Leading Health Indicators for Healthy People 2010: First Interim Report

Committee on Leading Health Indicators for Healthy People 2010, Institute of Medicine

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Leading Health Indicators for Healthy People 2010

First Interim Report

Committee on Leading Health Indicators for Healthy People 2010
Division of Health Promotion and Disease Prevention
INSTITUTE OF MEDICINE

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Acknowledgments

Healthy People has been a product of the efforts of many agencies and individuals during the course of the past two decades. The committee wishes to express its appreciation to the June, 1998 public session presenters for providing an excellent overview of the Leading Health Indicators as they relate to Healthy People 2010. These presentations spoke to many of the issues under consideration by the committee and we appreciated the participants' insights.

The presenters were: Edward Sondik, National Center for Health Statistics; Mike Stoto, Institute of Medicine; Ronald Bialek, Public Health Foundation; Thomas Milne, National Association of City and County Health Officers; Laverne Snow; Association for State and Territorial Health Officers; and Olivia Carter-Pokras, Office of Minority Health. The committee would also like to thank Michael McGinnis for providing his summary of Leading Indicators for Health People 2010.

This report has been reviewed in draft form by individuals chosen for their diverse perspectives and technical expertise, in accordance with procedures approved by the NRC's Report Review Committee. The purpose of this independent review is to provide candid and critical comments that will assist the institution in making the published report as sound as possible and to ensure that the report meets institutional standards for objectivity, evidence, and responsiveness to the study charge. The review comments and draft manuscript remain confidential to protect the integrity of the deliberative process. We wish to thank the following individuals for their participation in the review of this report: Erwin Bettinghouse, AMC Cancer Research Center; Ross Brownson, St. Louis University; Paul Frame, Tri-County Family Medicine; Gary Gunderson, Interfaith Health Program; and LaDene Larsen, Utah Public Health Association; and Hugh Tilson, Glaxo Wellcome Company.

While the individuals listed above have provided constructive comments and suggestions, it must be emphasized that responsibility for the final content of this report rests entirely with the authoring committee and the institution.

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Executive Summary

Healthy People is the nation's agenda for health promotion and disease prevention. The concept, first established in 1979 in a report prepared by the Office of the Surgeon General, has since been revised on a regular basis, and the fourth iteration, known as *Healthy People 2010,* will take the nation into the 21st century. The *Healthy People* agenda, the implementation of which is assigned to the U.S. Department of Health and Human Services (DHHS), has grown over the past 20 years from 15 strategies supporting five primary health goals to approximately 1,000 objectives related to two visionary goals and four enabling goals.

Through regular reporting on progress toward meeting these objectives, it is clear that some aspects of the nation's health are improving, whereas others are not. *Healthy People* has historically been the domain of one major player among the myriad groups that seek to improve the health of the nation, particularly the federal and state and local public health community. To make further strides, other constituencies need to embrace the notion that monitoring the nation's health is an important component of improving the nation's health. One strategy used to engage these groups and complement the *Healthy People* compendium of hundreds of specific objectives, each with an associated target outcome, is the development and promotion of a much smaller set of indicators representative of the larger set of *Healthy People 2010* goals and objectives.

DHHS requested that the Institute of Medicine (IOM) convene a committee of experts to participate in a three-phase project to develop a set of leading health indicators to complement and expand the *Healthy People 2010* program. The first phase of the project is described in this first interim report, which represents the IOM committee's commentary on the audience, functions, criteria, and developmental challenges for the leading health indicators and indicator sets defined in the DHHS publication *Leading Indicators for Healthy People 2010: A Report from the HHS Working Group on Sentinel Objectives* (U.S. Department of Health and Human Services, 1997b). A second interim report will present and discuss the strengths and weaknesses of potential sets of leading health indicators, with particular focus on those discussed in the *Leading Indicators for Healthy People 2010* report. After further study, including a public forum and review of public comments on the first two interim reports, the committee will release a final report with conclusions and recommendations regarding the goals to be achieved from the use of leading health indicators, the criteria by which these goals should be selected, and specific sets of indicators that could be used to determine whether the *Healthy People 2010* goals have been achieved.

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The stated goals of DHHS of the leading health indicator strategy are (1) the identification of a relatively small set of indicators that will reflect the progress that has been made toward reaching the health goals of the nation and (2) to do so in a manner that expands the reach of the initiative to new audiences such as non-health care professionals, opinion leaders, and the general public. The committee interprets these goals to include a promotion of awareness of the challenges to the nation's health so that the actions of numerous diverse parties can be directed toward improving the health of the population as well as provide the basis for the routine assessment of the results of those actions to increase awareness and promote further action. DHHS defines nine essential criteria for the individual leading health indicators and indicator sets:

1. the general public, opinion leaders, and the health and medical communities can easily interpret and understand the indicators;
2. they reflect topics that affect the health profile of the nation's population in important ways;
3. they address a problem that is sensitive to change and has a substantial impact on prospects for the health of the nation's population;
4. they can be linked to one or more of the full set of *Healthy People 2010* objectives;
5. they are generally reliable measures of the state of the nation's health (or that of a subpopulation) to ensure that the problem is reflective of a broadscope perspective for a significant proportion of the population;
6. data on the indicators are available from established sources on a regular (at least biennial) basis;
7. they have multilevel trackability to ensure that data can be anticipated at multiple levels (national, state, local, and community) and for multiple demographic groups;
8. they are reflective of a balance in the selection of targets that does not overemphasize any one group or health condition;
9. they have utility in directing public policy and operational initiatives;

The committee believes that these nine criteria are adequate, important, and relevant for the development of a meaningful set of leading health indicators, but in this first interim report it offers suggestions for rewording and expansion of several of the stated criteria. The committee further suggests that the leading health indicators be changeable over a period of time and catalytic in nature to motivate actions across multiple levels of the general population. The committee notes that there are no criteria regarding mechanisms for the dissemination of the leading health indicator sets to the new audiences that it hopes to engage in the *Healthy People 2010* program including the general public, communities, businesses, and health professionals outside of the public health community. The committee will expand on its initial review of the criteria and develop specific recommendations, including those for the dissemination of the indicator sets, in the final report. The final report will also include recommendations of two or more sets of indicators for consideration by DHHS and the Secretary of Health and Human Services.

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Charge to the Committee.

