policies in public buildings; creating barrier-free and vehicle-free zones in downtown areas or town centers; and inclusion of fluoride in toothpaste.

Goal 4.
Promote healthy development and healthy behavior across every life stage.

GOAL 4: WHAT? A Life Course Approach to Health Promotion

The Healthy People 2020 framework should devote explicit attention to human development across the life course because exposures in early life can be linked to outcomes in later life. The perinatal and adult periods can be bridged by studying how early-life factors, together with later life-factors, contribute to health outcomes, and by identifying risk and preventive processes across the life course.[26]

This approach goes beyond the fundamentals of monitoring health behaviors like diet and exercise, and begins to connect different stages across the lifespan in terms of physical, emotional, and cognitive development. Health is a consequence of multiple determinants, which operate in nested genetic, biological, behavioral, social, and economic contexts that change as a person develops.[27]

The "life stages" approach and "developmental stages" approach to human development over the life course are complementary and overlapping, and one can inform the other. Nonetheless, the two approaches are distinct and have different policy implications.

Life stages are used to divide the life course into discrete blocks (e.g., infancy, childhood, etc.) to facilitate monitoring. The life stages approach is cross sectional, and offers a way to break up the life course into easily measured stages. An example of a life stages approach would be to focus on the levels of obesity among working-age adults.

Developmental stages are used to consider the effects of health determinant across different life stages. The developmental stages approach is longitudinal, and offers a way to examine the impact of early life experiences and exposures on health status later in life. For example, a developmental stages approach would examine the effects of adverse childhood experience on the risk of obesity later in life.

Why the Life Course is So Important

A life course approach is critical to population health improvement, improved length and quality of life, and reduced health disparities. The first Surgeon General's report on health promotion and disease prevention (1979) set national goals for each of five major life stages, from infancy through old age.[ix] Efforts to reach the goals were largely successful (three out of five goals reached or exceeded their targets).[28] Healthy People 2010 did not reflect the importance of life course, except for a maternal and child health focus area.

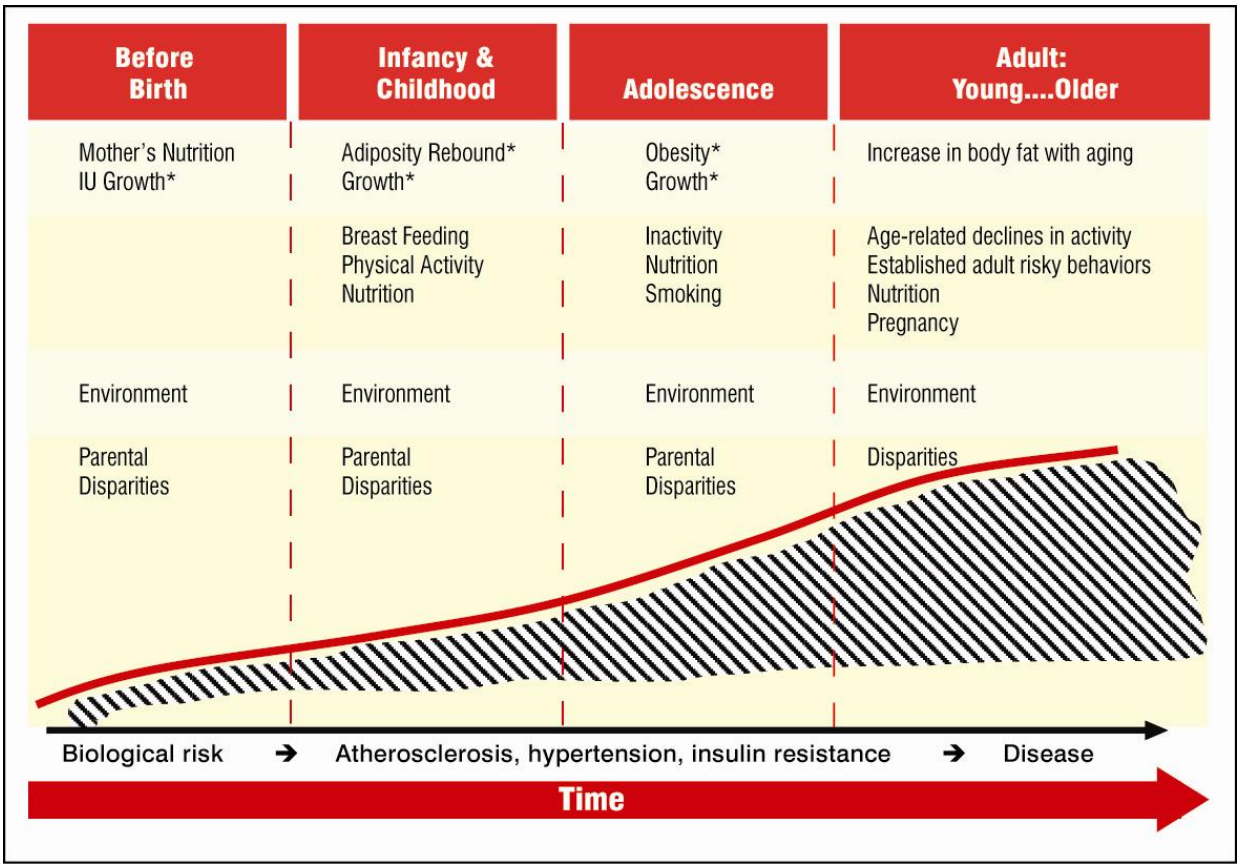
There are three mechanisms by which exposures are thought to influence the development of health and disease over life span: *accumulation of risk* (whereby exposures and their effects accumulate, like weathering over time); *critical periods* (whereby biological or behavioral systems are "programmed" during periods of high sensitivity); and a *pathway process* (whereby factors in the social and physical environment reinforce other influences). Different health trajectories are the product of cumulative risk and protective factors as well as other factors that are programmed into bio-behavioral regulatory systems during critical and sensitive periods.[29] For a concrete example of how a life stages approach can be applied to specific health issues, see Exhibit 4.

[ix] The 1990 goals were to reduce infant mortality by 35%; reduce childhood mortality by 20%; reduce adolescent and young adult mortality by 20%; reduce adult mortality by 25%; and reduce disability in older adults by 20%.

GOAL 4: HOW? Clustering Life Stages

There is no single, best way to cluster life stages. Because of the lack of standard age-groups across health issues, it is recommended that the Healthy People 2020 data systems be developed to permit tracking objectives by user-defined age groups. Individuals do not reach different life-stages, (e.g., adolescence, early adulthood, middle age, and older adulthood) at the same ages, so life stage clusters may not be synonymous with age group clusters. It is also difficult in many areas to measure exact life stages among samples of populations using present knowledge, technology, and resources. However, age group clusters can serve as useful, defined proxies for life-stage clusters.

Exhibit 4. Obesity: A Life Course Approach



Source: Mary Haan, DrPH, MPH, University of Michigan. Adapted from: World Health Organization, Life course perspectives on coronary heart disease, stroke and diabetes: Key issues and implications for policy and research. *Summary Reports of a Meeting of Experts, 2–4 May 2001*. Available at: http://whqlibdoc.who.int/hq/2001/WHO_NMH_NPH_01.4.pdf. Accessed 10/03/08.

A variety of age groupings and life stages have been used for the purposes of measurement. In their early use, age-group clusters for measuring life stage may have been developed for convenience (e.g., Vital Statistics groupings by years of age, 1-4, 5-9, 10-14, 15-19, 20-24, etc.) or based on a more conceptual approach (e.g., CDC age-groups listed in Exhibit 5, below).

The variation in age groupings used to measure life stages can present challenges to working across data sets. For example, the U.S. Census Bureau clusters data one way (0-4, 5-9, 10-14, etc.), while the public schools system uses other groups (elementary school, middle school, high school, etc.). Previous iterations of Healthy People rely on existing approaches to clustering data by age group. It is empirically difficult to re-define age-group clusters, as doing so can diminish or eliminate users' ability to compare data across decades of Healthy People.

Exhibit 5. Two Examples of Age Group Clusters

Source of Age-group Clusters	Life Stage	Age Grouping
CDC Health Protection Goals	Infants and Toddlers	Ages 0-3
	Children:	Ages 4-11
	Adolescents	Ages 12-19
	Adults	Ages 20-49
	Older Adults	Ages 50 and Over
Low, Low et al. [30]	Gestation	Average of 38 to 40 weeks
	Infancy	Birth through Age 2
	Early Childhood/ Preschool	Ages 2-6
	Childhood	Ages 6-10
	Adolescence	Ages 11-17
	Transition to Adulthood	Less dependence on family of origin; increased self reliance; more cohesive identity in new social role.
	Young Adulthood	Ages 18-40
	Middle Adulthood	Ages 41-65
	Late Adulthood	Ages 66 and older

In addition, large groupings by age can obscure important differences within groups, and should therefore be avoided. For example, the groupings "50 and older," or "65 and older" are not sufficient to capture trends within subcategories of older adults. (Examples of more meaningful groupings could be: 65-74, 75-84, and 85+). As another example, individuals in the age group of 20-24 years often continue to exhibit characteristics of adolescent development. Developmental stages offer more useful insights to transitional periods. Thus, age groupings used as proxies for life stages should be based on what is known about development for the specific issue being examined.

