Reader's Guide

Contents

Focus Area Chapters

Each of the 28 Healthy People 2010 Focus Areas is reviewed in a standalone chapter in the *Healthy People 2010 Final Review*.

The Focus Area chapter begins with a brief introduction to the Focus Area.

The "Highlights" section describes the salient findings in relation to progress toward target attainment and to health disparities for selected objectives.

The "Summary of Progress" section provides a more in-depth assessment of progress toward target attainment, and provides the reader with an inventory of objectives that have achieved their Healthy People 2010 targets, moved toward their targets, demonstrated no change, moved away from their targets, or lacked data to assess progress. The Progress Chart, which is the first figure in each Focus Area chapter, displays further quantitative information regarding progress toward target attainment for each objective for which data were available, including the percent of targeted change achieved. See Measuring Progress Toward the Healthy People 2010 Targets, below.

The Summary of Progress section also discusses progress toward the elimination of health disparities. The Health Disparities Table, which is the second figure in each Focus Area chapter (except for Chapter 23), displays detailed findings in relation to health disparities among select populations for the objectives for which data were available. Objectives based on schools, worksites, states, or those that were measured using the numbers of events are not included in the discussion of health disparities. See Measuring Health Disparities, below.

When data are available at the subnational level, selected objectives are mapped to display spatial variation in percents, rates, or counts. Subnational data are presented either at the state or Health Service Area (HSA) level. When maps are included they are shown in the Focus Area chapter. See Displaying Data with Maps, below.

Previous Healthy People 2010 publications stated that there were 467 objectives to track progress over the decade. However, many of these objectives consisted of multiple "subobjectives," each with its own baseline data, data source, and target requiring separate analysis. The analyses in this report are based on a total of 969 objectives and subobjectives. For the purpose of discussion, both objectives and subobjectives are referred to in this report as objectives given that each receives equal analysis and treatment.

The "Transition to Healthy People 2020" section of each chapter describes the framework of the Healthy People

2020 Topic Area(s) and changes and modifications made to the corresponding Healthy People 2010 Focus Area(s) and objectives. Some Healthy People 2010 Focus Areas were split and new Healthy People 2020 Topic Areas were added. As a result, Healthy People 2020 has 42 Topic Areas. Appendix D, "A Crosswalk Between Objectives From Healthy People 2010 to Healthy People 2020," summarizes the changes between the two decades of objectives.

Each Focus Area chapter in the *Healthy People 2010 Final Review* concludes with a "Data Considerations" section and a "Comprehensive Summary of Objectives" section that lists all objectives in that Focus Area with the corresponding data sources or objective status in those cases where an objective was not retained.

A description of the Progress Chart and a guide to the Health Disparities Table are presented below. The techniques used to develop these visuals are discussed in greater detail in the Technical Appendix. Further discussion of the issues involved in the measurement of progress and of health disparities in Healthy People 2010 has been published elsewhere [1].

All Healthy People 2010 tracking data are available from http://wonder.cdc.gov/data2010 and are, therefore, not included in this report.

Measuring Progress Toward the Healthy People 2010 Targets

Progress toward the Healthy People 2010 targets at Final Review is shown in a Progress Chart for each Focus Area. The Progress Chart displays the percent of targeted change that was achieved for each objective. Targeted change is the difference between the baseline and the Healthy People 2010 (HP2010) target. The formula for the percent of targeted change achieved is as follows:

$$\text{Percent of targeted change achieved} = \frac{\text{Final value} - \text{Baseline value}}{\text{HP2010 target} - \text{Baseline value}} \times 100.$$

The percent of targeted change achieved expresses the difference between the baseline and the final value relative to the initial difference between the baseline and the Healthy People 2010 target. As such, it is a relative measure of progress toward attaining the Healthy People 2010 target, and it can be used to compare how much of the targeted change has been achieved for an objective relative to other objectives, though care must be exercised in its interpretation. In particular, movement away from the Healthy People 2010 target is not quantified using the percent of targeted change achieved, as it is more meaningful to examine the

difference between the final and the baseline values in such cases. See Technical Appendix for more information.

Although the Progress Chart was displayed in previous Healthy People publications, in this report several new columns have been added to provide more in-depth information on the movement that occurred for each objective for which there were at least two data points.

The Progress Chart is divided into three panels. Objective numbers and short descriptions are listed in the left-most panel. The description of an objective includes in parentheses any applicable information regarding the age of the targeted population. Most Healthy People 2010 objectives are measured using proportions, expressed in percents. If the unit of measure for an objective is anything other than a percent (e.g., rate per 100,000 population), then this is also indicated in parentheses as part of the objective description. The 'percent of targeted change achieved' for each objective is displayed in a bar chart in the central panel of the Progress Chart. In the right-most panel of the Progress Chart, a table displays the Healthy People 2010 target, the baseline value and year, the final value and year, the difference between final and baseline values, its statistical significance at the 0.05 level, and the percent change between the final and baseline values.

The formula for the percent change is as follows:

$$\text{Percent change between final and baseline values} = \frac{\text{Final value} - \text{Baseline value}}{\text{Baseline value}} \times 100.$$

The percent of targeted change achieved is shown for each objective with data more recent than the baseline. The percent of targeted change achieved is color coded:

❯ Objectives that moved away from the target are in red.

❯ Objectives that moved toward the target are in light blue.