The efforts of this committee are supported by more than 20 years of multi-disciplinary work in collaboration with a wide range of constituencies. The primary focus of these efforts was to evaluate the original *Healthy People* publication of the Surgeon General in 1979 (U.S. Public Health Service, 1979) and *Healthy People 2000,* which further expanded upon the *Healthy People* concept promulgated in 1990. Relevant activities have included annual reviews of progress toward the *Healthy People* objectives by using diverse datasets, regional workshops, and forums to elicit the opinions of professionals and the public, focus group sessions, public town meetings, and communication through the *Healthy People* Web site. Most recently, the U.S. Department of Health and Human Services (DHHS) established a working group to prepare an initial report on sentinel objectives for *Healthy People 2010.* This report, the *Leading Indicators for Healthy People 2010: A Report from the HHS Working Group on Sentinel Objectives* (U.S. Department of Health and Human Services, 1997b), provided a comprehensive overview of the history of *Healthy People* activities in public health and generated suggestions for models, criteria, and indicator sets that could reasonably guide the formulation of *Healthy People 2010.* The content of that report focused on mechanisms to be used to build upon the strengths of previous *Healthy People* activities and to enhance aspects of the initiative that were considered weak or inadequate in previous efforts.

The Office of Disease Prevention and Health Promotion (ODPHP) of DHHS turned to the Division of Health Promotion and Disease Prevention of the Institute of Medicine (IOM) to convene a committee to consider the issue of leading indicators and to suggest a minimum of two sets of indicators for consideration by the Secretary of Health and Human Services as the leading health indicators for *Healthy People 2010.* This committee consisted of 10 members with expertise in areas including, but not limited to, public health, health promotion, health communication, epidemiology and biostatistics, health education, health policy, and health performance monitoring. The leading health indicators are meant to accomplish the following. First, such indicators will be leading measures of key health behaviors or outcomes that are known and understandable by the general population and demographic subpopulations and communities. Second, it will be essential that these health indicators be accessible for routine monitoring at the national and state levels, with the potential for the availability of comparable data at the local and community levels for the interval from 2000 to 2010. These indicators will promote positive changes in health behaviors and outcomes and guide the development of policy and action plans at the community level to facilitate

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the achievement of such changes. These indicators will need to be reasonable in number and based on explicit models of health behavior and outcomes, as well as adhere to a set of criteria specific to these models.

The charge to the IOM committee on leading health indicators for *Healthy People 2010* is intended to build further upon the efforts of the DHHS working group by eliciting input from experts (1) to select or develop a model(s) to provide a foundation for the identification of necessary criteria and (2) to identify the necessary criteria that will result in the proposal of sets of leading health indicators that will be monitored routinely at the national, state, and, if feasible, local and community levels for the interval from 2000 to 2010. In accomplishing these objectives, the committee will prepare two interim reports, conduct a public forum to receive feedback on candidate sets of leading health indicators, and prepare a final report with recommendations for a minimum of two sets of leading health indicators.

This first interim report presents a historical overview of the *Healthy People* initiative. This is followed by a summary of the proposed *Healthy People 2010,* including a description of the products of the DHHS work group on leading health indicators. The report concludes with committee commentary on the DHHS work group's discussion of criteria for the indicator sets, the functions of the indicator sets, and future challenges in using such leading health indicator sets for improving the health of the nation.

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2

Historical Overview of Healthy People

For more than two decades public health planning has been guided by the concept of establishing target health objectives and monitoring of those objectives to promulgate positive changes in health status. Tables 2-1 and 2-2 provide an overview of the Healthy People timeline and its associated products and activities. The first such effort began with the report from the Surgeon General on health promotion and disease prevention entitled *Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention* (U.S. Public Health Service, 1979). Outlined in that report were a set of general goals for reducing preventable deaths and injuries in different age groups by 1990. The basic premise for that report was disease prevention and risk reduction through behavioral change. In turn, these behavioral changes were expected to result in reductions in the numbers of negative health events and increases in positive health outcomes in five age cohorts: infants, children, adolescents and young adults, adults, and older adults. Adherence to a set of recommended risk reduction and health promotion behaviors was advocated as the mechanism by which significant mortality reductions could be achieved in each of the five age cohorts by 1990. These included the following:

1. an overall 35 percent reduction in the rate of infant mortality;
2. a 20 percent reduction in the numbers of deaths of children ages 1 to 14 years to fewer than 34 per 100,000;
3. a 20 percent reduction in the numbers of deaths among adolescents and young adults up to age 24 to fewer than 93 per 100,000;
4. a 25 percent reduction in the number of deaths among adults ages 25 to 65; and
5. a 20 percent reduction in the average number of days of illness among those over 65 years of age.

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Table 2-1 Healthy People: Historical Timeline

Year	Action
1979	Publication of Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention
1980	Publication of Promoting Health/Preventing Disease: Objectives for the Nations (Healthy People 1990)
1985	Midcourse Review of Healthy People: 1990
1986	Conduct of two review sessions with Assistant Secretary for Health and Human Services to summarize progress on Healthy People 1990
1990	Publication of Healthy People 2000
1992	Briefing of Assistant Secretary for Health and Human Services
1993	Briefing of Assistant Secretary for Health and Human Services
1993–1995	Midcourse review for Healthy People 2000
1994	Announcement of proposal changes to Healthy People 2000 in Federal Register
Sept. 1996	Establishment of Secretary's Council on National Disease Prevention and Health Promotion Objectives for 2010
Nov. 1996	Healthy People consortium meeting
1997	Publication of Healthy People 2000 Review for 1997
Jan. and Apr. 1997	Briefing for Secretary for Health and Human Services on Healthy People 2010 proposed objectives
July 1997	Publication of focus group report on utility of Healthy People 2010
Sept. 1997	Federal Register notice of and request for Comments on Healthy People 2010
1997–1998	Ongoing meetings of work groups assigned to 20 priority areas for Healthy People 2010
March 1998	Publication of draft report, Leading Indicators for Healthy People 2010
April 1998	ODPHP contract initiated with IOM
June–Dec. 1998	IOM committee meetings and publication of two interim reports
Oct.–Dec. 1998	Regional meetings conducted by ODPHP
April 1999	Meeting of Secretary's Council on Healthy People 2010
Jan. 2000	Release of Healthy People 2010

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TABLE 2-2 Healthy People Framework: Modifications Over Time

