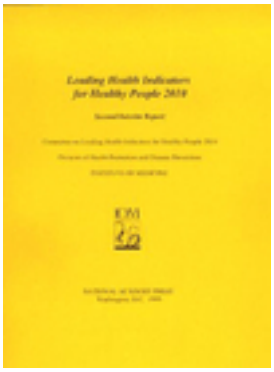

Leading Health Indicators for Healthy People 2010: Second Interim Report

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

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Second 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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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 those individuals involved in the evolution of Healthy People during this interval.

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; 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.

Contents

Executive Summary

During Spring 1998, the U.S. Department of Health and Human Services (DHHS) contracted with the National Academy of Sciences (NAS), Institute of Medicine (IOM) to conduct a multi phase project resulting in the development of sets of leading health indicators that would provide a 'face' for *Healthy People 2010.* Of equal or greater importance was the development of indicator sets that would attract and sustain public attention and motivation to engage in healthy behaviors. Development of such leading health indicators sets is intended to move the United States toward achievement of more positive health outcomes for the general population and for select population groups *defined by race, ethnicity, gender, age, socio-economic status, level of education, and disability.*

This second interim report presents a summary of the efforts of the IOM Committee on Leading Health Indicators for Healthy People 2010 to develop sample sets of leading health indicators that would meet the requisite functions of attracting and sustaining attention and motivating engagement in healthier behaviors by the public. Reactions to this report and more specifically, to the potential leading health indicator sets and suggested measures, will be solicited from the public health community as well as representatives of diverse consumer audiences through electronic communication, regional public meetings convened by DHHS, focus group discussions with target populations, and other information-gathering techniques. Review of information from these various sources will be summarized in a third and final report for DHHS to be published in April 1999. The third report will also include the committee's final recommendations regarding the functions to be fulfilled by leading health indicators, will define specific criteria underlying the selection of leading health indicators, and will identify specific sets of leading health indicators to be promoted and monitored during the decade 2000 to 2010.

According to the mandate of DHHS as stated in the 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), acceptable sets of leading health indicators will consist of a relatively small set of indicators reflective of the progress that is made during 2000 to 2010 toward reaching the health objectives of the nation. These indicator sets should effectively communicate with new audiences including, but not limited to, the media, non-health care professionals, faith

groups, voluntary groups, local businesses, community groups, and individuals. Furthermore, leading health indicator sets should engage the public's attention and motivate actions at the individual and community levels that will be consistent with the complete set of *Healthy People 2010* objectives. It is of particular importance that the indicator sets address health disparities among select populations defined by race or ethnicity, socio-economic status, gender, age, education level, and disability. The proposed indicator sets should also represent sociodemographic and environmental issues as well as primary, secondary, and tertiary prevention (Nicole Lurie, U.S. Department of Health and Human Services, Personal Communication, 1998). The current availability of data sources to provide annual or biennial information on progress toward targets is of lesser importance since DHHS has expressed a commitment to ensuring the collection of data on each of the leading health indicators within a set selected by the Secretary of Health and Human Services.

The initial report from DHHS, *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) identified 9 criteria considered to be essential for the selection of leading indicators within a set. These were modified in the first interim report of the IOM committee to include (1) plans for effective dissemination of information about the indicator sets, and (2) the ability to motivate desirable behavior changes among the public. Upon further review, the IOM committee identified 4 additional criteria for selection of the leading health indicator sets including:

1. to increase public knowledge and awareness of the indicator sets;
2. encourage members of the general population and select population groups to become participants in the work of health promotion in their local communities;
3. focus the energies of the public and select population groups to ensure that public health outcomes will be improved, and
4. promote leading health indicators that have credibility in, and are supported by the public health community.

This second interim report addresses these additional criteria for the selection of leading health indicators and expands on the DHHS charge to the committee. The committee has engaged in a consensus-building process by which leading health indicator sets that meet the requisite criteria will be developed. Specific actions of this process include (1) development of sample indicator sets, (2) identification of a core set of candidate indicators to be considered in the selection of different groupings or sets of indicators, (3) development of conceptual frameworks to provide structure and focus for leading health indicator sets and ensure integration with the full *Healthy People 2010* model, and (4) assessment of sample indicator sets for their ability to reach and motivate the general public and selected population groups as well as their acceptance and support from the public health community. The remainder of this report describes specific activities that have been, or will be, completed to achieve the overriding goal of this consensus-building process—development of a minimum of 2 sets of leading health indicators for submission to the Secretary of Health and Human Services. A final report from the IOM committee will be prepared for April 1999, in which the results of efforts to elicit public feedback and reactions to potential indicator sets are summarized

and a minimum of 2 or more indicators sets will be recommended for consideration by DHHS and the Secretary of Health and Human Services. The presentation of recommended leading health indicator sets in the final report will include discussion of the following issues: (1) congruence with essential criteria; (2) data resources and related issues; (3) sample reactions of the lay public to each recommended indicator set, with particular focus on issues such as appeal, interest, recognition, and ability to motivate positive changes in behaviors and other health determinants; and (4) plans for dissemination to ensure penetration of the indicator sets to members of the public and private health care delivery systems, the media, the general public, and select population groups.

1

Charge to Committee

The public health community has drawn on its collective wisdom and experience to arrive at a set of objectives and benchmarks covering the entire field of public health. These are presented in the publication *Healthy People 2010.* The Office of Disease Prevention and Health Promotion (ODPHP) of the Department of Health and Human Services (DHHS) turned to the Division of Health Promotion and Disease Prevention (HPDP) of the Institute of Medicine (IOM) to convene a committee to consider issues relevant to the selection of a minimum of 2 leading health indicator sets representative of *Healthy People 2010* for consideration by the Secretary of Health and Human Services by April 1, 1999. This committee consists of 10 members with expertise in topic areas including, but not limited to, public health, health promotion, health communication, epidemiology, biostatistics, health education, health policy, and health performance monitoring. This committee has convened for 3 meetings through December 15, 1998.

An acceptable set of leading health indicators will fulfill a number of functions. First, such indicators will be exemplary measures of key health behaviors and related outcomes that are known and understandable by the general population as well as demographically diverse population groups. Second, these indicators will be the object of routine data collection and analysis at the national, state, and local levels, with the potential availability of comparable data at community levels and for select population groups during the interval 2000 to 2010. This set of indicators will promote positive changes in knowledge, health behaviors and health determinants at the level of the individual and will also guide the development of policy and action plans within communities to ensure maintenance of change efforts. Further, it is expected that an ideal indicator set will consist of a reasonable number of unique indicators for which there is an understandable, thematic framework and a set of associated measures. Finally, the set of indicators must adhere to the majority, if not the totality, of criteria determined to be essential aspects of leading health indicators.

Ongoing communication with DHHS and ODPHP staff has led to further clarification of the charge to the IOM Committee on Leading Health Indicators for Healthy People 2010. Specifically, the committee understands that it will continue to provide expert advice to ODPHP to guide the development of essential criteria and thematic frameworks for potential sets of leading health indicators. In addition, it is understood that potential leading health indicators will address primary, secondary, and tertiary prevention issues as well as environmental and social determinants of health.

Furthermore, the *Healthy People 2010* vision of eliminating health disparities and improving the number and quality of years of healthy life will be integrated within the organizational framework of each potential set of leading health indicators. Finally, the committee understands that it is charged with review of the totality of *Healthy People 2010* and selection of a small number of priority areas based on frameworks that accomplishes the following:

1. Educate the general lay public and select population groups about the leading health indicators for *Healthy People 2010.*
2. Motivate the general lay public and select population groups to engage in behaviors that are consistent with the targets established for each health indicator.
3. Encourage members of the general population and select population groups to become participants in the work of public health in their local communities.
4. Focus the energies of the public and select population groups to ensure that the actual health of the public is significantly improved by work on the priorities established by each indicator.
5. Promote leading health indicator sets that have credibility in, and are supported by individuals, groups, organizations, health professionals, and others committed to the delivery of health care education and services to the general public and select population groups.

The remainder of this report describes specific activities that have been, or will be, completed to achieve the overriding goal of this consensus-building process—development of a minimum of two sets of leading health indicators for submission to the Secretary of Health and Human Services in April 1999.

2

Criteria for Leading Health Indicators

The original 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, 1997) outlined 9 criteria considered necessary and essential for the development of leading indicator sets for *Healthy People 2010* (see Table 2-1).

Table 2-1 Original Set of Criteria for Leading Health Indicators

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 populations in important ways
3. they address problems that are sensitive to change and have 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 select population groups) to ensure that the problem is reflective of a broad scope 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 diverse select populations;
8. they are reflective of a balance in the selection of targets that does not overemphasize any one group or health condition; and
9. they have utility in directing public policy and operational initiatives.

The IOM committee generally concurs with these 9 criteria, although modifications and additions have been made as efforts to develop leading health indicator sets have evolved. Specifically, the committee believes that it is of utmost importance that the general public, selected population groups, and opinion leaders find the indicators interpretable and understandable. Members of the health and medical community should already have a higher level understanding of health statistics and information, and will monitor progress toward achieving the goals of *Healthy*

People 2010 through changes in the objectives and subobjectives in each of the 26 focus areas. In addition, the committee chose to expand the scope of the fifth criterion to include measures that are reliable, as well as *valid,* and *representative* of multiple population groups to permit community-level analyses. Criterion 6 is of diminished importance, and can be eliminated as an essential criterion in light of the commitment by DHHS to ensure data collection for new and existing indicators. However, the committee suggests that annual, and especially biennial, data summaries will probably fail to meet the needs of the public health community and those of the public if there is truly a desire to educate and motivate changes in health and related behaviors at the individual and community levels. Data collection systems will have to support real-time reporting of changes in indicators for the general public or selected population groups. The committee wholeheartedly supports the 3 remaining criteria of the original 9.