Population Metrics to Assess Healthy Development

Development occurs across the life course, from pre-conception to the end of life. It is therefore important to measure the building blocks of healthy development that occur throughout life. There have been many efforts to create "youth development" metrics for younger populations. For example, the Search Institute has produced 40 Developmental Assets,® factors that help young people (ages 12-18 years) grow up to be healthy, caring, and responsible.[31] Other scoring systems for success in progressing through early developmental stages have been compiled by groups such as Child Trends, UNICEF[32], and the Annie E. Casey Foundation (their "KIDSCOUNT" database provides state-level data).[33]

Similar metrics are needed across the life course and could be built on current work describing the influence of different determinants of health over time and throughout the life cycle.[34] Because low socioeconomic status (SES) is one of the strongest predictors of poor health and development across the life-course, the Advisory Committee recommends that SES measures be included in Healthy People 2020 to help articulate associations among SES and various population health metrics. Healthy People 2020 metrics to assess healthy development in the population should:

(a) Be specific to each defined life-stage (age-group);

(b) Include relevant critical objectives or data from Healthy People 2010 for which data sets already exist;

(c) Include other critical objectives or data for which data sets already exist;

(d) Include new objectives or data relevant to new problems a particular age-group may face;

(e) Include new objectives or data relevant to new information about life-course and life-stage phenomena;

In addition, it would be important to explore important innovations such as:

(f) Developing valid international measures, so that Americans can see how the U.S. stands in relation to other nations in the world; and

(g) Emphasizing objectives that are generated at the state and local levels.[x]

[x] CDC/HRSA did this with the 21 Critical Adolescent & Young Adult Health Objectives in Healthy People 2010. See: http://nahic.ucsf.edu//downloads/niiah/21CritHlthObj0306.pdf

SECTION V. GUIDELINES FOR IMPLEMENTATION OF HEALTHY PEOPLE 2020

The Intended Users of Healthy People 2020

Members of the public health community—especially at federal, state and local health agencies— have traditionally been viewed as the primary audiences for Healthy People. The Advisory Committee proposes that Healthy People 2020 should be developed to be relevant to a wider range of key user groups in both the public and private sectors. This expanded audience base should include: decision and policy makers; state and local elected officials; voluntary, advocacy, community, and faith-based organizations; the general public, businesses; health care providers; and other sectors whose actions have significant health consequences.

In considering the informational needs of Healthy People audiences, the Advisory Committee distinguishes between those who are already aware of Healthy People 2020 and will seek information about it (*information seekers*) and those who are not aware of the initiative but could potentially help to achieve the objectives (*information targets*). The Advisory Committee considers *information seekers* to be the primary audiences for Healthy People 2020. However, *information targets* are viewed as important secondary audiences whose involvement in Healthy People 2020 is critical to success.

Examples of audiences considered as primary or secondary are shown in Exhibit 6, a matrix that can be expanded into a basic marketing plan to create messages and content about Healthy People 2020 for specific audiences. More detailed information that clarifies the nature of information to be disseminated to user groups will be gathered during Phase II of the Advisory Committee's work.

Helping Users to Create Tailored Data Sets that Meet their Needs

A common use of Healthy People is to facilitate program planning. Users should be able to organize the information they receive from Healthy People 2020 by interventions, determinants, and outcomes of interest to them. They should also be able to follow links to other relevant sources of information, partners, and resources.

Because users make planning decisions within the context of limited capacity and resources, it is important that Healthy People 2020 enable them to sort and prioritize objectives. Examples of criteria that could be used to sort objectives include effects of intervention strategies over time, effects on survival, or effects on quality of life. Where evidence is available, intervention effects on particular population subgroups could also be useful and are recommended.

Users should be able to draw on Healthy People 2020 to assess and prioritize a balanced portfolio of short and long-term targets and interventions. In some situations, results can be achieved only by combining two or more complementary interventions. Where evidence supports a comprehensive approach (e.g., tobacco control, reducing motor vehicle injuries) they would be prompted to choose a mix of strategies that can interact synergistically to yield systems-based solutions.

Exhibit 6. Communicating about Healthy People 2020 with Key Audiences[xi]

Audience Type	Audience/ User Group	What Should they Know about Healthy People 2020?
Primary Audiences *Seekers of Information about Healthy People 2020*	Federal agencies	▪ Relevance of HP to their audiences (mediated communication) ▪ Uses of HP for planning, program management, development, evaluation
	State and Local health departments	▪ Relevance of HP to their audiences (mediated communication) ▪ Uses of HP for planning, program management, development, evaluation
	Professional associations, societies	▪ Relevance of HP to their audiences (mediated communication) ▪ Uses of HP for planning, program management, development, evaluation
	Advocacy organizations	▪ Relevance of HP to their audiences (mediated communication) ▪ Uses of HP for planning, program management, development, evaluation
	Philanthropies	▪ Relevance of HP to their audiences (mediated communication) ▪ Uses of HP for planning, program management, development, evaluation
	Academics, research and development	▪ Why and how they should share Healthy People with their students ▪ How to align research with HP objectives ▪ Why translational and applied research (esp. community-based participatory) are important to achieving and monitoring HP objectives
Secondary Audiences *Targets for Information about Healthy People 2020*	Policy Organizations/ Entities	▪ Relevance of HP to health and health care literacy ▪ Why HP should be on the legislative agenda
	State and local elected officials	▪ How HP can help identify the most important policy changes for improving health and reducing disease and injury burden in your area ▪ How health indicators in your area compare with others
	Faith-based organizations	▪ Why HP is relevant to your organization's members ▪ How members can be more informed of issues within HP ▪ How organizations can get involved with HP
	General public, community based organizations, voluntary organizations, those familiar with community needs	▪ How HP can offer guidance for personal decisions (being informed of risk factors, diseases, being able to answer the question, "What can I do?") ▪ How to become involved with HP
	Business/private sector	▪ How HP can offer guidance for promoting worksite health ▪ How to become involved with HP
	Health care (industry, community health centers, professionals, workers)	▪ Relevance of HP to their audiences (mediated communication) ▪ Uses of HP for planning, program management, development, evaluation

[xi] Note: Audiences can be at the national, regional, state, or local level. Healthy People 2020 seeks to enable utilization across levels.

Users at different levels of the public health system (i.e., national, state/regional, and local) target their actions differently and therefore require different data sources. Non-governmental users (e.g., businesses, foundations) also have needs at different levels. For example, some are national; some are dispersed within two or more states; and many are local. Healthy People 2020 can assist all user groups, both governmental and nongovernmental, to prioritize and to set their own objectives. Users at different levels may draw on Healthy People 2020 for different purposes.

- National-level users may use Healthy People to help drive policy in both legislative and executive branches and to set goals, objectives and performance standards in federal grants and contracts;
- States, foundations, and others that supply funds or drive policy at regional, state or local levels, may use Healthy People to define policy and program priorities and to set performance requirements for grantees;
- Local public health, community and voluntary organizations, as well as businesses whose missions include reducing the avoidable burden of disease may use Healthy People to develop and prioritize strategies to promote health and to reduce health disparities among population subgroups.

Criteria that Can Help Users to Prioritize Objectives

The Advisory Committee recommends that Healthy People 2020 provide the best available information on the following key factors relating to each Healthy People 2020 objective to help organizations and individuals prioritize potential actions in response to the objectives. Different organizations and individuals may differ in their views of which these factors are most important in general, or with respect to a given Healthy People objective. Thus, Healthy People 2020 should assemble the best possible information on these factors for all objectives so that users can prioritize them as they prefer. Detailed explanation of these key factors is provided in Appendix 14. These factors are:

1) The **overall burden** associated with a particular risk factor, determinant, disease or injury;
2) The degree to which a burden may be **preventable or reducible**, based on application of interventions of proven effectiveness, (i.e. the projected population health impact of interventions, policies, and programs of proven effectiveness);
3) The **cost-effectiveness** (e.g., cost per quality-adjusted life years, or QALY) of alternative opportunities to reduce health burden and improve health;
4) The **net health benefit,** measured in units of population health, of pursuing one particular intervention, policy, or program compared with another one of proven effectiveness;[35]
5) The **synergy** of different interventions that target the same disease, risk factor, or health determinants;
6) The likely **timeframe** to observe the impact of different interventions, alone or in combination;
7) The potential of alternative interventions to improve the health of racial/ ethnic minority populations and **reduce health inequities** among populations; and

8) The willingness of public health, private organizations, and other collaborating entities to address a particular health problem and to **accept accountability** for convening multisectoral stakeholders to effect changes in these areas.

Organizing Objectives by Interventions, Determinants, and Outcomes

Past versions of Healthy People were primarily released in a printed, static format that could best be navigated through the use of easily recognizable chapter headings. These headings were called "priority areas" in the 1990 health objectives and Healthy People 2000, and "focus areas" in Healthy People 2010. For Healthy People 2020, the database approach recommended by the Advisory Committee would enable users with different perspectives and responsibilities to readily obtain the information they seek through a Web interface.

This more dynamic and user-friendly approach would not require assigning objectives to specific focus areas. Instead, Healthy People objectives could be organized into three broad categories within the database: 1) interventions, 2) determinants, and 3) outcomes. There would be no need for a hierarchy that places one area above the other within these groupings. Instead, the categories would serve as entry points into the Healthy People 2020 Web-accessible database. Governmental public health and legislative bodies and other users at various levels would be able to use these entry points to begin the process of sorting objectives to meet their specific user needs (see Exhibit 7).