Report Title	Source	Interval (year)	No. of Goals	No. of Priority Areas	No. of Objectives
Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention	U.S. Public Health Service. *Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention.* Washington, DC: U.S. Department of Health, Education, and Welfare. 1979b.	1980–1990	5	15	None stated
Promoting Health/Preventing Disease: Objectives for the Nation	U.S. Department of Health and Human Services. *Promoting Health/Preventing Disease: Objectives for the Nation.* Washington, DC: Public Health Service. 1980	1980–1990	5	15	226
Healthy People 2000: National Health Promotion and Disease Prevention Objectives for the Nation	U.S. Department of Health and Human Services. *National Health Promotion and Disease Prevention Objectives for the Nation.* Washington, DC: U.S. Department of Health and Human Services. 1991.	1990–2000	3	22	300
Public Health Service Progress Review Reports on Healthy People 2000	U.S. Department of Health and Human Services. *Public Health Service Progress Review Reports on Healthy People 2000.* Washington, DC: Public Health Service. 1991–1993.				
Healthy People 2000 Review, 1992	National Center for Health Statistics. *Healthy People 2000 Review, 1992.* Hyattsville, MD: Public Health Service. 1993.	1992			
Healthy People 2000 Review, 1993	National Center for Health Statistics. *Healthy People 2000 Review, 1993.* Hyattsville, MD: Public Health Service. 1994.	1993			
Healthy People 2000 Review, 1994	National Center for Health Statistics. *Healthy People 2000 Review, 1994.* Hyattsville, MD: Public Health Service. 1995.	1994			
Healthy People 2000 Review, 1995–96	National Center for Health Statistics. *Healthy People 2000 Review, 1995–96.* Hyattsville, MD: Public Health Service. 1996.	1995–1996			
Healthy People 2000 Midcourse Review and 1995 Revisions	U.S. Department of Health and Human Services. *Healthy People 2000 Midcourse Review, and 1995 Revisions.* Washington, DC: Public Health Service. 1995.	1995–2000	2	22	805[a]
Healthy People 2000 Review, 1995–96	National Center for Health Statistics. *Healthy People* 2000 Review, 1995–96. Hyattsville, MD: Public Health Service. 1996	1995–2000	6	20	1,000+[a]
Healthy People 2000 Review, 1997	National Center for Health Statistics. *Healthy People* 2000 Review, 1997. Hyattsville, MD: Public Health Service. 1997.	1997			
Healthy People: 2010 National Health Promotion and Disease Prevention Objectives for the Nation	To be published January 2000		6	20	1,000+[a]

[a] Inclusive of duplicated and subpopulation objectives.

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METHODS OF PROMOTING HEALTH

Fifteen specific strategies were described as the primary methods by which these five goals would be achieved. Each of the 15 strategies, in turn, comprised a variety of subobjectives that could be grouped into three major categories: (1) preventive services delivered by health professionals; (2) interventions undertaken by governmental agencies, industries, and other agencies to prevent harm; and (3) activities at the personal and community levels to promote healthy lifestyles. For example, preventive health services addressed family planning, pre- and postnatal care for mothers and infants, childhood immunizations, services for the prevention of sexually transmitted diseases, and hypertension control. Measures to protect health addressed control of population exposures to toxins, occupational safety and health, reduction of accidental injuries, fluoridation of community water supplies, and methods to control exposures to infectious agents. Finally, health promotion objectives focused on healthy populations and promotion of health-protective behaviors such as smoking cessation, reduction or elimination of the use of recreational drugs and alcohol, nutritional changes especially reduced levels of intake of certain foods, increases in the levels of exercise and overall fitness levels, and finally, stress control and reduction.

Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention (U.S. Public Health Services, 1979) was the impetus for publication of a second report entitled *Promoting Health/Preventing Disease: Objectives for the Nation* (U.S. Department of Health and Human Services, 1980). That report enhanced conceptualization of the five broad goals and 15 strategies for achieving those five goals through the use of specific actions. Development of the objectives was the result of a 1-year process involving more than 500 individuals and organizations recruited from the private sector and government arenas, who articulated a number of different objectives for each of the 15 strategies or target areas. These quantifiable objectives addressed public health policies, health care delivery, health care access, personal health behaviors and other, similar parameters.

The U.S. Department of Health, Education and Welfare (now DHHS) convened a conference in Atlanta, Georgia, in June 1979. Responsibility for conference coordination was shared by the Centers for Disease Control and the Health Resources Administration associated with the Office of Disease Prevention and Health Promotion of the Office of the Assistant Secretary for Health and Human Services. A total of 167 experts were invited to the conference to participate in 15 work groups consistent with each of the 15 areas outlined in the Surgeon General's 1979 report. These experts represented multidisciplinary academic and applied fields of expertise including private-and public-sector health care providers; academicians with expertise in epidemiology, behavior modification, and social science; state and local health organizations; community health groups; consumers; members from industry; voluntary health associations, and bench scientists.

Each panel of experts in the 15 work groups, drafted a set of quantifiable objectives that were published in the *Federal Register* in the fall of 1979 to elicit broad-based review and comments. Interim and final revisions were completed by the spring of 1980. These activities were in response to the National Health Planning Goals described in Section 1501 of Public Law 93-641 (which at the time was under the responsibility of the Health Resources Administration) and the Model Standards for Community Preventive Health Services required by Section 314 of Public Law 95-83, with implementation coordinated by the Centers for Disease Control. The overriding tenet of the

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goals and objectives was to achieve a *national* impact in purpose and scope rather than one that was limited to a government or federal agenda for design, implementation, and evaluation. It was also required that both science and policy support each objective in such a way that actual achievement of the objectives was consistent with what one might consider feasible during the decade from 1980 to 1989, assuming that no major innovations, scientific breakthroughs, or policy changes occurred during that 10-year interval. Finally, achievement of the objectives was intended to require the participation and contribution of

> Americans from all walks of life, in their roles as concerned individuals, parents, and as citizens of their Nation and of States and local communities. Sustained interest and action [would be] required not only by physicians and other health professionals, but also by industry and labor, by voluntary health associations, schools, churches, and consumer groups, by health planners, and by legislators and public officials in health departments and in other agencies of the local and State governments and at the Federal level (U.S. Public Health Service, 1980).

A standard format was developed to describe each of the 15 prevention strategies and their related sets of quantifiable objectives. This included a discussion of each of the following topics:

1. the nature and extent of the health problem, including a review of health implications, status, and trends;
2. a description of plausible disease prevention and health promotion measures that might involve education, legislation, information dissemination, economic incentives, and social-behavioral interventions;
3. specific national objectives for improved health status, means of reducing behaviors that place a person's health at risk, improvements in public and professional awareness of relevant issues, and improvements in services including protective services to reduce exposures;
4. the principal assumptions that supported the basic parameters of each objective; and
5. the data required to monitor positive and negative changes in each objective.