In the first interim report, 2 additional criteria were recommended by the IOM committee. First, it was recognized that effective indicator sets must be catalytic in nature to motivate actions across multiple sociodemographic groups within the general population. Second, the committee considered it essential to have dissemination plans drafted for each potential indicator set in order to ensure that messages would be appropriate for diverse populations, that the frequency of these messages would be sufficient to provoke changes in knowledge and behaviors, and to ensure the use of multi disciplinary strategies would be used for communication and intervention.

As the work of the committee has progressed, 4 additional criteria were added to ensure that the leading health indicator sets were congruent with the charge placed on the committee. As noted above, it is expected that potential leading health indicators will address primary, secondary, and tertiary prevention issues as well as environmental and socio-cultural determinants of health. Furthermore, the *Healthy People 2010* vision of eliminating health disparities and improving the number and quality of years of healthy life must be integrated within each potential set of leading health indicators. Of greatest importance however, is the selection of a limited number of priority areas that will *affect positive changes in knowledge and promote behavior change by encouraging and supporting involvement of the general public and selected population groups that will, in turn, result in significant and sustained changes in health outcomes.* Finally, acceptable indicator sets will establish and maintain a level of credibility and support from individuals, groups, organizations, health professionals, and others involved in the delivery of health care education and services to the general public and selected population groups. The complete set of 14 revised criteria are listed in Table 2-2. These criteria will be used as one evaluation mechanism for potential sets of leading health indicators and their specific measures, described in Chapter 5.

Table 2-2 Final Criterion for Selection of Leading Health Indicators

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 populations in important ways
3. they address problems that are sensitive to change and have 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, valid, and representative measures of the state of the nation's health (or that of select population groups) to ensure that the problem is reflective of a broad scope perspective for a significant proportion of the population;
6. they have multilevel trackability to ensure that data can be anticipated at multiple levels (national, state, local, and community) and for diverse select populations;
7. they are reflective of a balance in the selection of targets that does not overemphasize any one group or health condition;
8. they have utility in directing public policy and operation initiatives.
9. they must be catalytic in nature to motivate actions across multiple select populations as defined by race, ethnicity, gender, age, education levels, socio-economic levels, and disability status;
10. they must have a dissemination plan that will ensure that messages will be appropriate and understandable by diverse populations. The frequency of these messages will be sufficient to provoke changes in knowledge and behaviors, and the use of multi cultural and multi disciplinary strategies for communication and intervention will be emphasized;
11. they will address primary, secondary, and tertiary prevention issues as well as environmental and socio-cultural determinants of health;
12. they will encompass the *Healthy People 2010* vision of eliminating health disparities and improving the number and quality of years of healthy life;
13. they will effect positive changes and promote behavior change by encouraging and supporting involvement of the general public and select populations that will result in significant and sustained changes in health outcomes;
14. they will establish a level of credibility and support from individuals, groups, organizations, health professionals, and others involved in the delivery of health care education and services to the general public and select population groups

3

Review of Relevant Data Issues

This chapter addresses the important issues relevant to acquiring and analyzing health data that would inform or comprise suggested sets of leading health indicators. Each issue is presented briefly in order to introduce the constraints on the selection of these indicators and their suggested measures.

DATA SOURCES.

There is a substantial amount of national data available by which one can measure leading health indicators. Among the most important ongoing federal health surveys are (1) the National Health Interview Survey, which continuously collects data on the American population; (2) the National Health and Nutrition Examination Survey (NHANES), which offers physiological as well as health status information at ten year intervals; and (3) the Behavioral Risk Factor Surveillance Surveys, which documents preventive behaviors and service receipt on a state-by-state basis. A critical additional data source is the state and federal vital record system. This is the most universal of all the available data sources referent to population health.

Additional research databases exist that cover many important health and non-health topics such as motor vehicle accident rates, injuries, and deaths by the National Traffic Safety Board, environmental data collected by the Environmental Protection Agency, tobacco consumption data collected by the Internal Revenue Service, patient counseling about primary prevention captured by the National Ambulatory Medical Care Survey, and nutrition data collected by the Continuing Survey of Food Intake by Individuals, U.S. Department of Agriculture. These cover all ages, both genders, and a wide variety of social, cultural, and economic situations. However, although they can inform many possible leading indicators, they have a set of availability issues that may limit their usefulness: (1) there is often no uniformity in the structure of questions, and thus there may not be comparability between data sources, (2) data collection may not be performed at sufficiently frequent intervals, and thus no information will be available to measure leading indicators on a routine basis, and, (3) investigators and data collectors may not wish to release information that could be related to forthcoming scientific papers and presentations. Some health and non-health survey information may be of great value to leading indicators, but may only be collected on local or regional

populations, limiting national representativeness and not allowing inferences about the national population.

Another data source that will have to be seriously considered depending on the indicator sets suggested, is the collection of new survey data that contains desired information and is referent to the American population and select population groups. There may be incumbent costs, the magnitude of which will depend on the extent of the survey, but these can be constrained by "piggy-backing" relevant survey items on existing surveys that are being conducted on an ongoing basis. Some candidate surveys may not be devoted centrally to health issues, but may be exploring labor, economic or other themes.

PHYSIOLOGICAL MEASURES

Theoretically, it might be of great interest to have leading indicators represented by physiological or biochemical measures. Examples might include blood pressure levels, blood levels of antibodies representing exposure to designated infectious diseases, blood levels of important nutrients such as vitamins, or population-average muscle strength or physical balance capacity as a reflection of physical dysfunction. Many, if not all of these, might be available on a national sample survey such as the NHANES. However, there are formidable impediments to these measures, the most prominent of which is cost. Such routine data collection would be extremely expensive. In addition, such data may not be available in a timely manner or for select population groups. The NHANES is only performed once each decade, and would not be suitable to inform policy on a regular basis; there are no other equivalent surveys of national scope. Finally, the processing of physiological and other laboratory data might add incremental delays in making the data available on a real time basis.

Timeliness of Data and Indicator Availability

In addition to timeliness of physiological information, there is an issue relevant to more conventional data sources. Provision of "final" vital records data may take up to 3 or 4 years after the year in which they were collected. Consequently, measures of leading indicators based on vital records, such as mortality or birth-related information, would have to be based on provisional information and subject to change at a later date. Even routinely collected national survey data may be subject to delays of 6 months to 2 years while the data are validated, analyzed, and presented for appropriate use. This will have relevance to the frequency and recency of reporting to the population on the status of specific indicators.

Small-Area Analysis

Leading indicators based on survey data or vital records will have great interest with respect to the health status of the nation. However, as the indicators garner increasing public attention, there will be a desire to assess the status of indicators at the state and local levels. Some potential indicators may be pertinent to smaller geographic areas, such as measures that reflect common occurrences (e.g., all-cause mortality or live births) and those that are collected at frequent intervals. However, it may be extremely difficult to infer local findings from national sample survey data and, depending on the indicators, there should be plans to assist local communities to interpret them and find alternate sources of similar information or conduct local surveys that will be responsive to the specific indicators. For the most part, this is a matter of the statistical stability of the measures, and when the number of events in a given time period and jurisdiction is small, confidence in the local estimated indicator measure may be low. The same issue may apply to other types of select population groups defined by age-, gender-and race-or ethnic-specific health measures. The number of health events of interest may be too small to have confident measures, or in some cases, there simply may be no substantial sample survey data available on the population of interest, such as elders over age 75 years, Mexican Americans, or persons with physical disability.

These inherent limitations will to some extent be insurmountable. However, some mechanisms may partially address some of the data requests from local jurisdictions and interest groups seeking information relevant to leading indicator measures. These include, but are not limited to the following:

1. Assist in locating existing local risk factor, vital records, or survey data that might be referent to the indicator;
2. Provide indicator information from a geographically or demographically similar population survey;
3. Provide a statistical “toolkit” that would allow extrapolation of national or state statistical information to the local population demographic characteristics.
4. Suggest a set of analytical techniques that would allow summarization of existing information over longer but more statistically secure intervals, such as “rolling averages”;
5. Provide alternatives to the leading indicator measures for purposes of health planning and evaluation.

Representativeness and Data Accuracy

There are 2 general issues relating to the accuracy of health data. The first relates to the representativeness of sample survey data. Most sample surveys of the United States have complex sampling frames, and this complexity must be addressed in data analysis to have valid estimates. The second is data accuracy. Does the measure approximate the real situation (validity), and if the question is asked again by the same or a different interviewer is the same response obtained (reliability)? Most of the data sources that will inform the leading indicators are well established and

in general can be presumed to be representative and accurate, as well as scientifically defensible. This is because most measures have been in use for several years and have been evaluated in both public health and research venues. For those health measures known to have modest to moderate deficits in accuracy, such as certain specific causes of death, the final report will indicate and address them. For indicators that are purely subjective, there are still ways to determine their construct and predictive validity. These will also be addressed in the final report if such subjective indicators are included in the recommended indicator sets.

Ecological Measures: Social and Environmental

It is well established that many of determinants of population health status do not reside within individuals but are characteristic of the social or physiochemical environment. Examples of important social exposures that are referent to the community include crime rates, poverty rates, the quality of primary and secondary education, and the availability of employment. Examples from the physiochemical environment include air or water pollution levels or the prevalence of workplace safety programs. In addition to general conceptual considerations, the same data-related issues apply. Are measures for these indicators available on a timely basis? Can they be summed to represent the entire nation or broken down to be meaningful at the level of select population groups? Furthermore, are the measures accurate and reliable?

SUMMARY

Issues related to data quality, access, timeliness, and comprehensiveness are central to the selection process of leading indicators, and as specific sets are suggested, the overall feasibility of acquiring informative data will weigh heavily in the final determinations and recommendations of this IOM committee.