Exhibit 7. Entry Points for Organizing Healthy People 2020 Objectives

User Levels	Categories for Sorting Objectives by User Priorities		
National	**Interventions**	**Determinants**	**Outcomes**
State			
Local			

Within this matrix, the principles for prioritization that were discussed in the previous section could be used to sort objectives. Prioritization criteria would be entered by the user to yield a list of objectives and interventions that are tailored to the user's needs. For the health objectives to meet the needs of different user groups, pertinent data and other information must be linked to the Web-accessible database. Relevant national, state, and local surveys should also be linked to Healthy People 2020, but need not be included within the database itself.

The justification for specific Healthy People objectives should include the three general categories so that objectives can be searched on these parameters. This organizing structure could encourage interest groups to think about opportunities for collaboration and would avoid creating an impression that issues had been pitted against each other as priorities for the Healthy People initiative overall. For example, broad issues such as "public health infrastructure" should not be seen as competing for resources against specific diseases such as "cancer."

Using this approach, Healthy People 2020 could educate users about different ways of thinking about health outcomes. It would leverage the tremendous weight of stakeholder support for specific disease areas to cultivate deepened understanding of health determinants. Healthy People 2020 should enable communities to organize and take action to promote health equity. A marker of the success of Healthy People 2020 will be its usefulness in engaging stakeholders in creating a better and fairer society.

Interventions. The Healthy People 2020 Action Model illustrates that interventions affect the determinants of health at multiple levels to improve outcomes. Healthy People must address cross-cutting determinants to reduce rates of disease and disability. It must also point to specific, proven actions that can contribute to reducing burdens for specific diseases and injuries or can have broad effects covering a wide range of diseases. It is critical that measures of actual interventions (e.g., policies, programs, evidence-based interventions, be developed and used—not just measures of health outcomes, environmental determinants, and disparities. Unless outcomes for evidence-based interventions are measured, continuous quality improvement and accountability will be limited.

Interventions that have been shown to be of proven effectiveness in systematic reviews of evidence should be included in Healthy People 2020, as these are the actions that can contribute to reaching objectives. Because policies are often the most effective "treatment" for reducing diseases or improving health conditions in populations, information on policy solutions that have proven to be effective (e.g., banning smoking in restaurants and bars) should also be included in this category.

Determinants. Healthy People 2020 should explore the processes whereby susceptibility and determinants lead to health outcomes, and highlight opportunities for intervention. Entry through the "determinants" category would ultimately lead the user to information about specific diseases. For example, the category of "physical environment" could include objectives dealing with access to healthy foods; neighborhood safety; or access to safe paths for biking and walking. These should be cross-linked with objectives for specific health and disease outcomes (e.g., diabetes or hypertension).

Outcomes. Entry through the "outcomes" category would lead the user to a list of objectives for specific health conditions and diseases which would, in turn, link back to risk factors and determinants. For example, a user who clicks on "asthma" could be guided to objectives addressing socioeconomic status, neighborhood characteristics, housing conditions, or access to health care.

Development of Health Objectives

To develop health objectives, a schema should be used to describe both how current information was gathered, the degree to which proven interventions, including mean effect sizes, were used in developing each objective (i.e., reduction in the burden of disease/injury), and the diversity or nature of the contexts in which the interventions were tested. Healthy People 2020 objectives should be presented by type to help users understand their context. For example, some objectives may be about improving health outcomes; others may address processes; and still others may focus on infrastructure.

It is essential for users to understand how objectives and their targets were formulated, and who has formulated them. For example, some targets might be set by extrapolating from recent trends. Others might be formulated using expert opinion of what it might be possible to achieve, given current data about effective interventions. In the absence of reliable, valid, current data, targets can be set by using the best estimate of current burden, and then assuming that existing interventions could be used to reduce that burden by a certain percentage.

Health Information Technology (IT) and Health Communication

The Advisory Committee recommends that health information technology (IT) and health communication be mobilized to support the full implementation of Healthy People 2020. This would include building the public health IT infrastructure together with the national health information infrastructure; extending in time and scope the IT Strategic Plan developed by the HHS Office of the National Coordinator; integrating IT to meet the direct needs of Healthy People 2020 around measures and interventions; and building on current work on health literacy and health communication.

For this latter purpose, the Advisory Committee proposes a nation-wide health improvement platform, the Healthy People Community, which would be available and accessible to all. The Healthy People Community would be grounded in health literacy principles and would provide an electronic communication infrastructure to promote shared learning to achieve long, healthy lives for all. The Healthy People Community can play a direct role in addressing health determinants (see Appendix 15). The Advisory Committee will continue to explore these issues during its Phase II efforts.

To avoid deepening existing disparities in access to health and medical information, Healthy People 2020 must take steps to ensure that the information it provides is available to and accommodates all—including those who lack access to computers and the Internet. The term “digital divide” refers to the gap between individuals, households, businesses and geographic areas at different socio-economic levels and with different accommodation needs, in terms of both their opportunities to access information and communication technologies and their use of the Internet for a wide variety of activities. There continues to be a digital divide in access to computers and the Internet generally, as well as in access to high-speed, broadband connectivity.

Though generally viewed as an element of other social divides in the United States, the digital divide may be narrowing more quickly than others. Even so, one in five American adults in a 2005 survey reported that they had never used the Internet or email, and did not live in an Internet-connected household. This digital divide exists across age, race/ethnicity, and SES groups. The Advisory Committee recommends that Healthy People 2020 products be made available through multiple media for those who cannot or prefer not to access IT. Appropriate accommodations should be made for persons with disabilities.

Another key issue is that the public is confused about the most trustworthy sources of health information—especially on the Internet. Many existing sources are paid for or influenced by those with commercial interests. It is a responsibility of government to provide the most objective information available on how to improve personal and family health and well-being, as well as on how individuals can contribute to improving community health.

SECTION VI. NEXT STEPS FOR PHASE II OF DEVELOPING HEALTHY PEOPLE 2020

The Advisory Committee has already begun its work on Phase II of the Healthy People 2020 objective development process. Early discussions have addressed issues such as criteria for selecting objectives, setting targets for objectives, and ongoing maintenance of objectives. In the coming months, the Advisory Committee will provide ongoing advice to the HHS Secretary on topics such as: principles for formatting and writing objectives for Healthy People 2020; additional guidance on user needs for Healthy People 2020; guidance about implementation strategies to be included in Healthy People 2020; and specifications for a set of system requirements for the proposed database. The Advisory Committee will meet in Washington, D.C. in January of 2009 to discuss some of these issues.

GLOSSARY FOR PHASE I REPORT

Biology & Genetics

1. The role of inheritance in determining lifespan, healthiness and the likelihood of developing certain illnesses. (Source: WHO, the Determinants of Health 2008.)

Determinants of Health

1. The range of personal, social, economic and environmental factors that determine the health status of individuals or populations. (Source: WHO, 1998. Health Promotion Glossary)
2. Direct causes and risk factors which, based on scientific evidence or theory, are thought to influence directly the level of a specific health problem. These may be defined as the "upstream" factors that affect the health status of populations and individuals. (Source: National Public Health Performance Standards Program, CDC, 2007. Acronyms, Glossary, and Reference Terms)
3. **I**ndividual biology and behavior, physical and social environments, policies and interventions, and access to quality health care—have a profound effect on the health of individuals, communities and the Nation. (Source: Healthy People 2010)

Developmental Stages

1. Categories that can be used to look at the life course in relation to outcomes. Developmental stages may span different ages, depending on the outcomes of interest.

Disease Prevention

1. An approach that covers measures not only to prevent the occurrence of disease, such as risk factor reduction, but also to arrest its progress and reduce its consequences once established.

Digital Divide

1. The gap between individuals, households, businesses and geographic areas at different socio-economic levels with regard to both their opportunities to access information and communication technologies and to their use of the Internet for a wide variety of activities. The digital divide reflects various differences among and within countries. (The World Bank, International Finance Corporation)

Goal

1. A statement, usually general and abstract, of a desired state toward which a program is directed. (Source: Rossi and Freeman, 1993. *Evaluation: A Systematic Approach*.)
2. Broad, long-term aims that define a desired result associated with identified strategic issues. (Source: CDC, Acronyms, Glossary, and Reference Terms)

Health

1. A state of complete physical, social and mental well-being, and not merely the absence of disease or infirmity. (Source: World Health Organization)
2. Health is a condition of well being free of disease or infirmity and a basic and universal human right. (BMJ 1997;314:1409 10 May)

Health Behavior

1. Any activity undertaken by an individual, regardless of actual or perceived health status, for the purpose of promoting, protecting or maintaining health, whether or not such behavior is objectively effective towards that end. (Source: WHO, 1998. Health Promotion Glossary.)

Health Disparity

1. A particular type of health difference that is closely linked with social or economic disadvantage. Health disparities adversely affect groups of people who have systematically experienced greater social or economic obstacles to health based on their racial or ethnic group, religion, socioeconomic status, gender, mental health, cognitive, sensory, or physical disability, sexual orientation, geographic location, or other characteristics historically linked to discrimination or exclusion.