COMMON ELEMENTS AMONG THE 15 STRATEGIES

The document did not attempt to prioritize the 15 areas or the objectives specified for each area. It was strongly recommended, however, that consideration be given to threads or elements common to the 15 prevention strategies. For example, the construct of “reproductive health” would subsume family planning, pre- and postnatal care, and sexually transmitted diseases and would also peripherally involve smoking, alcohol and drug use, and immunizations. Identification of such collective themes was considered essential for the practical design, implementation, and evaluation of interventions designed to address related objectives.

In addition to the identification of conceptual links between the 15 target areas and their associated quantifiable objectives, two specific crosscutting issues received particular attention: data collection and research. It was first emphasized that the ability to monitor the status of each

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objective within the 15 areas was necessary and essential. Specifically, a baseline rate for each objective would be required to provide an initial profile for each objective before any intervention or policy change could take place. Of equal or greater importance was the need for dynamic and sensitive surveillance systems for each objective to permit tracking of changes from the baseline. The ideal data system would provide reliable data on a continual reporting schedule, and the data would be coded according to universally determined operational definitions. It was recognized, however, that the data available for each of the 15 areas and their accompanying quantifiable objectives were likely to fail to meet the criteria for an ideal data system. This was attributed to factors such as the absence of baseline data, wide variability in both the operationalization of data collection and the methodology used for data collection, the poor reliability of data collection efforts, and variability in the methods of analysis. Acknowledgment of the flaws inherent in many of the database monitoring activities and behaviors in the 15 areas and their related objectives resulted in an additional emphasis in the report recommendations to focus efforts on improving the quality of data collection capabilities over the course of the decade.

In addition to the need for rigorous, consistent, and statistically adequate databases for each area and its related objectives, the report emphasized the need to base objectives and interventions on the highest-quality research framework available. It was acknowledged that for the 15 strategies such frameworks varied in their stage of development because of variations in the strength and quality of the theoretical and scientific bases for implementation of development, measurement, and intervention activities. It was also pointed out that ongoing research during the decade could, and most likely would, result in significant changes in the state of the science for the 15 areas and their related objectives. Consequently, changes in objectives, intervention strategies, and measurement strategies were likely to occur because of achievements in the areas of basic biomedical research, behavioral research, social science research, and legal and policy research. This was considered a potential weakness in the *Healthy People* effort primarily because of possible compromises in the consistency in the type of data collected, in the method of data collection, and in the means of data analysis. Despite this potential weakness, the authors of the report generally advocated for increased research efforts in each of the 15 areas simply because it was recognized that extant knowledge was in general, limited for each area, with more significant limitations evident for the specific target objectives.

DESIGN, IMPLEMENTATION, AND EVALUATION OF THE OBJECTIVES

The resulting document, *Promoting Health/Preventing Disease: Objectives for the Nation* (U.S. Department of Health and Human Services, 1980) has provided the framework for the design, implementation, and evaluation of public health activities for the ensuing three decades The initial document included 15 strategic areas and a total of 226 objectives focused on improving health status and reducing behaviors that place health at risk through the use of interventions to reduce mortality and morbidity, as well as to promote prevention and behaviors that protect health. Implementation of the specific objectives was facilitated by the establishment of work groups from each of the lead federal health agencies contributing to the development of the 1990 priorities and objectives. Members of these groups identified those objectives of highest federal priority and then

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developed implementation plans for the intervention(s) that reflected available and potential program actions. These work groups then identified agencies at the federal, state, and local, levels, that represented both the public and the private sectors and whose cooperation in the implementation phase would be valuable and required. The implementation plans, along with the collaborating agencies, were published in 1983 in a special supplement of *Public Health Reports* (U.S. Public Health Service, 1983).

Evaluation of the *Objectives for the Nation* report occurred at two distinct levels, including periodic progress reviews and a midcourse review. First, a system of progress reviews was established, which consisted of briefings for the Assistant Secretary for Health and Human Services. These progress review sessions involved representatives from lead and collaborative agencies who presented to the Assistant Secretary summaries of activities and reprised the current status of the objectives in each of the 15 areas. These summaries included a discussion of the progress that had been made as well as shortfalls, problems with implementation and evaluation, and suggestions for modifications to the specific language of objectives or to the implementation plans. These detailed reviews were published in *Public Health Reports* (U.S. Public Health Service, 1983) and to facilitate public awareness of the major issues. In retrospect, it seems unlikely that publication of the progress reports in these two journals would have any likelihood of reaching the general population, although the scientific community would benefit from the updates. Two review sessions focusing on each of the 15 areas and their accompanying objectives were conducted with the Assistant Secretary for Health and Human Services by the spring of 1986.

A midcourse review was also planned as an evaluation strategy for the 15 areas and their 226 related objectives. This review was intended to be decentralized, comprehensive, collaborative, and preparatory for the development of objectives for the next decade (1990 to 1999). Briefly, results of the midcourse review for the five age cohorts for 1990 to 1999 documented significant progress toward the mortality reduction goals for infants, children, adolescents and young adults, and adults. Thirteen percent of the total number of 226 objectives had been achieved by 1985, with an additional 35 percent projected to be attained by 1990 given the stability of the trend data. Slightly more than one quarter (26 percent) were considered to be unlikely to be achieved by 1990, and data for an additional 26 percent were inadequate to permit appropriate monitoring. Examination of the data for the three major categories of objectives (preventive health services, health protection, and health promotion) revealed that 52 percent of the health promotion objectives were projected to be achieved by 1990, with 24 percent being unlikely to be met and the data sources for the remaining 24 percent being inadequate. A similar review of health protection objectives revealed that 46 percent were on target to be achieved by 1990. Unfortunately, data sources for an additional 35 percent were inadequate and 19 percent of the objectives were not expected to be achieved by 1990. Finally, the midcourse review for objectives related to preventive health services indicated positive achievement trends for 45 percent of the proposed objectives offset by almost 40 percent compromised by inadequate data and 15 percent unlikely to be achieved in the projected time frame. This midcourse review was anticipated to be followed by a final report describing the status of each of the 226 objectives in 1991 combined with modification and promulgation of objectives for the interval from 1990 to 1999.