4

Core List of Candidate Leading Health Indicators

Prior to the third committee meeting, IOM staff and committee members developed 13 draft sets of potential leading health indicators; 3 of these were selected from 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) including the Health Status Model, Summary Measures/Leading Contributors Model, and Health Disparities Model. The remaining 10 draft sets were developed independently of each other by committee members and IOM staff and then circulated anonymously to the full committee membership. There were substantial differences between each of the 13 sample indicator sets with respect to number of indicators, conceptual framework, availability of existing data, and most important of all, actual content and wording of suggested measures for specific indicators. For example, the sets ranged from a dozen indicators to 125 indicators, with the majority somewhere between 15 and 30. Some conceptual frameworks focused solely on indicators of health outcomes, whereas others addressed only environmental and social determinants of health. Still others included measures to assess the well-being of individuals, while others focused on the community as the unit of analysis. Some indicator sets were organized by age categories, others relied on topics such as environmental health, access to care, preventable deaths, and preventive health behaviors to provide a structure for the selection of indicators and suggested measures for these indicators. Wherever possible, the language for the suggested measures was adapted from the full *Healthy People 2010* model.

In an effort to compare the widely diverse sample sets of indicators, committee members were first asked to evaluate each draft set for congruence with the revised set of 14 criteria (Table 2-2) proposed and accepted by the committee. Tables displaying the congruence between criteria and six sample indicator sets are included in the report as Appendices A through F. Committee members were then asked to rank-order the top 5 sets of indicators according to their personal judgment. Review and analysis of these ratings were conducted at the third committee meeting (October 28–29, 1998). Results of these efforts indicated that there was still little consensus in both ratings of congruence with the criteria and the rank orderings.

The committee then collectively decided to identify the common themes between each of the 13 indicator sets and develop a core list of candidate indicators. These were organized by IOM staff into 5 general categories and 34 subcategories listed in Table 4-1.

Table 4-1 Core list of Candidate Leading Health Indicators

A. *Health and Disease Outcomes*

1. General physical well-being
2. Infant mortality
3. Death rates from preventable causes
4. Disability-free survivorship
5. Self-reported health status
6. Sexually transmitted diseases
7. HIV
8. Cancer
9. Low birth weight
10. Cardiovascular disease (CVD)
11. Asthma or Chronic obstructive pulmonary disease (COPD)
12. Hip fractures or osteoporosis
13. Injury
14. Diabetes
15. Disability days

B. *Preventive Health Behaviors*

1. Unintended pregnancies
2. Immunizations
3. Tobacco use
4. Physical activity
5. Alcohol use
6. Substance abuse
7. Appropriate body weight
8. Nutrition

C. *Mental Health*

1. Psychological status

D. *Health System Access*

1. Physical accessibility
2. Poverty
3. Health literacy
4. Education levels

E. *Ecological*

1. Air quality
2. Iatrogenesis
3. Firearm death and injury rates
4. Violence
5. Homelessness
6. Motor vehicle accident death and injury rates

Committee members reviewed each of the indicators in the 13 draft indicator sets and voted to include or exclude each item on the master list. It was required that a majority of the committee (six members or more) vote in favor for each indicator for it to be included on the core list. The committee agreed that this master list of candidate indicators would guide the selection of sample

leading health indicators and suggested measures for each of 6 proposed indicator sets described in Chapter 5. Each indicator has a high number of suggested measures which will be reduced significantly for the final recommended sets based on comment from the public and individual, organizations, and professionals involved in the delivery of public health care services.

5

Sample Indicator Sets.

INDICATOR SET A: HEALTH BEHAVIOR AND ACCESS TO SERVICES

Indicator set A is relatively simple both in number of indicator categories and in number of suggested measures. It focuses on 3 primary health areas: health and disease outcomes, protective health behaviors, and access to health care. Health determinants associated with ecological or social factors are not considered by this model. The focus is on selection of indicator categories and possible measures that would have almost immediate recognition with the general population and select population groups and have existing data sets from which information can be collected on a routine basis. Sources such as Vital Statistics, Surveillance, Epidemiologic, and End Results Registries, National Health Interview Survey, Youth Behavioral Risk Factor Survey, and the Behavioral Risk Factor Surveillance Survey would be key data contributors. At this point, the sample indicator set does not address the issue of relative weights of indicators and their suggested measures. Rather, it proposes each indicator and measure as separate and equal assessments of the health of the nation's population and select population groups. Its inclusion of references to select population groups within each measure ensures that the significance of the Year 2010 Vision of eliminating health disparities will be maintained. Finally, Table A, displaying congruence between indicators and essential criteria is included in Appendix A.

Indicator Category: Health and Disease Outcomes

Suggested Measures

1. Self-reported health status of general population and select population groups
2. Number of days of depression and/or anxiety in past 30 days experienced by general and select population groups with activity limitations who need assistance
3. Days of school or work lost due to activity limitations for the general population and select population groups
4. Number of days in past 30 when general population and select population groups with activity limitations and in need of assistance feel healthy

5. Age-specific and age-adjusted all-cause mortality rates for individuals age 21 or younger in the general population and select population groups
6. All-cause infant mortality rates for general population and select population groups
7. Age-specific and age-adjusted mortality rates attributable to cardiovascular disease in the general population and select population groups
8. Age-specific and age-adjusted mortality rates attributable to all cancers in the general population and select population groups
9. Age-specific and age-adjusted mortality rates attributable to breast cancer in the general population and select population groups
10. Age-specific and age-adjusted mortality rates attributable to cervical cancer in the general population and select population groups
11. Age-specific and age-adjusted mortality rates attributable to colorectal cancer in the general population and select population groups
12. Age-specific and age-adjusted mortality rates attributable to prostate cancer in the general population and select population groups
13. Age-specific and age-adjusted mortality rates attributable to lung cancer in the general population and select population groups
14. Age-specific and age-adjusted mortality rates attributable to HIV in the general population and select population groups
15. Age-adjusted and age-specific incidence rates for diagnosed AIDS cases among general and select population groups
16. Incidence rates for low birth weight and very low birth weight in the general population and select population groups
17. Age-adjusted and age-specific suicide rates for general population and select population groups

Indicator Category: Preventive Health Behaviors
Suggested Measures

1. Percent of young people (grades 9 to 12) in general and select population groups who have used tobacco products
2. Percent of adults 18 years and older in general and select population groups who have used tobacco products
3. Percent of young people (grades 9 to 12) in general and select population groups who participate in physical education program at school on a daily basis
4. Percent of adults 18 years and older in general and select population groups who engage regularly, preferably daily, in sustained physical activity for at least 30 minutes per day
5. Percent of adults 18 years and older in general and select population groups who engage in vigorous physical activity that promotes the development and maintenance of cardiorespiratory fitness for 3 or more days per week for 20 minutes per session

6. Percent of all pregnancies among women aged 15 to 44 that are planned
7. Percent of all females aged 15 to 44 at risk of unintended pregnancy who use effective contraception

Indicator Category: Access to Health Care System
Suggested Measures

1. Percent of general and select population groups without health care coverage
2. Percent of general and select population groups with specific source of ongoing primary care services
3. Percent of population and select population groups living within 60 miles of primary health care facility
4. Percent of general and select population groups who have coverage for clinical preventive services as part of their health insurance

INDICATOR SET B: PHYSICAL HEALTH, MENTAL HEALTH, DISABILITY, SOCIAL FACTORS, AND ECOLOGICAL FACTORS

Indicator Set B attempts to be all inclusive in nature by referencing all plausible factors that might directly impact or mediate health and health outcomes. It consists of 8 indicator categories with multiple measures suggested for each of the specific categories. Congruence between these 8 indicators and the 14 essential criteria are displayed in Table B, Appendix B. The measures rely heavily on epidemiological constructs and would require extensive reworking to ensure that they are meaningful to the general public and select population groups. Currently the total number of suggested measures is quite expansive and will require significant reduction in order for the set to be effective as a leading health indicator set that elicits public interest and motivates public actions. As with Indicator Set A and the remaining 4 Indicator Sets described below, there are specific references to both the general population and select population groups in order to emphasize the importance of elimination of health disparities. Similar to the other sample indicator sets, Set B does not impose relative weights of significance or importance on specific indicators or measures at this time, although it is likely that relative weights would be assigned if the set were to test well with the public and be included as a recommended leading health indicator set in the final report.

Indicator Category: Preventable Death
Suggested Measures

1. All-cause mortality rates age-adjusted and age-specific for general and select population groups
2. All-cause infant mortality rates for general and select population groups
3. Age-adjusted and age-specific mortality rates attributable to cardiovascular disease in general and select population groups
4. Age-adjusted and age-specific mortality rates attributable to all cancers for general and select population groups
5. Age-specific and age-adjusted mortality rates attributable to breast cancer in the general population and select population groups
6. Age-specific and age-adjusted mortality rates attributable to cervical cancer in the general population and select population groups
7. Age-specific and age-adjusted mortality rates attributable to colorectal cancer in the general population and select population groups
8. Age-specific and age-adjusted mortality rates attributable to lung cancer in the general population and select population groups
9. Age-specific and age-adjusted mortality rates attributable to prostate cancer in the general population and select population groups
10. Age-adjusted and age-specific mortality rates attributable to diabetes for general and select population groups
11. Age-specific and age-adjusted incidence rates for diagnosed AIDS cases among the general population and select population groups
12. Age-specific and age-adjusted mortality rates attributable to AIDS in the general population and select population groups
13. Age-specific and age-adjusted suicide rates for the general population and select population groups

Indicator Category: Preventable Morbidity
Suggested Measures

1. Incidence rates for pregnancies among females 15 to 17 years old in the general population group and specific population groups
2. Percent of women aged 15 to 44 years old in general population and special population groups who experience pregnancy despite use of a reversible contraceptive method
3. Number of chlamydia trachomatis infections among young persons 15 to 24 years old
4. Age-specific and age-adjusted incidence rates for gonorrhea for general and select population groups

5. Age-specific and age-adjusted incidence rates for diagnosed AIDS cases among the general population and select population groups
6. Age-specific and age-adjusted incidence rates for low birth weight and very low birth weight infants among the general and select population groups
7. Age-specific and age-adjusted incidence rates for preterm births in general population and select population groups
8. Age-specific and age-adjusted incidence rates for iatrogenic disease for general and select population groups