Health Equity

1. A desirable goal/standard that entails special efforts to improve the health of those who have experienced social or economic disadvantage. It requires:
    - continuous efforts focused on elimination of health disparities, including disparities in health care and in the living and working conditions that influence health, and
    - continuous efforts to maintain a desired state of equity after particular health disparities are eliminated. (Source: Subcommittee on Health Equity/Health Disparities)

Health Goal

1. Summarizes the health outcomes that, in the light of existing knowledge and resources, a country or community might hope to achieve in a defined time period. (Source: WHO, 1998. Health Promotion Glossary)
2. A general statement of intent and aspiration, intended to reflect the values of the community in general, and the health sector in particular, regarding a healthy society. (Source: WHO, 1998. Health Promotion Glossary)

Health Interventions

1. Include health promotion, disease prevention, and primary health care. (Source: WHO, 1998. Health Promotion Glossary)

Health Outcome

1. Any medically or epidemiologically defined characteristic of patients or a health problem in a population that results from health promotion or care provided or required as measured at one point in time. (Source: Green and Kreuter, 1991. *Health Promotion Planning: An Educational and Environmental Approach.*)
2. A change in the health status of an individual, group or population which is attributable to a planned intervention or series of interventions, regardless of whether such an intervention was intended to change health status. (Source: WHO, 1998. Health Promotion Glossary)

Health Policy

1. A formal statement or procedure within institutions (notably government) which defines priorities and the parameters for action in response to health needs available resources and other political pressures. (Source: WHO, 1998. Health Promotion Glossary)

Health Promotion

1. A process of enabling people to increase control over their health and its determinants, and thereby improve their health. (Source: WHO, Regional Office for Southeast Asia)

Health Services

1. Access and use of quality and affordable services that prevent, treat and track states of health. (Source: WHO, 2008.)

Healthy People 2020 Framework

1. The vision statement, mission statement; overarching goals, recommendations for organizing objectives, and graphic model to depict key concepts and processes in Healthy People 2020.

Intervention

1. The act or fact or a method of affecting the outcome or course, especially of a condition or process (as to prevent harm or improve functioning). MERRIAM-WEBSTER ONLINE
2. The part of a strategy, incorporating method and technique that actually reaches a person or population. (Source: Green and Kreuter, 1991. *Health Promotion Planning: An Educational and Environmental Approach.*)
3. A program or other planned effort designed to produce changes in a target population. (Source: Rossi and Freeman, 1993. *Evaluation: A Systematic Approach*.)

Life Stages

1. Categories that can be used to divide the life course into discrete blocks (e.g., infancy, childhood, etc.) to facilitate monitoring.

Mission Statement

1. A description of the unique purpose of an organization. The mission statement serves as a guide for activities and outcomes and inspires the organization to make decisions that will facilitate the achievement of goals. (Source: National Public Health Performance Standards Program, CDC, 2007. Acronyms, Glossary, and Reference Terms)

Model

1. A description or analogy used to help visualize something that cannot be directly observed. (MERRIAM-WEBSTER ONLINE)
2. Models can perform two fundamentally different representational functions. On the one hand, a model can be a representation of a selected part of the world (the 'target system'). On the other hand, a model can represent a theory in the sense that it interprets the laws and axioms of that theory. These two notions are not mutually exclusive. (Stanford Encyclopedia of Philosophy)

Objective

1. A defined result of specific activity to be achieved in a finite period of time by a specified person or number of people. Objectives state *who* will experience *what* change or benefit by *how* much and by *when.* (Source: Green and Kreuter, 1991. *Health Promotion Planning: An Educational and Environmental Approach*)

2. Specific, operationalized statements detailing the desired accomplishments of a program. (Source: Rossi and Freeman, 1993. *Evaluation: A Systematic Approach*.)

3. Results of specific activities or outcomes to be achieved over a stated time. Objectives are specific, measurable, and realistic statements of intention. Objectives state who will experience what change or benefit and how much change is to be experienced in what time. (Source: National Public Health Performance Standards Program, CDC, 2007. Acronyms, Glossary, and Reference Terms)

Physical Environment

1. The structure and function of the environment and how it impacts health (Source: WHO, the Determinants of Health 2008.)

Policy

1. A definite course or method of action selected from alternatives and in light of given conditions to guide and determine present and future decisions**;** a high-level overall plan embracing the general goals and acceptable procedures especially of a governmental body. (MERRIAM-WEBSTER ONLINE)
2. The set of objectives and rules guiding the activities of an organization or an administration, and providing authority for allocation of resources. (Source: Green and Kreuter, 1991. *Health Promotion Planning: An Educational and Environmental Approach*)

Policy Development:

1. The means by which problem identification, technical knowledge of possible solutions and societal values converge to set a course of action (Institute of Medicine. The Future of Public Health. Washington, DC: The National Academy Press; 1988).
2. Policy development is a process that enables informed decisions to be made concerning issues related to the public's health. (Source: National Public Health Performance Standards Program, CDC, 2007. Acronyms, Glossary, and Reference Terms)

Prevalence

1. A measure of the extent of a disease or health problem in a population based on the number of cases (old and new) existing in the population at a given time. (Source: Green and Kreuter, 1991. *Health Promotion Planning: An Educational and Environmental Approach*)

Priority

1. A thing that is regarded as more important than others. (Source: Oxford English Dictionary)
2. Alternatives ranked according to feasibility or value (importance) or both. (Source: Green and Kreuter, 1991. *Health Promotion Planning: An Educational and Environmental Approach.*)

Program

1. A plan or system under which action may be taken toward a goal (MERRIAM-WEBSTER ONLINE)
2. A set of planned activities over time designed to achieve specific objectives (Source: Green and Kreuter, 1991. Health Promotion Planning: An Educational and Environmental Approach)

Social Environment

1. The aggregate of social and cultural institutions, patterns, beliefs and processes that influence the life of an individual or community. (Source: WHO, the Determinants of Health 2008.)

Vision Statement

1. A compelling and inspiring image of a desired and possible future that a community seeks to achieve. (Bezold C. On Futures Thinking for Health and Health Care: Trends, Scenarios, Visions, and Strategies. Alexandria, VA: Institute for Alternative Futures; 1991).
2. A vision expresses goals that are worth striving for and appeals to ideals and values that are shared throughout the local public health system. (Source: National Public Health Performance Standards Program, CDC, 2007. Acronyms, Glossary, and Reference Terms

Appendix 1.
Members of the Secretary's Advisory Committee on Health Promotion and Disease Prevention Objectives for 2020

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Appendix 2.
Suggested Preamble to the Healthy People 2020 Objectives

The Advisory Committee members believe that Healthy People 2020 should be introduced by a statement of values that explains what the initiative is about. An explanatory narrative is an important element of the Healthy People 2020 framework because, as some have noted in the past, "a set of objectives does not a story tell." The Advisory Committee offers the following text as a suggested introduction to the Healthy People 2020 objectives themselves.

The values of a nation are reflected in its willingness and ability to secure better health, well-being, and vitality for all. Healthy People 2020 establishes national goals and objectives for policy, programs, and activities to address the major health challenges facing our country today; it also seeks to assure conditions in which people can be healthy, both now and for generations to come. Goals for the year 2020 have been created with the public in mind as their ultimate beneficiary. Yet Healthy People 2020 goals and objectives are not only meant to be relevant to the American public; they must also lead by example, in keeping with our position of citizenship in the global community.

Over the next decade, Healthy People 2020 must inspire with the spirit of its reach; encourage with its sense of the possible; compel actions by policy makers, professionals, and community members at multiple levels of society; highlight the determinants of health; and lay bare the unacceptable. This initiative envisions a day when preventable death, illness, injury, and disability, as well as health disparities, will be eliminated. This transformation will occur by changing our thinking about health, examining root causes and social determinants, and directing more interventions to address the primary, causal factors that affect health.

Healthy People 2020 is a national health agenda that communicates a vision and a strategy for the nation. It should touch the lives of all Americans. Healthy People must help individuals to achieve wellness; promote healthy places and environments for future generations; and encourage responsive systems that have the capacity to forge bold new directions and address pressing needs. Through these actions, Healthy People 2020 can advance the health of all by preventing adverse health events.

With scientific insights and lessons learned over three decades, Healthy People 2020 reflects a deepened understanding that family, social, economic, and environmental factors are primary, interrelated determinants of health. Yet the public health system has not yet fully marshaled strategies that have been shown to facilitate healthier futures by strengthening families, neighborhoods, and communities, and improving housing and education policies and programs.

Promoting healthful social conditions can ensure that all members of society—especially those who are often neglected— benefit from the same basic rights, security, and opportunities. This nation has within its reach the ability to assure that all residents have equal access to quality public health, healthcare, and essential community services that preserve and protect health. Our vision for a healthy nation can only be achieved when it includes practical yet innovative steps to create opportunities for all.

Within this broad vision for health, Healthy People offers specific goals and objectives for the year 2020. Achieving them will require many sectors of our society to become broadly and deeply engaged. Health is more than a product of disease control. Moreover, health promotion and disease prevention are not exclusively the tasks of one group of professionals or decision-makers.

The health and vitality of this nation depend on building awareness and skills, not only among health professionals, but among families, educators, engineers, city planners, social workers, economists, business people, community leaders, transportation experts, psychologists, the media, and many others. America needs strong leadership, diverse partnerships, and commitment to putting people at the center of public policy, and creating programs and services that meet their needs.

The goals and objectives set forth in Healthy People 2020 are prepared with the input of public health professionals, policy makers, healthcare professionals, teachers, mothers, fathers, and members of our communities who believe that these objectives are critical for the future health and well-being of our country. Healthy People 2020 goals are intended to be inspirational, yet achievable within the near or longer term. Achieving them will require the commitment and energy of all. If the creativity of the American public health system and its partners can be drawn to the task, the promise of the Healthy People initiative will benefit every man, woman, and child in the nation. This is our vision, our opportunity, and our obligation.