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PRIORITY AREAS AND OBJECTIVES FOR 2000

The development of priority areas and objectives for the year 2000 followed a similar model for the design, implementation, and evaluation of priority areas and related objectives. Some significant differences were incorporated into the *Healthy People 2000* plan, however (U.S. Department of Health and Human Services, 1991). For example, the mortality and morbidity reduction goals for the five age cohorts proposed for the 1990 report were replaced by the following goals:

1. increase the span of healthy life for Americans,
2. reduce health disparities among Americans, and
3. provide access to preventive health services for all Americans

In addition, the original 15 areas were expanded, renamed and reorganized to include 22 priority areas, and one or more U.S. Public Health Service agencies were designated to coordinate activities that would support the achievement of objectives for each of these 22 priority areas. Furthermore, the objectives themselves increased in number to 300. In addition, subobjectives included an emphasis on special population groups to be responsive to the second goal, which focused on reducing health disparities among Americans. Evaluation strategies included the periodic briefing summaries for the Assistant Secretary for Health and Human Services and a midcourse review. The periodic reviews were published as briefings in *Public Health Service Progress Review Reports on Healthy People 2000,* with the first such review published in 1992 (National Center for Health Statistics, 1992). Additional briefings were published in 1994 and 1997 and focused on the presence and absence of positive and negative changes noted since the 1990 publication of *Healthy People 2000* (National Center for Health Statistics, 1994, 1997).

MIDCOURSE REVIEW FOR HEALTHY PEOPLE 2000

The midcourse review evolved into a 2-year process initiated in 1993 and resulted in publication of the *Healthy People 2000 Midcourse Review and 1995 Revisions* in the fall of 1995 (U.S. Department of Health and Human Services, 1995). All subsequent status reports to the Assistant Secretary were based on the revisions to the objectives that resulted from this intensive review process. Specifically, the proposed midcourse revisions were announced in the *Federal Register* on October 3, 1994, to solicit public review and comment (Federal Register, 1994). This effort yielded no changes to the three underlying goals or in the organization of the 22 priority areas. However, a number of modifications to the quantitative objectives within each of the 22 priority areas resulted from more than 550 public comments in response to the *Federal Register* publication. These included: (1) new objectives reflecting scientific advances, changes in policy, or availability of new information or data; (2) duplication of existing objectives shared across the 22 priority areas to increase awareness of the multidimensional relationships among health issues; (3) language revisions to increase the ability of the general population to comprehend the objectives and to clarify the intent of specific objectives as well as revisions to accommodate current issues and reflect data source and system improvements; (4) specification of target populations that were at the highest risk

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of premature death, disease occurrence, or disability; and (5) revising the quantifiable targets for the year 2000 to increase the challenge of meeting the objectives. The impact of the proposed changes on the number of objectives was formidable. A new total of 319 nonduplicate objectives was created. Summing across all accepted modifications resulted in a total of 638 nonduplicate objectives and subobjectives (specific for target populations) and 805 objectives and subobjectives when the duplicate objectives were included in the total count.

In 1995, results of the midcourse review for the year 2000 based on the revised set of 319 objectives, excluding subobjectives and duplicate objectives revealed that only 8 percent of the quantified targets for the year 2000 had been reached or surpassed. This was an indication that significantly less progress has taken place compared with the amount of progress that had been noted in the midcourse review of the goals for 1980, which indicated that 13 percent of the objectives had been met or surpassed by 1985. Positive progress toward achieving objectives was reported for 40 percent of the objectives in the 1995 midcourse review, whereas the value was 35 percent in the 1985 midcourse review. Conversely, regression or negative progress was noted for 18 percent of the objectives in the 1995 midcourse review, demonstrating that movement was away from the quantifiable target. Mixed results were apparent for 5 percent of the objectives, and no change was noted for 3 percent of the objectives. For a striking number (75, or 20 percent of the objectives) inadequate data were available to document progress from the baseline measure in 1991, and baseline data for 6 percent of the objectives (19 objectives) were lacking.

The *Healthy People 2000 Review: 1997* (National Center for Health Statistics, 1997) revealed some compelling results. Thirteen percent of the objectives were noted to have reached or superseded the target quantifiable measure, and continued progress toward the objectives was apparent for an additional 43 percent of the objectives. Data for 7 percent of the objectives demonstrated mixed results, and only 2 percent of the objectives no change from the baseline was indicated. Objectives for which only baseline data were available were reduced in number to 44 (14 percent), with baseline data established for 4 new objectives that had previously lacked such data. No baseline rates were available for 3 percent of the total number of objectives (11 objectives) which was a significant improvement over the 20 percent for the *Healthy People 1995* report (U.S. Public Health Service, 1995).

It is notable that along with the midcourse review for *Healthy People 2000,* efforts were made to develop an electronic inventory of data sets relevant to the monitoring of *Healthy People 2000* at the national level. These efforts began in 1990 and resulted in six primary deliverables. These included the following: (1) preliminary data set inventory based on draft objectives for 2000, (2) preliminary identification of gaps in available data relevant to monitoring the objectives for 2000, (3) draft data set descriptors, (4) first update to the database inventory, (5) development of the Dataset Quality Assessment Criteria, and (6) a second inventory update of data sources used to establish baseline measures and provide ongoing monitoring of the status of *Healthy People 2000* priority areas and related objectives.

This inventory was intended to describe the various data sets used to establish baseline rates for each of the objectives in the 22 priority areas as well as suggest alternative data sets that had the potential to be effective monitors of progress toward achievement of the 319 objectives at the national level. This effort included special attention to data sets that would be representative of the designated special subpopulations. This database inventory was also intended to include descriptors

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for cross referencing objectives with specific data sets and to provide an assessment of each data set regarding the level at which it was appropriate to measure the 319 quantifiable objectives.

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Development of Healthy People 2010.

Attention was directed toward the third generation of *Healthy People* even before *Healthy People 2000 Review: 1997* (National Center for Health Statistics, 1997) was completed. The context in which the *Healthy People 2010* effort has been developed built upon the strengths of previous efforts, especially those activities undertaken for the year 2000 plan, and also incorporated a number of innovative strategies. The selection of goals, enabling goals, focus areas and objectives for *Healthy People 2010* relied heavily on results from the annual and biannual data reviews, and the midcourse review made a particular contribution to decisions to modify *Healthy People 2010.* Thus, the primary methodology to *Healthy People 2010* will follow a dynamic process in which changes to the plan will occur in response to data collected during the decade. In addition to changes prompted by the data, it is expected that scientific advances, especially those in the areas of preventive health, communication, vaccines, pharmaceuticals, and improved data sources, will contribute to changes in the practice of medicine and, consequently, changes in *Healthy People 2010.* Such changes will also reflect health care reform and the changing demographic profile of the U.S. population that will evolve during the interval from 2000 to 2010.