Indicator Category: Disabilities
Suggested Measures

1. Life expectancy at birth and at different ages of life (years of life lost) for general and select population groups
2. Years of healthy life for general and select population groups
3. Days of school or work lost due to activity limitations for general and select population groups
4. Percent of population able to perform usual activities of daily living for general and select population groups
5. Number of days in past 30 when general population and special population groups with activity limitations who need assistance felt healthy

Indicator Category: Mental Health
Suggested Measures

1. Percent of general and select population groups diagnosed with mental disorders
2. Percent of general and select population groups who have limitations due to mental or emotional problems who received services for their problems
3. Age-adjusted and age-specific suicide rates for general and select population groups
4. Percent of older adults (65 years and older) in general and select population groups diagnosed with depression who received services for their problems
5. Percent of children and adolescents who are diagnosed with mental and emotional problems who received services for their problems

Indicator Category: Health Status
Suggested Measure

1. Percent of general population and select population groups rating health as good or better

Indicator Category: Ecological
Suggested Measures

1. Age-specific and age-adjusted homicide rates for general population and select population groups
2. Age-specific and age-adjusted mortality and morbidity rates attributable to unintentional injuries for general population and select population groups
3. Age-specific and age-adjusted mortality and morbidity rates attributable to motor vehicle accidents for general population and select population groups
4. Age-specific and age-adjusted mortality and morbidity rates attributable to firearms for general population and select population groups
5. Age-specific and age-adjusted incidence of pedestrian injuries for general population and select population groups
6. Percent of general population and select population groups experiencing personal crime or physical violence
7. Prevalence of use of safety belts and child restraints among the general population and specific population groups
8. Age-specific and age-adjusted mortality and morbidity rates attributable to residential fires for general population and select population groups

Indicator Category: Preventive Health Behaviors
Suggested Measures

1. Incidence of pregnancies among females 15 to 17 years old in the general population and select population groups
2. Percent of all females aged 15 to 44 at risk of unintended pregnancy who use effective contraception in the general population and select population groups
3. Percent of young people (grades 9 to 12) in general and select population groups who have used tobacco products
4. Percent of adults 18 years and older in general and select population groups who have used tobacco products

5. Age-specific and age-adjusted morbidity rates attributable to alcohol-related motor vehicle accidents in the general population and select population groups
6. Age-specific and age-adjusted mortality rates attributable to alcohol-related motor vehicle accidents in the general population and select population groups
7. Percent of high school seniors in the general population and select population groups reporting they have never used alcohol or any illicit drug
8. Average age of first use of alcohol and marijuana by adolescents aged 12 to 17 years in the general population and select population groups
9. Percent of youth aged 12 to 17 years in general and select population groups reporting use of alcohol during the past 30 days
10. Percent of youth aged 12 to 17 years in general and select population groups reporting use of marijuana during the past 30 days
11. Percent of youth aged 12 to 17 years in general and select population groups reporting use of illicit drugs during the past 30 days
12. Percent of children and adolescents 2 to 17 years old in general and select population groups who are at medically recommended weight levels
13. Percent of adults 18 years and older in the general population and select population groups who are at medically recommended weight levels
14. Percent of people aged 2 years and older in the general population and select population groups who report eating 5 or more servings of fruits and vegetables per day
15. Percent of people aged 2 years and older in the general population and select population groups who report eating at least 6 servings of grain products per day
16. Percent of young people (grades 9 to 12) in the general and select population groups who participate in physical education programs at school on a daily basis
17. Percent of adults 18 years and older in the general population and select population groups who engage in regular, preferably daily, sustained physical activity for at least 30 minutes per day
18. Percent of adults 18 years and older in the general population and select population groups who engage in vigorous physical activity that promotes the development and maintenance of cardiorespiratory fitness for 3 or more days per week for 20 minutes per session
19. Percent of infants in the general population and select population groups receiving all recommended immunizations by 19 to 35 months
20. Percent of adults 18 years and older in the general population and select population groups receiving age-appropriate immunization coverage
21. Percent of women 50 years and older in the general population and select population groups who have had a mammogram in the past year
22. Percent of sexually active women in the general population and select population groups who have had a Pap test in the past 3 years
23. Percent of adults 50 years and older in the general and select population groups who have had a flexible sigmoidoscopic exam in the past 1 to 5 years
24. Percent of adults 18 years and older in the general population and select population groups who have had blood pressure checked in preceding 2 years and can state whether their blood pressure was normal or high

25. Percent of adults 18 years and older in the general population and select population groups who have had their blood cholesterol level checked within the past 5 years and can state whether their cholesterol was acceptable or high

Indicator Category: Access to Health Care
Suggested Measures

1. Percent of general population and select population groups without health care coverage
2. Percent of general population and select population groups who have coverage for clinical preventive services as part of their health insurance
3. Percent of general population and select population groups with specific source of ongoing primary care services
4. Percent of general population and select population groups living within 60 miles of primary care health facility
5. Average dollar amount spent on health care per individual in past year for the general population and select population groups
6. Proportion of annual health dollars spent on primary, secondary, tertiary prevention, technology development and research

INDICATOR SET C: ECOLOGICAL FACTORS

This is a relatively simple model with a primary emphasis on ecological factors that affect health and health outcomes. Rather than measuring specific health behaviors or dimensions, it assesses factors or policies that are likely to mediate these health behaviors. It consists of only nine indicators, which could facilitate dissemination to the general population and select population groups. This advantage however, is offset by the likelihood that these specific measures may not be readily recognizable by, or understandable to various population groups, which may undermine their ability to motivate personal action. Furthermore, the indicators and suggested measures are not directed toward individual behaviors that might be susceptible to change. Consequently, it may be difficult to develop a dissemination plan for this sample indicator set that effectively engages the public. Appendix C contains the table displaying congruence between indicators and the 14 essential criteria. This model does address the important topic of health disparities by referencing both the general population and select population groups as measurement targets.

Indicator Category: Education Level
Suggested Measure

1. Percent of students in general population and select population groups graduating from high school

Indicator Category: Air Quality
Suggested Measure

1. Percent of general population and select population groups living in counties that do not meet air quality standards

Indicator Category: Fiscal Access
Suggested Measures

1. Percent of children in general population and select population groups living in families/households with incomes below the federal poverty level
2. Percent of general population and select population groups living in households with incomes below the federal poverty level

Indicator Category: Health Literacy
Suggested Measure

1. Percent of health education materials written at sixth-grade level that are culturally and language-appropriate

Indicator Category: Homelessness
Suggested Measure

1. Percent of the general population and select population groups who are homeless (including those living in shelters for the homeless)

Indicator Category: Violence
Suggested Measure

1. Percent of general population and select population groups reporting that they feel it is safe to walk unattended in their community at night

Indicator Category: Tobacco
Suggested Measures

1. Average excise tax on tobacco products
2. Average rate at which minors in general population and select population groups are able to purchase tobacco products as indicated from compliance checks

Indicator Category: Injury
Suggested Measure

1. Percent of general population and select population groups living in communities that require helmets to be worn when riding a bicycle and motorcycle

INDICATOR SET D: PRIMARY, SECONDARY, TERTIARY PREVENTION

Indicator Set D is expressed as a series of 4 questions. (1) how do we keep ourselves well; (2) if we are getting sick, how can we find disease early; (3) if we are sick or disabled, how do we keep from getting worse; and (4) how healthy are we? The use of 4 simple questions is appealing in that they speak directly to issues that the general public and select population groups will likely comprehend. Each question is followed by a series of health indicators and potential measures that suggest individual or community-based action in order to improve the nation's answers to each of the 4 questions. Congruence between the indicators and the 14 essential criteria is displayed in Table D, Appendix D. The indicators are not weighted in any manner at present, although this would be necessary for this set to be accepted as a recommended leading health indicator set for the final report. Furthermore, at this stage of development, the set consists of too many suggested measures, but, as with Indicator Set B, these can be reduced. The issue of elimination of health disparities is handled effectively by this framework as it is in the other sets with reference to the general population and select population groups for each of the suggested measures. This framework lends

itself easily to the development of a dissemination plan based on the 4 primary or leading health questions.

How Do We Keep Ourselves Well?

Indicator Category: Primary Prevention
Suggested Measures

1. Percent of infants in the general population and select population groups receiving all recommended immunizations by 19 to 35 months
2. Percent of adults 18 years and older in the general population and select population groups receiving age-appropriate immunization coverage
3. Percent of young people (grades 9 to 12) in general and select population groups who report having used tobacco products
4. Percent of adults 18 years and older in general and select population groups who report having used tobacco products
5. Percent of general population and select population groups who are living in counties with acceptable air quality greater than 75 percent of the time
6. Percent reduction in emissions due to increases in number of trips made by bicycling, walking, mass transit and telecommuting among the general population and select population groups
7. Percent of young people (grades 9 to 12) who participate in a physical education program at school on a daily basis
8. Percent of adults 18 years and older in the general population and select populations who engage regularly, preferably daily, in sustained physical activity for at least 30 minutes per day
9. Percent of adults 18 years and older who engage in vigorous physical activity that promotes the development and maintenance of cardiorespiratory fitness for 3 or more days per week for 20 minutes per session
10. Percent of high school seniors in general and select population groups reporting they have never used alcoholic beverages or any illicit drug
11. Percent of adolescents aged 12 to 17 in general and select population groups reporting use of alcohol during the past 30 days
12. Percent of adolescents aged 12 to 17 in general and select population groups reporting use of marijuana during the past 30 days
13. Percent of adolescents aged 12 to 17 in general and select population groups reporting use of illicit drugs during the past 30 days
14. Age-adjusted and age-specific morbidity rates attributable to alcohol-related motor vehicle accidents in the general population groups
15. Age-adjusted and age-specific morbidity rates attributable to alcohol-related motor vehicle accidents in the general population groups

16. Percent of adolescents and young adults aged 12 to 24 in the general population and select populations who remain alcohol and drug-free
17. Percent of children in the general population and select population groups living in families/ households with incomes below the federal poverty level
18. Percent of the general population and select population groups living in households with incomes below federal poverty level
19. Percent of health education materials written at 6th grade level that are culturally and language-appropriate
20. Percent of children and adolescents ages 2 to 17 in general and select population groups who are at medically recommended weight levels
21. Percent of adults 18 years and older in the general population and select population groups who are at medically recommended weight levels
22. Percent of people aged 2 years and older in the general population and select population groups who report eating 5 or more servings of fruits and vegetables per day
23. Percent of people aged 2 years and older in the general population and select population groups who report eating at least 6 servings of grain product per day
24. Percent of students in the general population and select population groups completing high school
25. Percent of general population and select population groups experiencing personal crime or physical violence
26. Percent of the general population and select population groups who are homeless (including those living in homeless shelters for the homeless)

If We Are Getting Sick, How Can We Detect Disease Early?