Appendix 3.
Timeline of the Advisory Committee's Efforts

The Advisory Committee is required to meet at least once per year. In keeping with the guidelines of the Government in the Sunshine Act, 5 U.S.C. 552b(c), all of its meetings are open to the public except as otherwise determined by the Secretary or designee. Advisory Committee members have agreed to serve for the duration of the Advisory Committee, which will terminate after a period of two years unless its charter is renewed.[xii]

At their first meeting, Committee members were given an overview of HHS plans for a two-phased release of Healthy People 2020. The framework, overarching goals, vision statement and mission statement would be released in phase I (late 2008 or early 2009) to enable states, local health departments, and other stakeholders to use it for their own planning processes. During the second phase, a complete set of objectives and strategies for achieving those objectives would be developed for a release date of January 2010.

The timeline for the Advisory Committee's work on Healthy People 2020 is aligned with that of HHS. In the first phase (January – October, 2008), the Advisory Committee has developed recommendations for the overall framework and approach to Healthy People 2020, as described in this Phase I report.

During the second phase of its work (October 2008 – September 2009), the Advisory Committee will provide additional guidance to the Secretary on topics such as designing and selecting useful objectives, presenting information for specific user groups, and preparing implementation strategies and tools for inclusion in Healthy People 2020 to increase the likelihood that objectives will be reached and progress can be tracked.

[xii] Unless renewed, the Advisory Committee's charter is valid from September 4, 2007, when it was filed, until September 4, 2009.

Appendix 4.
Summary of Advisory Committee Meetings

Each meeting of the full Advisory Committee is transcribed, and summary notes are prepared. (These are available to the public at www.healthypeople.gov.) The main expectations and accomplishments of meetings that took place between January 31, 2008, and September 5, 2008, are summarized below.

Meeting 1: January 31-February 1, 2008, Washington, DC

Advisory Committee members were formally appointed and sworn in by Rich McKeown, Chief of Staff, U.S. Department of Health and Human Services. They were presented with background information on past iterations of Healthy People, the role of data in Healthy People, and opportunities for public comment throughout the Healthy People 2020 development process. Committee discussion and voting during this meeting focused on the vision statement, mission statement and overarching goals for Healthy People 2020.

Meeting 2: May 1, 2008, Webinar

Subcommittee chairs reported on the work of their groups between February and May, 2008. Committee members discussed subcommittee recommendations, as well as issues that had not been resolved during subcommittee discussion. They also explored areas of overlap in subcommittees' work, with a view toward integrating subcommittee products for the Advisory Committee's final report.

Meeting 3: June 5-6, 2008, Arlington, VA

Advisory Committee members heard presentations from federal experts in Health IT and Preparedness. There was also a presentation on local health departments' use of Healthy People to address health determinants. Members of the public were invited to present brief oral comments to the Advisory Committee; sixteen people spoke during this session. Committee discussion focused on the framework for Healthy People 2020. Members heard reports from subcommittees and considered how to incorporate this work into the overall framework. Two topics were identified for follow-up after the meeting: Models for Healthy People 2020, and Health IT.

Meeting 4: July 30, 2008, Webinar

Committee members reviewed their decisions and accomplishments, and discussed a general approach for completing the Phase I report. Areas of discussion included a graphic depiction of the Healthy People 2020 framework (the Healthy People 2020 model), as well as an approach to organizing objectives. Committee members decided to move forward with synthesizing these decisions into a draft report, which would be reviewed and edited by all Advisory Committee members.

Meeting 5: September 4-5, 2008, Webinar

The Advisory Committee discussed the draft report for Phase I recommendations to the HHS Secretary. These included recommended vision, mission, and goal statements, an approach to organizing objectives, a Web-based format, and various underlying key concepts. The Advisory Committee determined steps for finalizing the report, including how final decisions and revisions would be made.

Appendix 5.
Subcommittees of the Advisory Committee

APPENDIX 5.

Subcommittees of the Secretary's Advisory Committee

Subcommittee and Chair	Charge	Advisory Committee Members	External Members
Health Equity and Disparities Chair: Ronald Manderscheid	Think conceptually about how to move forward on the issues of health equity and health disparities. What are the steps in creating public recognition of concepts such as health equity/ health parity to catalyze action through the 2020 objectives?	Shiriki Kumanyika, Adewale Troutman	Rochelle Rollins, Office of Minority Health; Thomas Laveist, Johns Hopkins University; Paula Braveman, U. California, San Francisco; Luisa Borrell, Columbia University; Walter Williams, CDC/OMHD
Developmental Stages, Life Stages and Health Outcomes Chair: Patrick Remington	Provide expert knowledge on the importance of a life stages approach, how such an approach should be conceptualized and how it can be appropriately incorporated into Healthy People 2020.	Doug Evans, Everold Hosein, Vincent Felitti	Neal Halfon, U. California, Los Angeles; Mary Haan, University of Michigan; Janet Rich-Edwards, Brigham and Women's Hospital; Michelle Berlin, Oregon Health & Science U.; Lloyd Kolbe, Indiana University; Laura Hoard, Admin. for Children & Families
Environment and Determinants Chair: Abby King	To provide 'big picture' advice and suggestions related to more fully incorporating information related to the underlying social, economic, physical and cultural environments that impact health and its determinants into Healthy People 2020	Lisa Iezonni, Vincent Felitti, Adewale Troutman, Eva Moya	Nancy Adler- U. California, San Francisco; Lewis Lampris, American Dental Association; Cathleen Walsh, CDC; James Sallis, San Diego State University; Lisa Berkman, Harvard University.
Priorities Co-Chairs: Jonathan Fielding and David Meltzer	How should priorities be set? What objective and subjective criteria should be used in selecting opportunities for interventions (e.g., overall burden, attributable burden, effect size of interventions, whether they work alone or in combination, and level of community support)?	Shiriki Kumanyika, Pat Remington, Jonathan Fielding, Abby King	Ed Sondik, NCHS; Martina Taylor, NIH; Dan Brock, Harvard University; Tracy Orleans, Robert Wood Johnson Foundation.
User Questions and Needs Chair: W. Douglas Evans	Develop a list of key questions that primary target audiences are likely to expect Healthy People to help them to answer. Determine which of these expectations are realistic, and how they can be arrayed by user group.	Everold Hosein, Eva Moya, Ron Manderscheid, David Siegel	Georges Benjamin, APHA; Pat Libbey, NACCHO; Paul Jarris, ASTHO; Beverly Malone, National League for Nursing; Emily DeCoster, HRSA; John Clymer, Partnership for Prevention; Richard Riegelman, HP Curriculum Task Force

Appendix 6.
Past Processes for Developing Healthy People Goals And Objectives

Initiative and Process	Steps in Developing and Organizing Goals and Objectives
1990 Health Objectives[36] Created through an expert-driven process, with public input.	▪ Experts from Public Health Service agencies (e.g., NIH, FDA, CDC, and others) drafted background papers for each of the 15 priority areas. ▪ Background papers were provided to 167 experts, who met in Atlanta to prepare first drafts of the objectives. They collaborated within 15 work groups on priority area topics.[xiii] ▪ An invitation for public comment was published in the Federal Register, and the drafts were revised accordingly. ▪ Revised objectives were circulated to HHS and other relevant agencies, and to workgroup chairs from the Atlanta conference.
Healthy People 2000 [37] Created through a process that emphasized stakeholder participation.	▪ The Healthy People Consortium (a user alliance of almost 300 national membership organizations and all state health departments) convened in 1987 to offer input on the objectives. ▪ Eight regional meetings were held; testimony was received from over 750 individuals and organizations. ▪ Public input was used by Public Health Service professionals to revise and update the objectives. ▪ Draft objectives were released for public review and comment before being finalized.
Healthy People 2010 [38] Created through a process that emphasized stakeholder participation.	▪ The Healthy People Consortium (now comprising 350 national membership organizations and 250 State health, mental health, substance use, and environmental agencies) met in 1996 to discuss the Healthy People2000 framework, goals, and objectives, and how they should be updated for 2010. In 1997, they discussed target-setting for population-based objectives. ▪ More than 700 comments were received concerning the framework for Healthy People 2010. ▪ More than 11,000 comments on the objectives were submitted in six public hearings and through the Healthy People Web site. ▪ The Secretary's Council on National Health Promotion and Disease Prevention Objectives for 2010 (comprising HHS Operating Division heads and former HHS Assistant Secretaries for Health) also provided input.

[xiii] Workgroup chairpersons were selected to provide a mix of backgrounds that would provide technical expertise, consumer and professional backgrounds, and practical experience with program planning.