DEVELOPMENT OF PRIORITY AREAS AND OBJECTIVES

Efforts to develop the priority areas and their concomitant objectives are predicted to be enhanced from those of the year 2000 initiative by a variety of factors including a broadened science base, especially in the area of health promotion and disease prevention; enhanced surveillance and data systems; a heightened awareness of health promotion and disease prevention among traditional health care agencies complemented by the activities of the general public and community groups; an emphasis on monitoring the quality of health care services; changes in epidemiologic knowledge about disease risk factors and methods of effective intervention; and finally, through the decade, alterations in population demographics and access to health care services.

In recognition of the potential complexity of maintaining and expanding the *Healthy People* process in response to these diverse forces, efforts to develop the content of *Healthy People 2010* have been already begun. As early as September 5, 1996, the Secretary's Council on National Disease Prevention and Health Promotion Objectives for 2010 was established. One of the first

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public actions of this council was to conduct focus groups with *Healthy People* Consortium members, including both public and private agencies and organizations. In addition, a meeting of the *Healthy People* Consortium was convened on November 15, 1996, which resulted in the publication *Building the Prevention Agenda for 2010: Lessons Learned* (U.S. Department of Health and Human Services, 1996). Activities heightened in 1997, with the Secretary's first briefing on objectives for 2010 occurring on January 22, 1997 followed by a meeting with the Secretary's council on April 21, 1997, to discuss in greater detail the objectives for 2010. In July 1997 a focus group report on the utility of *Healthy People 2000* was published (U.S. Department of Health and Human Services, 1997a). Shortly thereafter, in September 1997, a notice was published in the *Federal Register* to call for comments on the framework for the objectives for 2010 and the proposal of objectives (Federal Register, 1997). This resulted in the receipt of almost 700 comments from private consumers of health services, *Healthy People* Consortium members, members of the U.S. Congress, agencies of state and local governments, health care agencies, and other diverse organizations. The *Healthy People* Consortium met again on November 7, 1997, in Indianapolis, Indiana to discuss in detail the specific issue of reducing health disparities and how far the nation has come in doing so.

Work groups in each of the 22 priority areas discussed relevant objectives, and the issues and the content of these discussions were included in the record of public comments. Activities continued through 1997 and 1998, including meetings of work groups consisting of members from lead and collaborative organizations to determine the specific objectives that should be included, new objectives that should be developed, objectives that were no longer considered relevant and that should be deleted. It was anticipated that the first draft of objectives would be available for internal review by March 1998, presented to the Secretary's council meeting in April 1998, and published as the first draft of content for *Healthy People 2010* in the *Federal Register* by October 1998 to elicit a second round of public comments. In addition, ODPHP plans to conduct regional meetings and small group discussion sessions with interested and target populations during the period from October through December 1998.

Simultaneously, a meeting of the *Healthy People 2010* Consortium will occur in November 1998 to coincide with the annual meeting of the American Public Health Association in Washington, D.C. Finally, by December 1998 three meetings of the IOM Committee on Leading Health Indicators for *Healthy People 2010* will have occurred and reports for phases one and two of the IOM project will have been generated.

Activities that will support the development of *Healthy People 2010* expected to continue through 1999, including another meeting of the Secretary's council in April 1999 and a meeting of the *Healthy People 2010* Consortium in June 1999. Finalization of the specific objectives and development of companion documents are projected to occur through the remainder of 1999, with the release of *Healthy People 2010* by the Secretary of Health and Human Services in January 2000.

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PROPOSED FRAMEWORK FOR HEALTHY PEOPLE 2010

At the time of preparation of the present report, the proposed framework for *Healthy People 2010* was conceptualized around the vision of "Healthy People in Healthy Communities," which emphasizes the fact that basic good health practices and health improvement begin with individuals, families, and communities with their associated organizations and services. Two vision goals have been defined for *Healthy People 2010:* (1) increase the number of years of healthy life for all Americans and (2) eliminate health disparities among Americans. In order to achieve the latter goal, all objectives and their targets of change will be identical for all population groups. Within the framework of the two vision goals, four enabling goals have been defined. The purpose of this second set of goals is to identify strategies that will support the achievement of the two overarching vision goals. Briefly, the four enabling goals are (1) promotion of healthy behaviors, (2) protection of health, (3) assurance of access to quality health care services, and (4) strengthening of community-based prevention efforts. The proposed framework for *Healthy People 2010* moves from use of the term *priority areas* to *focus areas* in an effort to discourage the impression that a particular area of interest is of greater or lesser importance or a greater or lesser priority. The proposed focus areas fall under one of the four categories of enabling goals, and a set of quantitative objectives is associated with each of the focus areas. The plan for 2010 includes two new focus areas including (1) mental and physical impairment and disabilities and (2) the public health infrastructure, which includes objectives relevant to surveillance, data systems, training, and research. The proposed framework includes 20 focus areas and identifies special populations by the following: socioeconomic status, race or ethnicity, gender, age, or disability. A special population may consist of individuals with one or more of these characteristics.

Objectives formulated for each of the 20 focus areas fall into one of two categories: measurable or developmental. By definition, measurable objectives are intended to provide direction for action because they are supported by valid and reliable baseline data derived from established, nationally representative data systems. The baseline rate establishes the point from which a quantitative or numeric target, such as percent reduction, can be established. In contrast, developmental objectives are qualitative or descriptive in nature and generally, do not provide a numeric value as a target. Quantitative measurement systems are under development but not yet available for application. Qualitative objectives do however, provide a "vision" for a desired outcome or health status. Currently available surveillance systems and databases do not provide quantitative measures for these objectives. Inclusion of such objectives is expected to identify focus areas that are important and are also intended to motivate the development of national data systems through which they can be monitored. It is anticipated that 30 percent of the objectives for 2010 will be developmental in nature and will therefore lack an existing data set from which baseline data can be calculated and with which change can be monitored over time.

A unique component of the framework for *Healthy People 2010* has been the specification of seven criteria considered necessary and essential for the development of objectives within each of the 20 focus areas. These seven criteria for *Healthy People 2010* objectives include:

1. important and understandable to the general population and relate clearly to the vision, enabling goals, and focus areas of *Healthy People 2010;*

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2. prevention oriented with an emphasis on health improvements that can be achieved through population-based and health service-based interventions;
3. action-oriented including suggestions for a set of interim steps requisite to achieving the proposed target by 2010;
4. useful and relevant to states, localities, and the private sector in a manner that activities targeted to community organizations such as schools, work sites, health settings, and churches are facilitated and encouraged;
5. measurable (or have the potential to become measurable during the decade) including a variety of measures such as health outcomes, behavioral and health service change, and community capacity;
6. stated in an affirmative tone; and
7. permit continuity and comparability of measurement with objectives defined for *Healthy People* 2000
8. supported by sound scientific evidence.