Indicator Category: Secondary Prevention

Suggested Measures

1. Percent of general population and select population groups with specific source of ongoing health care services
2. Percentage of general population and select population groups living within 100 miles of a tertiary care center
3. Proportion of health dollars spent on general population and select population groups for secondary prevention
4. Percent of women 50 years and older in the general population and select population groups who have had a mammogram in the past year
5. Percent of sexually active women in the general population and select population groups who have had a Pap test in the past 3 years
6. Percent of adults 50 years and older in general and select population groups who have had a flexible sigmoidoscopic exam in the past 1 to 5 years

7. Percent of adult males 50 years and older in the general population and select population groups who have had a DRE and prostate-specific antigen test in the past year
8. Percent of persons in the general population and select population groups with diabetes whose condition has been diagnosed

If We Are Sick or Disabled, How Do We get Better and Not Worse?

Indicator Category: Tertiary Care
Suggested Measures

1. Percent of general population and select population groups having a regular source of health care coverage
2. Percent of general population and select population groups living within 100 miles of a tertiary care center
3. Proportion of total health dollars spent on general population and select population groups for tertiary care
4. Percent of general population and select population groups with access to state-of-the-science medical interventions for all cancers
5. Percent of general population and select population groups with access to state-of-the-science medical interventions for asthma or chronic obstructive pulmonary disease
6. Age-specific and age-adjusted incidence rates among general population and select population groups for iatrogenic illness
7. Percent of general population and select population groups with access to state-of-the-science medical interventions for diabetic complications
8. Percent of general population and select population groups with access to state-of-the-science medical interventions for cardiovascular disease

How Healthy Are We?

Indicator Category: Health Status
Suggested Measures

1. Percent of all pregnancies among women aged 15 to 44 in the general population and select population groups that are planned
2. Percent of all females aged 15 to 44 among the general population and select population groups at risk for unintended pregnancy who use effective contraceptives
3. Percent of general population and select population groups able to perform usual activities of daily living

4. All-cause infant mortality rates for the general population and select population groups
5. Age-adjusted and age-specific all cause mortality rates for the general population and select population groups
6. Age-adjusted and age-specific mortality rates attributable to cardiovascular disease in the general population and select population groups
7. Age-adjusted and age-specific mortality rates attributable to all cancers in the general population and select population groups
8. Age-adjusted and age-specific mortality rates attributable to specific cancers in the general population and select population groups
9. Age-adjusted and age-specific mortality rates attributable to diabetes in the general population and select population groups
10. Number of days of school or work lost due to activity limitations among the general population and select population groups
11. Years of healthy life for the general population and select population groups
12. Percent of the general population and select population groups rating their health as good or better
13. Number of cases of diagnosed chlamydia trachomatis infections among young persons 15 to 24 years old in the general population and select population groups
14. Age-specific and age-adjusted incidence rates attributable to gonorrhea in the general population and select population groups
15. Age-specific and age-adjusted incidence rates attributable to HIV in the general population and select population groups
16. Incidence of pregnancies among females 15 to 17 years old in the general population and special population groups
17. Incidence rates in the general population and select population groups for low birth weight and very low birth weight infants
18. Percent of general and select population groups who report limitations due to mental or emotional problems
19. Percent of general and select population groups diagnosed with mental illness and receiving treatment
20. Age-specific and age-adjusted suicide rates for general and select population groups
21. Percent of older adults (65 years and older) in general and select population groups diagnosed with depression and receiving treatment
22. Percent of young people aged 12 to 17 in the general population and select population groups reporting the use of illegal substances in past 30 days
24. Age-specific and age-adjusted morbidity rates attributable to motor vehicle accidents for the general population and select population groups
25. Age-specific and age-adjusted mortality rates attributable to motor vehicle accidents for the general population and select population groups
26. Age-specific and age-adjusted mortality rates attributable to firearms for the general population and select population groups

27. Age-specific and age-adjusted morbidity rates attributable to firearms for the general population and select population groups
28. Age-specific and age-adjusted mortality rates attributable to residential fires for the general population and select population groups
29. Age-specific and age-adjusted morbidity rates attributable to residential fires for the general population and select population groups
30. Age-specific and age-adjusted incidence rates for hip fracture among older adults (65 years and older) in general population and select population groups
31. Age-specific and age-adjusted morbidity and mortality rates attributable to complications associated with hip fractures among older adults (65 years and older) in the general population and select population groups
31. Age-specific and age-adjusted morbidity and mortality rates for general population and select population groups who have experienced an unintentional personal injury

INDICATOR SET E: PERSONAL BEHAVIOR, OCCUPATIONAL ISSUES, INDICATORS OF DISEASE, SERVICES, ENVIRONMENT (POISE)

This sample indicator set covers all of the issues directly and indirectly associated with health behaviors and outcomes but is somewhat more limited in scope than its counterpart Indicator Set B. It addresses the issue of elimination of health disparities through specification of select population groups and the general population in each of the suggested measures, thereby keeping health disparities a salient and important target. Congruence between the 14 essential criteria and each indicator is displayed in Table E, Appendix E. This indicator set requires reduction of the suggested measures within each indicator category, to ensure that the set is of a reasonable size and content for inclusion as a recommended indicator set in the final report. The various indicator categories within the title of the indicator set form an acronym, POISE, that might elicit public attention and promote engagement in appropriate behaviors. However, the acronym and the full set of indicators require evaluation by the general population and select population groups to determine their effectiveness in engaging and motivating the public. As with the other 5 sample indicator sets, weights have not been assigned either to the indicator categories or to suggested measures, which implies that all are equivalent in their impact on health outcomes. The committee is currently addressing the issue of weighting specific measures for each of the 6 sample indicator sets.

Indicator Category E: Preventive Health Behaviors

Suggested Measures

1. Percent of young people (grades 9 to 12) in general and select population groups who have used tobacco products

2. Percent of adults 18 years and older in general and select population groups who have used tobacco products
3. Percent of young people (grades 9 to 12) in general and select population groups who participate in physical education programs at school on a daily basis
4. Percent of adults, age 18 and older in the general population and select population groups who engage regularly, preferably daily, in sustained physical activity for at least 30 minutes, 5 or more times each week
5. Percent of adolescents (aged 12 to 17 years) in general and select population reporting use of alcohol during the past 30 days
6. Age-specific and age-adjusted morbidity and mortality rates attributable to alcohol-related motor vehicle accidents in general and select population groups
7. Percent of health education materials written at sixth-grade level that are culturally and language-appropriate
8. Percent of children and adolescents (aged 2 to 17) in general and select population groups who are at medically recommended weight levels
9. Percent of adults 18 years and older in the general population and select population groups who are at medically recommended weight levels

Indicator Category: Occupational and Ecological Issues
Suggested Measures

1. Percent of general population and select population groups who are exposed to secondhand smoke in workplace
2. Years of healthy life for general population and select population groups
3. Percent of general population and select population groups able to perform usual activities of daily living
4. Days of school/work lost in general population and select population groups due to disabilities
5. Percent of worksite health and wellness education materials available at the sixth-grade reading level that are culturally and language-appropriate for the general population and select population groups
6. Percent of worksites offering culturally and language-appropriate health education materials at sixth-grade reading level, and interventions relevant to sexually transmitted diseases and HIV to general population and select population groups
7. Percent of general population and select population groups experiencing a work-related injury and receiving appropriate medical intervention
8. Percent of worksites offering the PSA blood test to men 40 years and older in the general population and select population groups
9. Percent of worksites offering mammograms and breast exams to women 40 ears and older in the general population and select population groups

10. Percent of worksites providing insurance coverage for cancer screening exams for the general population and select population groups
11. Percent of worksites offering blood pressure screenings to employees 21 years and older in the general population and select population groups
12. Percent of worksites providing insurance coverage for cardiovascular screening exams for the general population and select population groups
13. Percent of worksites offering cholesterol profile screenings to employees 21 years and older in the general population and select population groups
14. Percent of worksites providing coverage for prenatal care for the general population and select population groups
15. Percent of worksites offering incentives to employees in the general population and select population groups, who are expecting the birth of a child, to complete full prenatal care programs
16. Percent of worksites offering glucose screening for employees 21 years and older in the general population and select population groups
17. Percent of worksites providing insurance coverage for diabetes screening exams in the general population and select population groups
18. Percent of worksites providing insurance coverage for screening for diabetic complications in the general population and select population groups
19. Percent of worksites providing insurance coverage for secondary and tertiary prevention of asthma or chronic obstructive pulmonary disease for the general population and select population groups

Indicator Category: Indicators of Disease Incidence and Outcomes
Suggested Measures

1. All-cause infant mortality rates for the general population and select population groups
2. Age-specific and age-adjusted incidence rates attributable to chlamydia trachomatis among young persons (15 to 24 years olds) in the general population and select population groups
3. Age-specific and age-adjusted incidence rates for gonorrhea among the general population and select population groups
4. Age-specific and age-adjusted incidence rates of diagnosed AIDS cases among the general population and select population groups
5. Percent of women 15 to 44 years old in the general population and select population groups who experience pregnancy despite use of a reversible contraceptive device
6. Percent of women 50 years and older in the general population and select population groups who have had a mammogram in the past year
7. Percent of sexually active women in the general population and select population groups who have had a Pap test in the past 3 years
8. Percent of adults 50 years and older in the general population and select population groups who have had a flexible sigmoidoscopic exam in the past 1 to 5 years

9. Percent of males 50 years and older in the general population and select population groups who have had a DRE and PSA test in the past year
10. Incidence rates for low birth weight and very low birth weight for the general population and select population groups
11. Percent of adults 18 years and older in the general population and select population groups who have had their blood pressure checked in the preceding 2 years and can state whether their blood pressure was normal or high
12. Percent of adults 18 years and older in the general population and select population groups who have had their blood cholesterol checked within the past 5 years and can state whether their cholesterol level was acceptable or high
13. Percent of persons in the general population and select population groups with diabetes whose condition has been diagnosed.