Appendix 7.
Building on Past Challenges of the Healthy People Initiative

The Form/ Medium for Presenting Healthy People Objectives	
Challenge:	In the past, Healthy People has been made available to the public primarily in printed form, although it was also available as a CD-Rom. Healthy People 2010 was released as a three-volume set of publications featuring metrics and tools. Each of these volumes was large—nearly 2 inches thick. At least for some stakeholders, the size of the printed volumes may have been a deterrent to using Healthy People.
Proposed Approach:	*A Web-accessible version of Healthy People 2020 would expand the number of people able to use this resource on a regular basis. It would also permit a database approach, facilitating linkages with other tools and data sources.* *To accommodate the needs of users who need or prefer the printed version of Healthy People, hard copies should continue to be made available. Concepts and linkages among HP2020 components that are developed for the Web-accessible database can be incorporated into the printed version as appropriate and feasible.*
Number of Objectives	
Challenge:	The number of Healthy People objectives has increased with each update. This trend has been due, at least in part, to the increasingly participatory nature of the process for developing them. Some have argued that the long list of objectives in the printed Healthy People volumes was unfocused and unworkable. Yet limiting the number of objectives could negatively impact the visibility of certain critical areas within Healthy People. It could also diminish the ability of stakeholders at various levels to use Healthy People as a basis or mandate for their work.
Proposed Approach:	*By making objectives available through a Web- accessible database, Healthy People 2020 can enable improved management and appropriate use of a large number of objectives. This approach would avoid the need to place arbitrary limits on the number of objectives included in Healthy People 2020.*
Approach to Organization of Objectives	
Challenge:	Approaches used to organize Healthy People objectives have evolved over time. The 1990 Health Objectives were almost all focused on risk factors within the broad groupings of health promotion, health protection, and preventive services. Healthy People 2000 used a mix of category types.[xiv] Some were risk-factor oriented; others were disease-specific (e.g., *Cancer, HIV Infection, Heart Disease and Stroke*) or addressed operational issues (e.g., *Educational and Community-based Programs, Surveillance and Data Systems*). Healthy People 2010 also used assorted category types. It continued to address risk factors, diseases, and operations, and added categories dealing with methods (i.e., *Health Communication*), resources (i.e., *Public Health Infrastructure*), and disparity (i.e., *Access to Quality Health Services*). Less systematic approaches drove development of objective sets that sometimes overlapped, and did not encourage cross-cutting collaboration to address risk factors and determinants of health and disease. Yet many stakeholder groups endorse Healthy People 2010 specifically because they are able to find their own disease area interests reflected in the initiative.
Proposed Approach:	*Employing a dual focus on determinants/risk factors and disease-specific categories would keep existing stakeholders engaged. At the same time, it would help to deepen their awareness of health determinants, thereby encouraging increased collaboration and multi-level interventions. This flexible approach to organizing objectives would allow stakeholders with different priorities and resources to use objectives in a manner that meets their needs.*

[xiv] The "categories" to which this discussion refers are the "priority areas" of the 1990 Health Objectives and Healthy People 2000 and the "focus areas" of Healthy People 2010.

Transparency about Setting Targets for Objectives	
Challenge:	The HHS publication *Tracking Healthy People 2010* provides technical information meant to help partners and the public understand how the data are derived and how statistical issues affect their interpretation. It gives general guidance on how targets were set for objectives**.** Yet, because the information is not specific to each objective, its value for helping partners decide if they wish to adopt specific objectives and targets has been limited.
Proposed Approach:	*Decisions about target-setting methods in Healthy People 2020 should be based on relevant information about the potential for success and the usefulness of existing or potential indices that are available for monitoring progress. Users should be able to easily find and understand information about how objectives and their targets were set. For example, were they straight-lined from past trends? Were they developed based on expert opinion? Healthy People 2020 should explain the basis of targets for each objective (or for sets of objectives where the same basis applies).*
Achievement of Targets	
Challenge:	In past decades, tracking data have not been available for all Healthy People objectives. When such data have been available, they often showed that objectives made no progress, or minimal progress, toward reaching their targets. Some objectives even moved away from their targets. It is important to ask why so many objectives have not met their targets. One explanation could be that the targets selected for these objectives were not based on appropriate principles. Another possibility is that the metrics used to assess progress were not appropriate.
Proposed Approach:	*By carefully considering appropriate target-setting methods, the objective development process for Healthy People 2020 can avoid the potential for misclassifying or misinterpreting progress levels for various targets. This would help, for example, to diminish the possibility of reporting results that suggest a lack of progress when, in fact, progress has been made but was missed by the metric being used.*
Reversing Downward Trends and Accelerating Slow Positive Trends	
Challenge:	When tracking data for a Healthy People objective show that progress on improving a health problem has been slow, or that the problem has worsened, this should be a call to action. It is not enough to monitor the downward trajectory of data trends for objectives over a decade. Downward or slow trends may indicate that activities to achieve an objective's target have been unfocused or ineffective. They may reflect harmful societal changes that have led to an increased rate of occurrence of the risk factor, disease, or condition in the population at a given time, or increased severity of the problem. It is important to understand the problem, examine what interventions if any were put into place and why the interventions applied have not had the intended result, and identify more effective interventions and policies.
Proposed Approach:	*All user groups who are working to achieve Healthy People 2020 objectives should be encouraged to adopt a continuous quality improvement (CQI) approach. Plans and actions should be iteratively developed and refined based on the most recent data and evidence-based recommendations from targeted population and sub-groups. Recognizing that "you can't manage what you can't measure," CQI activities for Healthy People 2020 should ensure adequate flows of relevant, accurate, and timely data to support the plan-do-check-act cycles driving quality improvement efforts. This would require ongoing monitoring of trends (i.e., more often than once every five years).*

Tracking Data to Assess Progress	
Challenge:	In previous Healthy People iterations, missing data made it difficult to assess progress for some objectives. For example, 26 percent of objectives lacked data in 1990; 10 percent of objectives lacked data in 2000, and for Healthy People 2010, current estimates find that 40 percent of objectives cannot be assessed due to inadequate data. Data are especially limited for identifying trends among population groups that experience health and health care disparities, such as individuals with disabilities and ethnic groups that are at high risk but are not well-represented in federal health surveys. Restricting objectives to only those areas where systems exist for baseline and ongoing data systems exist is not always an option. Many data gaps relate to populations that experience health and health care disparities. Setting developmental objectives (where no source of baseline or tracking data is available when the objectives are set) may be an important first step to stimulate the creation of data collection systems.
Proposed Approach:	*Healthy People objectives should identify data sources for assessing progress toward targets, and should specify how they will be collected when such data do not yet exist. It makes sense to include objectives that have existing baseline and ongoing data systems. When objectives that are related to critical areas for achieving health equity cannot be set due to a lack of data, developing data collection objectives should be the priority.* *Federal health surveys should plan for contributing to Healthy People assessment efforts. In particular, surveys should identify and provide tracking data for population subgroups that experience disparities so that progress in eliminating disparities can be measured. The use in Healthy People 2020 of data from federal surveys for other agencies that positively affect the health of individuals and communities (e.g., education, employment, housing, environmental quality, and agriculture) should be considered. Ensuring adequate resources to support federal data collection is critical.*
Guidance on Strategies for Achieving the Objectives	
Challenge:	Healthy People 2010 has sometimes been described as a catalogue of the burden of ill-health, disability, and premature death. It sets targets for reducing burden, but does not offer guidance on potential actions for achieving these targets, or the relative effectiveness of such actions.
Proposed Approach:	Healthy People 2020 should offer a more focused approach to evidence-based interventions than has been provided in the past. Seamless linkages are needed to existing resources that periodically evaluate and interpret evidence. Examples of such resources include *The Community Guide, Clinical Guide to Preventive Services, and Cochrane Reviews.*
Clear Direction on Priorities for the Nation	
Challenge:	Healthy People 2010 does not offer guidance to users who must answer the question, "If I have my last dollar, what should I spend it on?"
Proposed Approach:	*Allowing users to prioritize objectives by criteria that are of interest and importance to them would facilitate decision-making and enhance the relevance of Healthy People 2020 for a variety of audiences. Healthy People users differ in the health outcomes they value, and in skills and resources.* *The Web-accessible format proposed for Healthy People 2020 would allow users to prioritize potential aims according to their particular values, skills, and resources. When possible, data on cost-effectiveness should be included among the measures in the Healthy People 2020 database to help users answer the question of how to spend limited resources when cost is a concern.*

Accountability	
Challenge:	The public's health is not the domain of public health agencies alone. Yet the Healthy People 2010 objectives do not clearly show the role of different entities in accomplishing the objectives. Collaborative efforts between multiple sectors are needed for Healthy People 2020.
Proposed Approach:	The Web-accessible database for Healthy People 2020 would enable a user-driven process of identifying and prioritizing a set of objectives that are relevant to the user's needs. As an element of this process, Healthy People 2020 should encourage public health, private organizations, and other collaborating entities to be accountable for convening multisectoral stakeholders to address a particular health problem.

Appendix 8.
Feedback From Users of Healthy People

In 2002, the Office of the Assistant Secretary for Planning and Evaluation (ASPE) launched a study examining how the Healthy People 2010 document was being used. It involved a self-administered questionnaire, which was distributed to representatives at the state, local, and tribal levels. Follow-up interviews were conducted to offer further insight into obstacles to use.

The study's overall conclusions were that Healthy People 2010 is a visible, practical document that is being used by public health agencies at the state and regional levels. Yet barriers to usage were identified, including a lack of implementation tools that could be used to achieve the objectives, and resource constraints. Many primary decision makers at the state level did not "buy-in" to the initiative because it did not help them respond to the needs of state legislatures. Other results suggested that tribes were less likely than other Healthy People Users to use the document for planning or research, and were more interested in using the participatory goal-setting properties of Healthy People 2010.

DATA2010 is an interactive database developed by NCHS. It contains the most recent monitoring data for tracking Healthy People 2010.[39] Less than a quarter of ASPE study respondents were familiar with DATA2010. Some non-users of the site reported preference for state data sources.

Appendix 9.
Questions that May Motivate Users to Seek Healthy People 2020 Information

APPENDIX 9.
QUESTIONS THAT MAY MOTIVATE USERS TO SEEK HEALTHY PEOPLE 2020 INFORMATION

Examples of questions that may motivate users to seek out the Healthy People 2020 Web-based tool are listed below.