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Development of Leading Health Indicator Sets

During the past three decades, the concept of *Healthy People* has become entrenched within the national and state public health communities as an essential element of the nation's prevention agenda and public health focus. It has also provided the opportunity to monitor changes in health status, identify emerging health challenges, and facilitate the development, implementation, and evaluation of interventions that can be effective in responding to key health issues. As planning for *Healthy People 2010* unfolds, it is apparent that the basic foundation of *Healthy People 2010* will be further enhanced by establishing a small set of leading health indicators that could be presented and marketed to the general public. Thus, the *Healthy People 2010* audience has been expanded to include the general population and community-based efforts rather than remaining in the domain of the public health system, as have the previous iterations of *Healthy People.*

The goal of such a leading set of target indicators is intended to increase the usefulness of *Healthy People 2010* as a focus of national attention and a tool for monitoring America's health (U.S. Department of Health and Human Services, 1997b). Unquestionably, the full set of focus areas and related measurable and developmental objectives will continue to play a major role in the planning, implementation, and evaluation of public health interventions for all members of the U.S. population. However, it is now understood that recognition of and actions associated with the full compendium of focus areas and objectives have been limited largely, if not solely, to the health care community, especially the public health community. Development of a small set of leading indicators with a focus on measures that have meaning and relevance to the general public, public and private policymakers, and health and science professionals, however, has the potential to create a national identity for *Healthy People* and expand the *Healthy People* community to include a broader membership of diverse population groups and community agencies. In short, the leading indicators would promote health and serve as the “face” of *Healthy People 2010* (Suzanne Stoiber, personal communication, 1998).

In preparation for the development of a leading set of health indicators, DHHS convened a work group whose members included 22 individuals representative of the Office of Public Health and Science, U.S. Public Health Service agencies, and other DHHS agencies. This work group was charged with preparing a background paper that would include information on the history of the *Healthy People* initiative, provide the rationale for identifying and using leading health indicators, and describe the potential uses and applications of leading sets of indicators. In addition, the work

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group undertook a review of examples of sets of current health indicators and focused attention on both theoretical models and criteria essential to those models to develop a substantive set of leading health indicators. A detailed discussion of the work of that group can be found in the publication *Leading Indicators for Healthy People 2010: A Report for the HHS Working Group on Sentinel Objectives* (U.S. Department of Health and Human Services, 1997b).

DHHS then turned to the Division of Health Promotion and Disease Prevention of IOM to convene a committee to consider the issue of leading indicators and to suggest a minimum of two sets of indicators for consideration by the Secretary of Health and Human Services as the leading health indicators for Healthy People 2010. The remainder of this report focuses on the activities of the committee as it discussed essential functions for potential leading health indicators, considered the strengths and weakness of proposed criteria to substantiate the selection of leading health indicators, and prepared for the future challenges of public comment and review.

FUNCTIONS OF LEADING HEALTH INDICATORS

The development of one or more sets of leading health indicators requires consideration of the functions to be served by the indicators. This issue was addressed only peripherally by the leading health indicators work group and resulted in the recommendation of the nine criteria (see below) that are essential for any individual or set of leading health indicators. To meet the larger goals established for *Healthy People 2010,* however, it is important to establish broader, interrelated functions for sets of leading indicators: (1) promotion of awareness, (2) motivation to action, and (3) feedback and assessment. These functions establish the cyclical nature of the leading indicators by establishing broad, population-based awareness of the indicator set and its quantitative targets. This awareness, in turn, would foster actions at the community and individual levels. Such actions precipitate a degree of change or movement addressing the cause and effect related to each of the individual leading indicators as well as the set as a whole. The cycle would be complete when the public received assessments in the form of regular and relatively frequent reports to update them on the status of the efforts toward achieving the targets for the leading set of indicators. Such feedback would then precipitate changes or increases in awareness, motivate additional action, and generate additional assessments to modify awareness and actions during the entire course of *Healthy People 2010.* A more detailed description of each of the functions is provided below.

First, the leading set of indicators should achieve a level of awareness of, attention to, and recognition of leading health issues by the general U.S. population. Such awareness, attention, and recognition can be achieved only through the development, implementation, evaluation, and modification of a comprehensive plan for health communication and the dissemination of information. The importance of generating community and population commitment to the set of leading health indicators cannot be over-emphasized. Previous *Healthy People* efforts have effectively reached only federal, state, and local health agencies. Successful change in the behaviors of the general population can only be accomplished by inclusion of the general population in the process of change. This will be achieved only if the *Healthy People 2010* leading health indicator initiative is supported by effective strategies to initiate, sustain, and maintain community and population involvement in every stage of implementation of the dissemination plan for the leading

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health indicators. An effective plan must also include delineation of communication strategies that will be appropriate and effective for diverse populations, especially those that may not have been reached by other health communication campaigns such as elderly and socioeconomically disadvantaged individuals. Furthermore, the proposed health communication plan must be dynamic and responsive to changes in the level of the population's awareness of the leading indicator set from 2000 to 2010. A strong evaluation plan will provide an ongoing assessment of progress, which in turn, will promote changes in dissemination strategies to ensure that the message about *Healthy People 2010* and the leading health indicator set becomes firmly established in the awareness of the general population.

The second key function of the leading health indicators for 2010 requires that the indicators, individually and as a whole, serve to prompt positive health actions by the general population. Again, this requires a stringent plan to assess behavioral responses to the individual and collective messages of the leading indicator set. This assessment plan will rely, in part, on the monitoring strategies established for the 20 focus areas and related objectives of *Healthy People 2010.* However, an ongoing evaluation plan directed at specific elements of the leading indicator set will be essential for monitoring behavioral responses provoked by the leading indicator set among both the general population and subpopulations of Americans.

The third and final essential function of the set of leading health indicators will be the development and implementation of an assessment component to serve as a feedback loop by which the general population remains informed of the status of the individual and composite elements of the set. This requires adherence to a regular schedule of publication of "progress summary reports" for each of the leading indicators and the composite set. These reports would highlight the progress and the lack of progress that have occurred in specific areas. The dissemination plan would address the issue of creating expectations for routine reports by the American public and all of its subpopulations. It would also be used to motivate interest in activities that would address indicator set areas in which progress toward the expected target has not been achieved. This communication effort would complete the functional cycle of the leading indicator set by providing feedback that would increase the level of awareness by the general population and motivate action at the community and individual levels to proactively make progress toward the targets.