Indicator Category: Service Availability
Suggested Measures

1. Percent of general population and select population groups without health care coverage
2. Percent of general population and select population groups with a usual source of primary health care
3. Percent of general population and select population groups living within 60 miles of a primary care health facility
4. Proportion of total health care expenditures for general population and select population groups allocated to primary, secondary, and tertiary prevention; health research; and health technology
5. Percent of infants in the general population and select population groups who receive all recommended immunizations by 19 to 35 months
6. Percent of adults 18 years and older in the general population and select population groups receiving age-appropriate immunization coverage 7 Age-specific and age-adjusted incidence rates attributable to iatrogenic disease in the general population and select population groups
8. Age-specific and age-adjusted mortality rates attributable to iatrogenic disease in the general population and select population groups

Indicator Category: Environment and Ecological
Suggested Measures

1. Proportion of country that is targeted as no-smoking zones

2. Percent of general population and select population groups who are living in counties with acceptable air quality greater than 75 percent of the time
3. Percent of children in the general population and select population groups living in families households with incomes below the federal poverty level
4. Percent of the general population and select population groups living in households with incomes below the federal poverty level.
5. Age-specific and age-adjusted morbidity rates attributable to motor vehicle accidents among the general population and select population groups injured
6. Age-specific and age-adjusted mortality rates attributable to motor vehicle accidents in the general population and select population groups
7. Age-specific and age-adjusted morbidity rates attributable to firearms among the general population and select population groups
8. Age-specific and age-adjusted mortality rates attributable to firearms in the general population and select population groups in past year
9. Percent of general population and select population groups experiencing personal violence or crime
10. Age-specific and age-adjusted mortality rates attributable to personal violence or crime in the general population and select population groups
11. Age-specific and age-adjusted morbidity rates attributable to unintentional injuries among the general population and select population groups
12. Age-specific and age-adjusted mortality rates attributable to unintentional injuries in the general population and select population groups in past year
13. Percent of the general population and select population groups who are homeless (including those living in shelters for the homeless)

INDICATOR SET F: ENABLING GOALS FOR HEALTHY PEOPLE 2010

The final sample set of indicators is adapted from *Healthy People 2010* in that it uses the four enabling goals to provide a framework around which indicators and suggested measures can be organized. Rather than selecting indicator categories from the master list of candidate indicators (Table 4-1), this organizational structure relies on the four enabling goals to define priority areas for indicators. This model is particularly attractive given its close integration with the *Healthy People 2010* effort. However, it is currently constrained by two primary issues—the total number of indicators and measures and its questionable level of recognition by the general public and select population groups. It is highly likely however to elicit support and credibility with the public health community given the direct link with *Healthy People 2010.* The elimination of health disparities is addressed in the same manner in which the previous five frameworks have dealt with this issues. At this point, the committee has not selected a plan to weight individual indicators and measures, which is essential if the total number of measures and indicators is to be reduced to a reasonable number for a leading health indicator set. Appendix F displays the chart providing an evaluation of congruence between indicators and the 14 essential criteria.

Increase Years of Healthy Life

Suggested Measures

1. Days of school or work lost due to disabilities in the general population and select population groups
2. Percent of the general population and select population groups rating personal health as good or better
3. Percent of general and select population groups diagnosed with mental or emotional disorders
4. Percent of general population and select population groups who have limitations due to emotional or mental problems who received services for their problems
5. Age-adjusted and age-specific suicide rates for the general population and select population groups
6. Percent of older adults (65 years and older) in the general population and select population groups diagnosed with depression who received services for their condition
7. All-cause infant mortality rates for general population and select population groups
8. Age-specific and age-adjusted incidence rates among general population and select population groups attributable to cardiovascular disease
9. Age-specific and age-adjusted morbidity and mortality rates attributable to cardiovascular disease in the general population and select population groups
10. Age-adjusted and age-specific all-cause mortality rates for the general population and select population groups
11. Life expectancy at birth and different ages of life for the general population and select population groups
12. Years of healthy life for the general population and select population groups
13. Days of school or work lost due to disabilities in the general population and select population groups
14. Percent of the general population and select population groups able to perform usual activities of daily living
15. Percent of the general population and select population groups rating health as good or better
16. Incidence rates for pregnancies in females 15 to 17 years old in the among general population and select population groups
17. Age-specific and age-specific incidence rates for chlamydia trachomatis in females 15 to 24 years old in the general population and select population groups
18. Age-specific and age-adjusted incidence rates for gonorrhea among the general population and select population groups
19. Age-specific and age-adjusted incidence rates among the general population and select population groups for diagnosed AIDS cases
20. Age-specific and age-adjusted mortality rates among general population and select population groups for diagnosed AIDS cases
21. Age-specific and age-adjusted incidence rates attributable to hip fractures among the general population and select population groups for hip fractures

Indicator Category: Preventive Health Behaviors
Suggested Measures

1. Percent of young people (grades 9 to 12) in general and select population groups who have used tobacco products
2. Percent of adults 18 years and older in the general and select population groups who have used tobacco products
3. Percent of general population and select population groups living in communities that require helmets to be worn when riding a bicycle or motorcycle
4. Percent of young people (grades 9 to 12) in general and select population groups who participate in physical education programs at school on a daily basis
5. Percent of adults 18 years and older in general population and select population groups who engage in regular, preferably daily sustained physical activity for at least 30 minutes per day
6. Percent of people aged 2 and older in the general population and select population groups who report eating 5 or more servings of fruits and vegetables per day
7. Percent of people aged 2 and older in the general population and select population groups who report eating at least 6 servings of grain products per day
8. Percent of high school seniors in the general population and select population groups reporting they have never used alcohol or any illicit drug
9. Average age of first use of alcohol and marijuana by adolescents aged 12 to 17 years in the general population and select population groups
10. Percent of culturally and language-appropriate health education materials and interventions prepared at the 6th grade reading level and intended for the general population and select population groups
11. Percent of children and adolescents (aged 2 to 17) in general and select population groups who are at medically recommended weight levels
12. Percent of adults 18 years and older in the general population and select population groups who are at medically recommended weight levels

Indicator Category: Protective Health Behavior
Suggested Measures

1. Age-specific and age-adjusted incidence rates attributable to unintentional injury in the general population and select population groups
2. Incidence rates for pregnancy among females 15 to 17 years old in the general population and select population groups
3. Percent of women 15 to 44 years old in the general population and select population groups who experience pregnancy despite use of a reversible contraceptive method

4. Percent of general population and select population groups age 18 or older who have had blood pressure check in past year and can report if it was normal or high
5. Percent of adults 18 years and older in the general who have had their cholesterol checked in the past 5 years and can report if it was acceptable or high
6. Percent of women 50 years and older in the general population and select population groups who have had a mammogram in the past year
7. Percent of sexually active women in the general population and select population groups who have had a Pap test in the past 3 years
8. Percent of adults 50 years and older in general and select population groups who have had a flexible sigmoidoscopic exam in the past 5 years
9. Percent of general population and select population groups at elevated risk for diabetes who have had blood glucose screening in past year

Indicator Category: Access to Quality Health Care
Suggested Measures

1. Percent of general population and select population groups without health care coverage
2. Percent of infants in the general population and select population groups receiving all recommended immunizations by 19 to 35 months
3. Percent of adults 18 years and older in the general population and select population groups having had age-appropriate immunization coverage
4. Percent of general population and select population groups with health insurance coverage for substance abuse treatment programs
5. Percent of general population and select population groups currently identified as substance abusers who have been referred to treatment 6 Percent of general population and select population groups with health insurance coverage for clinical preventive services
7. Percent of general population and select population groups living within 100 miles of a tertiary care center

Indicator Category: Community Prevention
Suggested Measures

1. Percent of eligible students in general population and select population groups who have completed high school
2. Age-specific and age-adjusted morbidity, and mortality rates attributable to firearms for the general population and select population groups

3. Percent of general population and select population groups who have experienced personal crime or physical violence
4. Age-adjusted and age-specific morbidity and mortality rates attributable to motor vehicle accidents among the general population and select population groups
5. Percent of the general population and select population groups who are homeless (including those living in shelters for the homeless)

6

Issues and Challenges

Review of the sample indicator sets demonstrates the need for additional data collection and analysis to be conducted before the committee determines sets of indicators to recommend to the Secretary of Health and Human Services. Some obvious modifications that will be made include the following: (1) identification and evaluation of additional indicator sets; (2) reduction of the number of suggested measures for each set of indicators; (3) revision and clarification of the wording for specific suggested measures for each indicator category; (4) prioritization of the indicator set(s) that could be used to assess public opinion and reactions through focus group discussions; and (5) identification of appropriate data sources for each measure that is selected or recommendation of a new data collection effort to provide the desired information. The committee is also working to resolve a number of additional issues concerning the format, content, measurement, and dissemination of different indicators and their associated measures. These are summarized briefly below.