- Are we on track?
- Can I continue to be employed if I have this level of disability or problem?
- Does the evidence support the things I'm already doing? Does this threaten my job?
- How are these adverse conditions reflected in the health data? How can I achieve the target?
- How can we address this health problem both in the clinic and in the community? (Upstream solutions)
- How do the health data reflect the situation in my community? (e.g., housing issues, loss of jobs.)
- How is my community the same or different from the norm?
- Should we use HHS data to help us try to figure out the framework?
- We're considering using intervention X in population Y. Will it be effective?
- What are the best interventions to reduce burden based on existing evidence?
- What are the greatest causes of preventable disease, injury and disability in my area?
- What is the health profile of smaller populations within my community?
- What is the relationship between individual behaviors and the larger structure?
- What key health behaviors should I be focusing on?
- Who else in my state, region, or locale cares about the problem I care about?
- Who can I collaborate with for programming?
- What should I do?

Appendix 10.
Clarification and Examples of Health Disparities and Health Equity

The following discussion clarifies the types of population-based differences in health status that should be given high priority in Healthy People 2020. The concepts of health equity and eliminating health disparities are rooted in deeply held American social values. Key values underlying the concepts of eliminating health disparities and achieving health equity are:

- All people are valued equally, the basis for the concept of fairness.
- Health is valued highly for everyone because it is essential to personal well-being and ability to participate fully in a democratic society. Furthermore, our prosperity as a society depends on the health of our entire population.
- Every person should be able to achieve the highest level of health possible, without distinction based on race, ethnic group, religion, socioeconomic status, gender, physical or mental disability, sexual orientation, rural/urban residence, or other characteristics that have historically been linked to discrimination or having less influence or acceptance in society.
- The resources needed for health should be distributed fairly; these include not only access to quality medical care, but also the living and working conditions that are necessary for health.

Examples of Disparities in Health Status

- Black infants have higher mortality rates than white infants.
- Maternal mortality is higher among Black women.
- Among the elderly, women's health and functional status are worse than men's.
- Black women are more likely than white women to die from breast cancer.
- Life expectancy at age 26 is shorter and rates of heart disease and diabetes are higher among people of lower incomes or educational levels and among Blacks, Hispanics, and Native Americans.
- Poor or fair (contrasted with good, very good, or excellent) health is more prevalent among children in low-income families.
- In elderly adults, disability rates are inversely related to income. [Minkler M, NEJM 2007]
- Obesity appears to be more prevalent in adults with sensory, physical, and mental health conditions. [Weil, Wachtman, Iezzoni et al, JAMA 2002.]

Examples of Health Differences that are not Health Disparities

These differences are of interest in trying to improve the health of everyone in the population, but they are not linked to systematic disadvantage or injustice. Such differences include situations in which a particular racial, ethnic, or gender group known to be disadvantaged socially or economically happens to have better health.

- Despite lower income levels, Hispanic immigrants have the most favorable birth outcomes (birth weight and prematurity rates) of all the large U.S. racial or ethnic groups. This difference is not a health disparity.[xv]
- Younger adults generally have better health than others.
- Women have higher rates of breast cancer than men.
- Jewish persons with ancestral origins in Northern Europe have higher rates of Tay-Sachs disease, a genetic condition, than do others.
- African Americans (blacks) have higher rates of sickle cell disease, a genetic condition, than do other racial groups.
- Male infants have higher rates of mortality than female infants.

Examples of Disparities in Health care

Disparities in health care arise not only from disparities in financial access, but also from deficiencies in the organization and delivery of services, and from lack of cultural competence among providers and staff, among other factors.

- Older immigrants with limited English proficiency had significantly worse access to health care than did their otherwise similar English-speaking counterparts. [Ponce et al., J Gen Intern Med 2006]
- Latinos (Hispanics) were less likely than whites to receive pain medication for major fractures in a large emergency room, and the difference was not due to language barriers. [Todd, JAMA 1993 & 1994]
- African Americans and women receive less appropriate care for cardiovascular disease than white men with comparable clinical presentations. [IOM 2003]
- Pregnant African American women were less likely to receive appropriate health advice from their health care providers.[Kogan, M, AJPH 1994]
- Examples of disparities in living and working conditions that strongly influence health.
- Black and Hispanic children are more likely to grow up in poverty than white children; poverty – particularly during childhood--has been repeatedly and strongly linked to ill health.

[xv] U.S.-born Hispanics, however, do have unfavorable birth outcomes. This is an example of a health disparity.

- Black and Latino youth are more likely than white youth to live in neighborhoods with characteristics known to have adverse effects on health, e.g., few or no grocery stores selling fresh produce or safe places to play; high concentration of liquor stores, fast-food restaurants, and advertisements for tobacco and alcohol; and exposure to pollution and other hazards in the physical environment, crime, violence, and negative role models. Health-related neighborhood conditions also vary according to income, but racial disparities occur even when comparing youths in families with similar income levels.
- Black, Hispanic and poor white children are less likely than children in affluent white families to become college graduates; education influences health through multiple pathways, including access to good jobs and good incomes, and therefore healthier living conditions.
- Blacks are more likely than whites to be incarcerated for nonviolent crimes; incarceration poses great risks to health, including HIV infection, violence, and difficulty obtaining good employment following release.
- Children in poor families are less likely to have their parents/guardians read to them, encourage them to read, and stimulate their mental development. This can have deleterious consequences for brain development and behavior, which determine later educational attainment and hence affect health in adulthood.

Examples of Health Equity

Complete health equity would be the absence of all disparities in health, health care, and the living and working conditions that influence health. No society has achieved this, but some have come closer to the ideal. Policies that promote health equity are those that exemplify fairness, i.e., that strive progressively over time to move toward that goal. Examples of policies that promote health equity and thus exemplify fairness include:

- Medicaid and Medicare reduce disparities in access to health care by income and consequently by race.
- The Head Start program reduces socioeconomic and racial disparities in early childhood development, the foundation for adult health.
- The Civil Rights Act of 1965 diminished overt discriminatory practices in all areas of society and reduced racial disparities in health through diverse pathways [Kaplan GA et al in House, Schoeni et al, 2008].

An example of fairness or pursuing health equity in the realm of data would be ensuring that adequate numbers of American Indians were included in key federal health surveys to obtain information on the health needs of this highly disadvantaged group.

Appendix 11.
Measuring Health Disparities and Health Equity

Measuring Health Disparities

Measuring *disparities in health status* requires three basic components:

(1) An indicator of health status (e.g., life expectancy at birth, infant mortality, chronic disease rates)

(2) An indicator of social grouping associated with different levels of social advantage or disadvantage (e.g., racial or ethnic groups, income groups categorized in relation to the federal poverty level, groups with different levels of educational attainment); and

(3) A method for comparing the health indicator across social groups (e.g., a ratio of the health indicator rates in two different social groups, typically the best-off and the worst-off; the absolute difference in the health indicator rates in two different social groups; or more complex methods, such as the slope and relative index of inequality and the concentration index that consider the health indicator rates in all social groups, not only the extremes.) [Wagstaff; Pamuk]

Measuring *disparities in health care* also requires 3 basic components:

(1) An indicator of access to care or quality of health care;

(2) A social group indicator as above; and

(3) A method for comparing groups on the selected indicator of health care.

Measuring *disparities in living and working conditions that influence health* similarly requires 3 basic components:

(1) An indicator of the key social conditions that strongly influence health (e.g., poverty, low educational attainment, living in a disadvantaged neighborhood, lack of control over working conditions, exposure to chronic stress due to discrimination);

(2) A social group indicator as above; and

(3) A method for comparing groups on the selected social determinant of health.

Measuring Health Equity

Measuring health equity requires, at a minimum, having population-based data on health status, health care, and the social determinants of health that can be disaggregated (with adequate sample sizes for reliable estimates) by:

- Race or ethnic group;
- Markers of socioeconomic status or position, such as income, education, and wealth; and
- Gender.
- Disability status, sexual orientation, and other characteristics that have been associated with social stigma should also be considered; existing routine data systems have known limitations for examining race and socioeconomic status, but are particularly inadequate for capturing these other important dimensions of equity.

Key challenges in measuring health equity that should be addressed as part of efforts to eliminate health disparities include:

- Inadequate numbers of certain highly disadvantaged groups such as American Indians in many routine data sources to obtain reliable estimates regarding their health needs;
- A complete absence of data on some groups, such as sexual orientation minorities;
- Inadequate information about social and economic conditions to understand either racial and ethnic or socioeconomic disparities, often resulting in erroneous assumptions regarding underlying reasons for the disparities.

Measurement Reference

See: Harper S, Lynch J et al., 2007 [NCI]

http://seer.cancer.gov/publications/disparities/measuring_disparities.pdf

Appendix 12.
The Multi-Level Nature of Health Determinants: Dimensions for Intervention

Level	**Information/Education/ Awareness**	**Promote Evidence-based & Promising Interventions**	**Build Cross-Sector Partnerships**	**Promote Health equity/ Reduce health disparities**
Individual/Health behaviors				
Institutional/Organizational				
Community				
Policy				
Cross-Cutting Domains:				
Information Environment				
Social/Cultural Environment				
Physical/Built Environment				

Appendix 13.
The Multi-Level Nature of Health Determinants: Strategies for Healthy People 2020

1. A separate, introductory 'chapter' should be included in Healthy People 2020 that discusses the rationale for and definitions related to the *multi-level nature of health determinants*.

   • The multi-level framework that is discussed in this introductory chapter should be applied throughout the entire Healthy People enterprise.

   • Healthy People users should be encouraged to apply/capture as many levels as possible in developing interventions in each health area.

2. *Specific and potentially measurable social and physical environmental indicators* should be identified and described across categories of Healthy People objectives. (Such indicators could be broken out by subpopulation, region of the country, etc. as relevant.)