It is important to recognize that the assessment of progress toward the leading health indicator goals will be monitored routinely by information readily available at the national, state, and local levels. Mechanisms will be established to ensure timely communication of this information to the general population and community organizations. Some of this information will be available at the beginning of the year 2000 while other information will begin to be collected during the interval of 2000 to 2010. This latter type of information will be considered developmental in nature but will still play in important role in monitoring progress and changes in awareness and actions associated with the leading health indicator set.

REVIEW OF CRITERIA TO SUPPORT SELECTION OF HEALTH INDICATORS

The original DHHS working group also recommended that selection of the leading health indicator set for *Healthy People 2010* be based on a set of criteria that would support a conceptual

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model of health promotion and disease prevention. The initial DHHS working group for leading health indicators established nine criteria that should be considered in the selection of individual leading indicators as well as the full set of indicators:

1. the general public, opinion leaders, and the health and medical communities can easily interpret and understand the indicators;
2. they reflect issues that affect the health profile of the nation's population in important ways;
3. they address a problem that has a substantial impact on prospects for the health of the nation's population;
4. they can be linked to one or more of the full set of *Healthy People 2010* objectives;
5. they are generally reliable measures of the state of the nation's health (or that of a subpopulation) to ensure that the problem is not reflective of the perspective of a relatively small part of the population aspect or population group;
6. data on the indicators are available from an established source on a regular (at least biennial) basis;
7. they have multilevel trackability to ensure that data can be anticipated at multiple levels and for multiple groups;
8. they are reflective of a balance in the selection of targets that does not overemphasize any one group or condition; and
9. they have utility in directing public policy and operational initiatives.

The IOM committee has very little disagreement with these criteria but would elaborate as follows. Interpretability would be more clearly understood with words such as “relevance to the public including measures of understandability, salience, and interpretability by the general public.” Applicability, to the target population should be expanded to include national efforts to make the indicators applicable to broad groups of people in terms of geographic and demographic variables. The impact of the problem requires no further elaboration. However, it was suggested that the links of the leading indicator set to the full *Healthy People 2010* publication is not limited only to specific objectives but also includes linkage with national policy through collaboration with DHHS. The committee suggested that use of the descriptor “representative” rather than “reliability” is a more accurate means of expressing equitable or balanced resources as defined by the DHHS working group. Similarly, the concept of measurable data can be substituted for the concept of data availability and multilevel trackability, and measurable data can be expanded to include data reliability and validity. Two additional criteria were also considered by the committee: sensitivity to change over a reasonable period of time and the ability to motivate action across multiple levels of the general population, including families, individuals, and community groups. These refined criteria will be discussed in greater detail at the next committee meeting and will be applied to the indicator sets that will be reviewed at that meeting.

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FUTURE DIRECTIONS AND CHALLENGES

Phase two of this IOM project will result in a second interim report. The major components of that report will be examination of potential sets of leading health indicators, including a review of strengths and weaknesses. The public will then be able to comment on these through the internet, at a public forum, through written communication, or through email to the project Web site. The results of the public commentary will facilitate the committee's efforts to select and provide adequate justification for at least two sets of leading health indicators to be published in the third and final report during phase three of this project.

The IOM committee has already noted several challenges that it must address in collaboration with DHHS. Specifically, the data available from national, state, and local sources raise concerns about the committee's ability to accomplish subpopulation-level analyses. Of equal or greater importance will be the reliability and validity of the data, especially data that are derived from multiple sources. Committee members also raised concerns about the ability to meet the second vision goal, elimination of health disparities. Their primary concern focused on the possibility that such a goal might be attained only if the health of the general population progresses or regresses toward the mean; that is, health and health behaviors would be improved among those who are disadvantaged but would be relaxed among those who have achieved or exceeded the objective target for 2010. This is a problem of considerable significance and concern to the committee, which is committed to developing a leading health indicator set that will support the visionary goal for *Healthy People 2010,* stating the importance of elimination of health disparities in subpopulations including those representative of different groups defined by gender, race and ethnicity, socioeconomic status, educational attainment, and age.

The committee also raised concerns about the integration of the leading health indicator set with *Healthy People 2010.* Specifically, what plans are in place to disseminate the full *Healthy People 2010* set of objectives to those populations defined as targets for the leading indicator set? How will these be coordinated with *Healthy People 2010?* Furthermore, will ODPHP or a special commission be responsible for release of data relevant to the leading health indicator set for 2010? How will these data be analyzed and reported to the nation? Furthermore, any changes in the existing methods of data collection or in the data content during the decade will undermine the validity, reliability, and credibility of data for the leading health indicator set.

Dissemination of information about both *Healthy People 2010* and the leading health indicators for 2010 will require two distinct dissemination plans adjusted to the various target populations. The diversity of the general population, which is defined as an audience for the leading health indicators for *2010,* raises issues and concerns about communication and dissemination plans that are language appropriate, culturally appropriate, and generally responsive to the unique informational needs of the five target groups categorized by: age, gender, race and ethnicity, socioeconomic status, and educational attainment.

Finally, the committee has begun to consider the issue of allocation of resources sufficient to support the data-gathering and dissemination functions, as well as intervention activities or initiatives at the local or community level. It is not clear whether funds will be available to support such activities or whether communities and individual constituents will be required to find adequate resources to conduct activities that might positively affect one of the leading health indicators. Such

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resources would not be limited to financial means but would also include technical assistance, training in data utilization and comprehension, and mechanisms that would promote the creation of an expanded network of individuals who are aware, action oriented, and responsive to data feedback. It is acknowledged that the charge to the committee did not include specific requirements for the development of strategies to integrate the leading health indicator set with full set of *Healthy People 2010* objectives. Nor did that charge specifically request development of plans for data and information dissemination. It is the opinion of the committee however, that these issues are critical to the successful achievement of the leading health indicator objectives and must be addressed adequately in order to ensure the success of the *Healthy People 2010* effort. Previous efforts to disseminate and achieve broad population commitment to discrete sets of leading health indicators have been unsuccessful largely because these and other issues were inadequately addressed. It is the intention of this committee to recommend additional actions to ensure successful implementation, dissemination, and evaluation of the leading health indicator set for 2010. These issues and more will be addressed in the second interim report in which potential indicator sets will be presented and critiqued.

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