1. How can a balance be achieved between indicator sets that affect change at the individual level and those that have a primary focus on the community?
2. How can a balance be achieved that will ensure representation of both determinants and outcomes of health?
3. How can indicators and measures be selected that are based on good science rather than public opinion?
4. How can health measures, social determinants, and community measures be balanced in one set of indicators; is it more feasible to have three small sets of leading health indicators representative of each of these areas?
5. How can focus be retained the way the public views health without losing sight of the science?
6. How to maintain the importance of having indicators and related measures "shaped" by public comment?
7. How can credibility and support for indicators and measures be maintained with individuals, groups, organizations, health professionals and others involved in the delivery of health care education and services to the general public and select population groups?

8. Are there more effective ways to deal with the health disparities issue?
9. How do we deal with "end-of-life-issues" such as pain relief, nursing home care, and extreme measures to extend life?
10. How do we deal with the growing field of genetics with respect to genetic susceptibility to disease, gene therapy, and the ability to manipulate genes and alter health status and outcomes?
11. How do we deal with computer technology, data collection, data reporting, and the confidentiality of medical records and research?
12. How do we deal with the issue that the leading health indicators imply some sort of normative standard for the achievement or performance (as do all the objectives for *Healthy People 2010*) that may or may not be acceptable to the general public or select population groups?

7

Future Activities of the IOM Committee

In the interval between the third and fourth meetings of the IOM committee, members and IOM staff will be working on 5 priority activities in order to prepare for the recommendation of a minimum of 2 sets of leading health indicators for the final report to be released April 1, 1999. These include: (1) refinement of the 6 sample indicator sets included in the second interim report; (2) continued search for and review of potential indicator sets, measures and data sources; (3) convening a public forum to elicit comments from the public health community; (4) review of electronic comments from the public and the public health community regarding the second interim report; and (5) conducting ten focus group sessions with representatives of the general population, select population groups, community groups, academia, and the media to determine if the various indicator sets will engage interest, motivate action at the individual and community levels, and elicit support for dissemination through the media. Details about these 5 activities are provided below.

Refinement of Six Sample Indicator Sets As noted in the discussions preceding each of the six sample indicator sets, there remains a need to review each set carefully to ensure that it is responsive to the full charge to the committee and that they each meet the 14 essential criteria established by the committee. Much of this review will focus on reduction of the sample sets to more manageable numbers of suggested measures and discussion of the issue of weighting. The committee recognizes the importance of determining whether each indicator and suggested measure is equivalent to all others in assessing the health of the public and of select population groups. If it is determined that a weighting scheme will refine interpretation of the indicators and its associated measures, the committee will then have to identify the most effective strategy to calculate such weights. Strategies could range from simply ranking the indicators in order of importance and assigning weights reflective of the rankings, to a more complicated statistical analysis in which coefficients could be calculated for each indicator and suggested measure that would reflect their independent contribution to the health of the general population and select population groups. In addition, once an indicator set has been reduced to its essential measures (weighted or not), the committee will conduct a careful

review of the actual language of each measure to ensure that it is recognizable and engaging to the general population and select population groups. These efforts will be facilitated by comments received from the public health community and, more important, by the results of proposed focus group discussions with representatives of the target populations.

Search for Additional Sample Indicator Sets The IOM staff will continue to provide committee members with examples of indicator sets published in the extant literature during the interval between the October 1998 and January 1999 meetings. This is intended to ensure that the committee reviews as many plausible sets of leading health indicators as possible, prior to selecting sets that will be recommended to the Secretary of Health and Human Services.

Public Workshop Tentative plans have been made for a public workshop to be convened during the morning session of the first day of the January 1999 meeting (January 27, 1999). It is unlikely that members of the "public" for whom these sets of leading health indicators are being developed will be recruited in great numbers (if at all) for this workshop. Rather, it is expected that "traditional" members of the public health community and Healthy People Consortium will attend the workshop as an opportunity to react to the second interim report and learn about the findings from the electronic commentary and focus group discussions. Results from the regional meetings convened by DHHS during September through December 1998 will supplement commentary received at this public workshop. IOM staff have attended all of the regional meetings, and 2 committee members have participated in 3 of the 5 meetings.

Electronic Commentary A Web site has been established for both the first and the second interim reports to elicit comments and suggestions for modifications. A direct message will be sent to community level groups such as rotary clubs, faith groups, local media, and volunteer organizations to elicit their opinions of the sample indicator sets described in the second interim report as well as any additional sample sets that are developed during November and December 1998. The targeted request for comments will be released on or around December 15, 1998, which will allow a full four weeks for responses before the January committee meeting.

Focus Group Discussions with Target Audiences. At the ***strong*** recommendation of the IOM committee, IOM staff have sought additional funds from external sources to support the conduct of a number of focus group discussions with members of the general population and select population groups throughout the country. These groups will also include members of the print and electronic media. Results of the focus groups will facilitate selection of the final sets of indicators, as well as guide formulation of effective dissemination and evaluation plans for the recommended leading health indicator sets during the decade 2000 to 2010. The committee acknowledges that the public health community has been, and will continue to be, an essential player in selection of the indicator sets recommended in the final report. However, in order to meet the committee's charge to select indicators that engage and motivate the general public and select population groups, it will be necessary to solicit input from these primary target groups. Focus group discussions conducted throughout the United States will help to ensure that selection of the final indicator sets is moderated

by comments from the audiences that will actually be targeted by the indicators. Consequently, the final selection of indicator sets will rely on testimony from the public, media, public health community, and science. This will ensure that the committee does not simply look at the science and make judgments based on scientific evidence about the selection of indicator sets.

The outcomes of these 5 processes will lead to the development of a minimum of 2 sets of leading health indicators to be recommended to the Secretary of Health and Human Services. These sets will be accompanied by dissemination plans and recommendations for the sources and frequency of data collection, analysis, and reporting. The final report will be submitted to the Secretary of Health and Human Services on April 1, 1999.

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Appendix A

Sample Set A Indicators

Sample Set A Indicators

Criteria for Indicators	Health Outcomes	Disease Outcomes	Preventive Health Behaviors	Access to Health Care
1. the general public, opinion leaders, and the health and medical communities can easily interpret and understand the indicators	TBD*	TBD	TBD	TBD
2. they reflect topics that affect the health profile of the nation's populations in important ways	Y	Y	Y	Y
3. they address problems that are sensitive to change and have a substantial impact on prospects for the health of the nation's population	Y		Y	Y
4. they can be linked to one or more of the full set of Healthy People 2010 objectives	Y	Y	Y	Y
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 broad scope perspective for a significant proportion of the population	TBD	TBD	TBD	TBD
6. they have multilevel trackability to ensure that data can be anticipated at multiple levels (national, state, local, and community) and for selected population groups	Y	Y	Y	Y
7. they are reflective of a balance in the selection of targets that does not overemphasize any one group or health condition	Y	Y	Y	Y
8. they have utility in directing public policy and operation initiatives	Y	Y	Y	Y
9. they must be catalytic in nature to motivate actions across multiple select populations as defined by race, ethnicity, gender, age, education levels, socio-economic levels, and disability status	N	N	N	Y
10. they must have a dissemination plan that will ensure that messages will be appropriate and understandable by diverse populations. The frequency of these messages will be sufficient to provoke changes in knowledge and behaviors, and the use of multi cultural and multidisciplinary strategies for communication and intervention will be emphasized	Y	Y	Y	Y
11. they will address primary, secondary, and tertiary prevention issues as well as environmental and socio-cultural determinants of health	Y	Y	Y	Y
12. they will encompass the Healthy People 2010 vision of eliminating health disparities and improving the number and quality of years of healthy life	TBD	TBD	TBD	TBD
13. they will effect positive changes and promote behavior change by encouraging and supporting involvement of the general public and select populations that will result in significant and sustained changes in health outcomes	TBD	TBD	TBD	TBD
14. they will establish a level of credibility and support from individuals, groups, organizations, health professionals, and others involved in the delivery of health care education and services to the general public and select population groups	TBD	TBD	TBD	TBD

*To be determined following collection of additional information re data sources and/or promotion of changes in the publics's knowledge, and health behaviors.

Appendix B

Sample Set B Indicators

Sample Set B Indicators

Criteria for Indicators	Preventable Deaths	Preventable Morbidity	Disabilities	Mental Health	Health Status	Ecological	Prev. Health Behavior	Mental Health
1. the general public, opinion leaders, and the health and medical communities can easily interpret and understand the indicators	TBD*	TBD	TBD	TBD	TBD	TBD	TBD	TBD
2. they reflect topics that affect the health profile of the nation's populations in important ways	Y	Y	Y	Y	Y	Y	Y	Y
3. they address problems that are sensitive to change and have a substantial impact on prospects for the health of the nation's population	Y	Y	Y	Y	Y	Y	Y	Y
4. they can be linked to one or more of the full set of Healthy People 2010 objectives	Y	Y	Y	Y	Y	Y	Y	Y
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 broad scope perspective for a significant proportion of the population	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
6. they have multilevel trackability to ensure that data can be anticipated at multiple levels (national, state, local, and community) and for selected population groups	Y	Y	Y	Y	Y	Y	Y	Y
7. they are reflective of a balance in the selection of targets that does not over emphasize any one group or health condition	Y	Y	Y	Y	Y	Y	Y	Y
8. they have utility in directing public policy and operation initiatives	Y	Y	Y	Y	Y	Y	Y	Y
9. they must be catalytic in nature to motivate actions across multiple select populations as defined by race, ethnicity, gender, age, education levels, socioeconomic levels, and disability status	N	N	Y	Y	Y	Y	N	Y
10. they must have a dissemination plan that will ensure that messages will be appropriate and understandable by diverse populations. The frequency of these messages will be sufficient to provoke changes in knowledge and behaviors, and the use of multi cultural and multi disciplinary strategies for communication and intervention will be emphasized	Y	Y	Y	Y	Y	Y	Y	Y
11. they will address primary, secondary, and tertiary prevention issues as well as environmental and socio-cultural determinants of health	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
12. they will encompass the Healthy People 2010 vision of eliminating health disparities and improving the number and quality of years of healthy life	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
13. they will effect positive changes and promote behavior change by encouraging and supporting involvement of the general public and select populations that will result in significant and sustained changes in health outcomes	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
14. they will establish a level of credibility and support from individuals, groups, organizations, health professionals, and others involved in the delivery of health care education and services to the general public and select population groups	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD

*To be determined following collection of additional information re data sources and/or promotion of changes in the publics's knowledge, and health behaviors.