3. Identify and establish *surveillance* of selected indicators of healthful social and physical environments. Include physical and social environmental areas of emerging prominence (e.g., 'virtual environments' occurring on the Web and through other technological advances).

   To accomplish this, we recommend that health departments at all levels (local, state, regional) enhance geographical information systems (GIS) capabilities and work to standardize this type of information across the U.S. so that physical environmental factors (including specific settings, such as schools, worksites, and health care settings as well as larger-scale settings such as neighborhoods and communities) could be more consistently evaluated and tracked regarding health-relevant attributes. Access to place-specific GIS data is an essential component of identifying areas at risk and developing multi-level interventions.

4. Review and/or provide links to *evidence-based interventions* consisting of multi-level as well as social and environmental interventions (for different subpopulations, regions, health areas as available).

   - Facilitate the translation and dissemination of effective interventions throughout the U.S.
   - Establish surveillance systems to track the implementation of evidence-based interventions

5. Describe *sample model programs* occurring in multi-level as well as social and physical environmental and policy domains that could benefit from further evaluation.

6. Identify relevant types of multi-level social environment and physical environment *interventions that could merit further scientific exploration*.

7. Recommend areas for which *comprehensive reviews of relevant interventions* (e.g., the U.S. Preventive Services Taskforce, Community Guide) as well as *relevant assessment tools* should be undertaken to support/supplement the Healthy People endeavor in these arenas.

Appendix 14.
Explanation of Prioritization Criteria for Sorting Objectives

Overall burden. The burden of a disease is a numerical description of the health impact of disease and injury at the population level. Burden can be measured in terms of the number of deaths in a population, or the number of existing cases in a population. A summary measure, or index, of population health can also be used. The quality-adjusted life year (QALY) is a summary measure that is commonly used to describe burden. It is a measure of years of life lived (or years of life gained due to an intervention), that has been statistically adjusted to take quality of life into account.

Preventable or reducible burden. This is an estimate, based on best available evidence, of the degree to which a particular disease and its overall burden can be prevented. Decision makers at multiple levels can use this information to decide which clinical preventive services matter the most, so that they can prioritize their actions. For example, preventable clinical burden can be calculated to include the cumulative effect of delivering a service multiple times at recommended intervals over a recommended age range, instead of delivering the service at a single point in time to one large sample of individuals.[40]

A variety of approaches can be considered to determine the preventability of disease burden. For example, one could look at the burden of death and disability that can be avoided through means such as: vaccination, early diagnosis, timely and adequate medical treatment, application of hygienic measures, environmental sanitation, implementation of policy change (e.g., increased tax on alcohol products), or health education–usually coupled with other actions.

Cost-effectiveness. Cost-effectiveness analysis is used to evaluate the outcomes and costs of interventions that are designed to improve health. It has been used to compare costs and years of life gained for interventions such as screening for breast cancer and vaccinating against pneumococcal pneumonia.[41] The outcomes are usually not assigned monetary values, as is the case in cost-benefit analysis.[42] Instead, results are typically summarized in terms of ratios that show the cost of achieving a unit of health outcome (such as the cost per year of life, QALY gained) for different types of patients or populations and different types of interventions.[43] The purpose of analyzing the cost-effectiveness of interventions is to examine the trade-offs, or "opportunity costs," of making various choices.

Several concerns have been raised about use of cost-effectiveness analysis for setting priorities. These include the difficulties of: measuring quality of life; developing valid summary measures of population health over the life course; generalizing results to different settings; accounting for the fact that programs work synergistically (thereby making it difficult to isolate the effects of one intervention); and addressing "uncertainty" and lack of information about the cost-effectiveness of many potential interventions.[44]

Despite the validity of these concerns, they need not prevent the use of cost-effectiveness analysis to inform decision making. For example, uncertainty about the cost-effectiveness of an intervention does not necessarily mean that the intervention should not be implemented. Information about the probable costs of an intervention, as well as the likelihood that it will be effective can be taken into consideration in calculating an estimate of its expected cost-effectiveness.

To help users make decisions based on the best information available, Healthy People 2020 should provide data on the degree of confidence concerning these key factors. For example, in the case of burden, Healthy People 2020 should provide quantitative estimates of uncertainty (i.e., information about the reliability of the estimate based on current evidence), as well as qualitative information that could influence uncertainty, (e.g., factors such as the estimate of current burden).

In the face of substantial uncertainty, users will need to make decisions based on incomplete information. Presenting the best available information can permit informed decision-making. In some cases, effects can be quantified by drawing on statistical, epidemiological, economic or other quantitative methods. Sensitivity analysis (a technique for assessing the extent to which changed assumptions or inputs will affect the ranking of alternatives) may be used[45] (e.g., how the life expectancy gains of cancer surgery change as the rate of surgical mortality changes).

Value of information (VOI) analysis could also be used to determine when collecting more information on uncertain factors could be worth the cost of generating that information. In other cases, more qualitative approaches to decision-making under uncertainty will need to be used.

Net health benefit. A program's net health benefit is the difference between the health benefit achieved by a program, and the amount of health gain that would be needed to justify the program's costs. If resources are spent on one program instead of another one that would create a higher net health benefit, an opportunity for greater net gains in health is lost. The difference between the net health benefit of two different interventions is the cost of choosing to spend resources on the "wrong" program. Thus, net health benefit is different from cost-effectiveness in that it looks more explicitly at the "opportunity costs" of investing in programs of lesser net value.[46]

Synergy. A "systems" approach to public health program planning acknowledges that results are usually greater when multiple interventions of proven effectiveness are put in place simultaneously. It is important to understand that single interventions, implemented one at a time, are usually insufficient to reduce all preventable burden.

Healthy People 2020 should present a "menu" of interventions. Where data are available, they should be characterized by their cost-effectiveness, the size of the benefit, and the population affected. In some cases, the cost-benefit is unknown, but it is important to identify the potential benefits of effective interventions. The Healthy People menu of interventions should highlight a key intervention or group of interventions (presumably with the strongest evidence base), along with a set of alternatives.

Timeframe. To improve the health of populations and reduce health disparities, it is important to prioritize a mix of issues that require short, medium, and long-term investment. Many elected officials are concerned with the timeline for expected outcomes because they want to demonstrate timely results to their constituents. It can be easier to argue for program funding if elected officials can reasonably expect improved outcomes on a shorter timeline. Yet it is also important to invest in programs that will yield results over the long term. Healthy People 2020 should communicate clearly about the value of interventions that have long-term payoffs that may not be evident in the short run.

For example, programs and activities to address chronic disease will require a longer timeline for investment than those dealing with infectious disease.

Reduced health inequities. Some have noted that health inequities can be reduced by diminishing the health status of those who are better-off. Healthy People 2020 should be explicit about the need to focus on improving the health status of those who are worse off. Because minority populations in the United States often have worse health status than the general population, this principle specifies the need to improve the health of these groups.

It must also be acknowledged that data-based criteria for priorities could disadvantage population groups with limited data or limited tests of interventions. Lack of complete data about these population sub-groups should not justify a lack of action aimed at reducing disparities. Improving the data on the needs of these groups and intervention effectiveness for these groups should be a priority.

Accepting accountability and working together. This principle addresses the fact that, if no one is responsible for achieving demonstrable improvements, results are less likely to occur. Although public health departments have been a primary audience for prior versions of Healthy People, when working alone they are not able to effectively reduce the burden for all diseases and injuries. These organizations must set realistic priorities in order to accomplish feasible goals and find ways to work together.

Governmental public health agencies can make progress towards achieving a much wider set of health objectives by partnering with other key stakeholders. Although they cannot accept sole responsibility for accomplishments when they are only one member of a broad partnership, they should take a key role in convening and coordinating such partnerships. Lack of full capacity, or political challenges, do not justify a lack of action on issues where there is a high burden and proven interventions to address outcomes and/or determinants.

Appendix 15.
Health IT and Health Communication in Healthy People 2020

Potential Impact on Determinants of Health and Disease

Health communication and health information technology have the potential to affect the determinants of health and can address health disparities and improving health outcomes. Some examples follow:

- **Social Environment**. Sophisticated social marketing plus social networking tools and processes can make it possible to mitigate the negative effects of health disparities and support digital social environments to monitor and advance the nation's health.

- **Social Inequalities**. Differences among social classes (education level, SES) exist in the generation, manipulation, and distribution of health information at the group level and in access to and ability to take advantage of health information at the individual level. These communication inequalities can be addressed through initiatives such as assurance of the quality and understandability of information delivered through digital media, having universal access to cable and mobile communication networks, and improving the design and implementation of health promotion programs for these and other population groups.

- **Physical Environment**. Global positioning systems and other technologies can help monitor, collect, and synthesize data from across the country, ensuring that the nation's physical environment is healthy and safe.

- **Health Services.** T**he** quality of health services could be enhanced by well-designed health information technologies and evidence-based health communication principles. For example, effective health care can be extended to the traditionally underserved by adopting and linking electronic health records, personal health records, telemedicine, and remote monitoring; and by incorporating health literacy principles into patient-provider and provider-provider communication that use these technologies.

- **Individual Behavior.** Every American could be supported with personalized, trusted health guidance when and where they need it via an optimal utilization of HIT and evidence-based health literacy principles.

- **Biology and Genetics**. Health information technologies of the 21st century coupled with contemporary health risk communication principles can harness personal biomedical and genetic profiles for timely personalized guidance, population health research, and enhanced information on health risks and benefits.

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