Appendix C

Sample Set C Indicators

Sample Set C Indicators

Criteria for Indicators	Education	Air Quality	Fiscal Access	Health Literacy	Homelessness	Violence	Tobacco	Injury
1. the general public, opinion leaders, and the health and medical communities can easily interpret and understand the indicators	TBD*	TBD	TBD	TBD	TBD	TBD	TBD	TBD
2. they reflect topics that affect the health profile of the nation's populations in important ways	Y	Y	Y	Y	Y	Y	Y	Y
3. they address problems that are sensitive to change and have 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	Y	Y	Y	Y	Y	Y	Y	Y
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 broad scope perspective for a significant proportion of the population	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
6. they have multilevel trackability to ensure that data can be anticipated at multiple levels (national, state, local, and community) and for selected population groups	Y	Y	Y	Y	Y	Y	Y	Y
7. they are reflective of a balance in the selection of targets that does not overemphasize any one group or health condition	Y	Y	Y	Y	Y	Y	Y	Y
8. they have utility in directing public policy and operation initiatives	Y	Y	Y	Y	Y	Y	Y	Y
9. they must be catalytic in nature to motivate actions across multiple select populations as defined by race, ethnicity, gender, age, education levels, socio-economic levels, and disability status	Y	Y	Y	Y	Y	Y	Y	Y
10. they must have a dissemination plan that will ensure that messages will be appropriate and understandable by diverse populations. The frequency of these messages will be sufficient to provoke changes in knowledge and behaviors, and the use of multi cultural and multi disciplinary strategies for communication and intervention will be emphasized	Y	Y	Y	Y	Y	Y	Y	Y
11. they will address primary, secondary, and tertiary prevention issues as well as environmental and sociocultural determinants of health	Y	Y	Y	Y	Y	Y	Y	Y
12. they will encompass the Healthy People 2010 vision of eliminating health disparities and improving the number and quality of years of healthy life	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
13. they will effect positive changes and promote behavior change by encouraging and supporting involvement of the general public and select populations that will result in significant and sustained changes in health outcomes	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
14. they will establish a level of credibility and support from individuals, groups, organizations, health professionals, and others involved in the delivery of health care education and services to the general public and select population groups	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD

*To be determined following collection of additional information re data sources and/or promotion of changes in the publics's knowledge, and health behaviors.

Appendix D

Sample Set D Indicators

Sample Set D Indicators

Criteria for Indicators	Primary Prevention	Secondary Prevention	Tertiary Prevention	Health Status
1. the general public, opinion leaders, and the health and medical communities can easily interpret and understand the indicators	TBD*	TBD	TBD	TBD
2. they reflect topics that affect the health profile of the nation's populations in important ways	Y	Y	Y	Y
3. they address problems that are sensitive to change and have a substantial impact on prospects for the health of the nation's population	Y	Y	Y	Y
4. they can be linked to one or more of the full set of Healthy People 2010 objectives	Y	Y	Y	Y
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 broad scope perspective for a significant proportion of the population	TBD	TBD	TBD	TBD
6. they have multilevel trackability to ensure that data can be anticipated at multiple levels (national, state, local, and community) and for selected population groups	Y	Y	Y	Y
7. they are reflective of a balance in the selection of targets that does not overemphasize any one group or health condition	Y Y	Y Y		
8. they have utility in directing public policy and operation initiatives	Y	Y	Y	Y
9. they must be catalytic in nature to motivate actions across multiple select populations as defined by race, ethnicity, gender, age, education levels, socio-economic levels, and disability status	Y	Y	Y	Y
10. they must have a dissemination plan that will ensure that messages will be appropriate and understandable by diverse populations. The frequency of these messages will be sufficient to provoke changes in knowledge and behaviors, and the use of multicultural and multidisciplinary strategies for communication and intervention will be emphasized	Y	Y	Y	Y
11. they will address primary, secondary, and tertiary prevention issues as well as environmental and socio-cultural determinants of health	TBD	TBD	TBD	TBD
12. they will encompass the Healthy People 2010 vision of eliminating health disparities and improving the number and quality of years of healthy life	TBD	TBD	TBD	TBD
13. they will effect positive changes and promote behavior change by encouraging and supporting involvement of the general public and select populations that will result in significant and sustained changes in health outcomes	TBD	TBD	TBD	TBD
14. they will establish a level of credibility and support from individuals, groups, organizations, health professionals, and others involved in the delivery of health care education and services to the general public and select population groups	TBD	TBD	TBD	TBD

*To be determined following collection of additional information re data sources and/or promotion of changes in the publics's knowledge, and health behaviors.

Appendix E

Sample Set E Indicators

Sample Set E Indicators

Criteria for Indicators	Preventive Health	Occupational	Indicators of Disease Burden	Service Availability	Ecological
1. the general public, opinion leaders, and the health and medical communities can easily interpret and understand the indicators	TBD*	TBD	TBD	TBD	TBD
2. they reflect topics that affect the health profile of the nation's populations in important ways	Y	Y	Y	Y	Y
3. they address problems that are sensitive to change and have a substantial impact on prospects for the health of the nation's population	Y	Y	Y	Y	Y
4. they can be linked to one or more of the full set of Healthy People 2010 objectives	Y	Y	Y	Y	Y
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 broad scope perspective for a significant proportion of the population	TBD	TBD	TBD	TBD	TBD
6. they have multilevel trackability to ensure that data can be anticipated at multiple levels (national, state, local, and community) and for selected population groups	Y	Y	Y	Y	Y
7. they are reflective of a balance in the selection of targets that does not overemphasize any one group or health condition	Y	Y	Y	Y	
8. they have utility in directing public policy and operation initiatives	Y	Y	Y	Y	Y
9. they must be catalytic in nature to motivate actions across multiple select populations as defined by race, ethnicity, gender, age, education levels, socio-economic levels, and disability status	N	Y	N	Y	Y
10. they must have a dissemination plan that will ensure that messages will be appropriate and understandable by diverse populations. The frequency of these messages will be sufficient to provoke changes in knowledge and behaviors, and the use of multi cultural and multi disciplinary strategies for communication and intervention will be emphasized	Y	Y	Y	Y	Y
11. they will address primary, secondary, and tertiary prevention issues as well as environmental and socio-cultural determinants of health	Y	Y	Y	Y	Y
12. they will encompass the Healthy People 2010 vision of eliminating health disparities and improving the number and quality of years of healthy life	TBD	TBD	TBD	TBD	TBD
13. they will effect positive changes and promote behavior change by encouraging and supporting involvement of the general public and select populations that will result in significant and sustained changes in health outcomes	TBD	TBD	TBD	TBD	TBD
14. they will establish a level of credibility and support from individuals, groups, organizations, health professionals, and others involved in the delivery of health care education and services to the general public and select population groups	TBD	TBD	TBD	TBD	TBD

*To be determined following collection of additional information re data sources and/or promotion of changes in the publics's knowledge, and health behaviors.

Appendix F

Sample Set F Indicators

Sample Set F Indicators

Criteria for Indicators	Preventable Morbidity and Mortality	Preventive Health Behaviors	Access to Care	Community Prevention
1. the general public, opinion leaders, and the health and medical communities can easily interpret and understand the indicators	TBD*	TBD	TBD	TBD
2. they reflect topics that affect the health profile of the nation's populations in important ways	Y	Y	Y	Y
3. they address problems that are sensitive to change and have a substantial impact on prospects for the health of the nation's population	Y	Y	Y	Y
4. they can be linked to one or more of the full set of Healthy People 2010 objectives	Y	Y	Y	Y
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 broad scope perspective for a significant proportion of the population	TBD	TBD	TBD	TBD
6. they have multilevel trackability to ensure that data can be anticipated at multiple levels (national, state, local, and community) and for selected population groups	Y	Y	Y	Y
7. they are reflective of a balance in the selection of targets that does not overemphasize any one group or health condition				
8. they have utility in directing public policy and operation initiatives	Y	Y	Y	Y
9. they must be catalytic in nature to motivate actions across multiple select populations as defined by race, ethnicity, gender, age, education levels, socioeconomic levels, and disability status	N	N	Y	Y
10. they must have a dissemination plan that will ensure that messages will be appropriate and understandable by diverse populations. The frequency of these messages will be	Y	Y	Y	Y
sufficient to provoke changes in knowledge and behaviors, and the use of multicultural and multidisciplinary strategies for communication and intervention will be emphasized	Y	Y	Y	Y
11. they will address primary, secondary, and tertiary prevention issues as well as environmental and socio-cultural determinants of health	Y	Y	Y	Y
12. they will encompass the Healthy People 2010 vision of eliminating health disparities and improving the number and quality of years of healthy life	TBD	TBD	TBD	TBD
13. they will effect positive changes and promote behavior change by encouraging and supporting involvement of the general public and select populations that will result in significant and sustained changes in health outcomes	TBD	TBD	TBD	TBD
14. they will establish a level of credibility and support from individuals, groups, organizations, health professionals, and others involved in the delivery of health care education and services to the general public and select population groups	TBD	TBD	TBD	TBD

*To be determined following collection of additional information re data sources and/or promotion of changes in the publics's knowledge, and health behaviors.