❯ Objectives that met or exceeded the target are in dark blue.

As mentioned earlier, movement away from the Healthy People 2010 target is not quantified using the percent of targeted change achieved in the Progress Chart. Instead, for such objectives, the reader should examine the difference between the final value and the baseline value to assess progress. See Technical Appendix.

Objectives for which progress could not be assessed are identified in the notes at the end of the Progress Chart. These notations occur in two general types of situations: (a) the objective was deleted at the Midcourse Review, or (b) the objective did not have a baseline, or had a baseline value but no follow-up data.

The following observations may be helpful to the interpretation of the percent of targeted change achieved by a specific objective and comparisons of progress among multiple objectives:

❯ The 'percent of targeted change achieved' measures the percent of the difference between the baseline and the 2010 target that was attained. For example, a value of 25% indicates that a quarter of the difference between the baseline and the 2010 target was achieved.

❯ The use and interpretation of the percent of targeted change achieved has limits. It is calculated using only the Healthy People 2010 target, the baseline data point, and the final data point. Furthermore, it does not take into account the number of years that are included nor any fluctuations that may occur during the intervening years. The number of years included, which varies by objective, may also vary within an objective based on the availability of population data. See Technical Appendix.

❯ There are situations in which the percent of targeted change achieved cannot be calculated or does not accurately reflect change in an objective. These situations include instances when the target was met at the baseline, when the amount of targeted change was small relative to the amount of actual change, or when the target was exceeded at the baseline. Such situations are footnoted on the applicable charts, and illustrated in the Technical Appendix.

Measuring Health Disparities

Information about health disparities among select populations is shown in a Health Disparities Table. Short descriptions of the population-based objectives are listed along the left side of the table. The baseline data year(s) are shown in parentheses and, when more recent data were available, the most recent data year(s) are also shown. The description of an objective generally also includes in parentheses any applicable information regarding the underlying measure (e.g., measurement unit) and the age of the targeted population.

Characteristics of the population (race and ethnicity, sex, education, income, geographic location, and disability status) are depicted across the top of the Health Disparities Table. In general, characteristics applicable to each objective were designated in the original Healthy People 2010 document [2].

Characteristics that were not designated for a particular objective are shaded in dark gray. When a characteristic is not applicable for any of the objectives in a Focus Area, it is omitted from the Health Disparities Table

for that Focus Area. When data are not available for a designated population or for a particular characteristic, the corresponding boxes are shaded in light gray (see the fourth section of the legend, reproduced below in Figure RG-1). If there are no characteristic-specific data available for an objective, the objective is excluded from the table and referenced in the notes.

Definition. Disparity from the best group rate is defined as the percent difference between the best group rate and each of the other group rates for a characteristic at the most recent data point.

For example, disparities by race and ethnicity are measured as the percent difference between the best racial and ethnic group rate and each of the other racial and ethnic group rates. Similarly, disparities by sex are measured as the percent difference between the better group rate (e.g., female) and the rate for the other group (e.g., male).

Formula. The formula for disparity from the best group rate for a group G is as follows:

$$\text{Disparity for group G} = \frac{\text{Rate for group G} - \text{Best group rate for characteristic}}{\text{Best group rate for characteristic}} \times 100.$$

Some Healthy People 2010 objectives are expressed in terms of favorable events or conditions that are to be increased, while others are expressed in terms of adverse events or conditions that are to be reduced. To facilitate comparison of health disparities across different objectives, disparity is measured only in terms of adverse events or conditions in Healthy People 2010 [1]. Those objectives that are expressed in terms of favorable events or conditions are re-expressed using the adverse event or condition for the purpose of computing disparity, but they are not otherwise restated or changed. See Technical Appendix for more information.

Example. Healthy People 2010 objective 1-1, to increase the proportion of persons with health insurance (e.g., 72% of the American Indian or Alaska Native population under age 65 had some form of health insurance in 2008), is expressed in terms of the percentage of persons without health insurance (e.g., 100% – 72% = 28% of the American Indian or Alaska Native population under age 65 did not have any form of health insurance in 2008) when the disparity from the best group rate is calculated.

As a result, the group identified as having the best rate for a given characteristic is always the group with the least adverse event or condition. Thus, disparities defined by the above formula remain nonnegative quantities, equal zero only when the group G for which disparity is being assessed has rate equal to the best group rate. See Technical Appendix for more information.

The group with the best or most favorable rate is identified for each characteristic in the Health Disparities Table by a "B". In the few instances when two groups had identical best rates, both groups are identified by a "B". In some cases, the most favorable rate is not sufficiently reliable to be used as the best rate. In these situations, a small letter "b" is included in the cell, and the next most favorable group rate with sufficient reliability is identified with a "B" as the best group. When there is only one group with sufficiently reliable data, a best group is not identified for purposes of measuring disparity, and the cells for all groups with data are left blank in the Health Disparities Table, indicating that disparities could not be assessed. These symbols are described in the first section of the legend that accompanies each of these figures (reproduced below in Figure RG-1).

A color gradient is used to represent the size of the percent difference from the best group rate for each group at the most recent data point. In some cases, baseline data might be the only data available. The color gradient is shown in the second section of the legend, reproduced below in Figure RG-1. When measures of variability are available, the variability of best group rates is assessed, and statistical significance is tested. For a given group G within a characteristic, a disparity of 10% or more is displayed when the difference from the best group rate (i.e., rate for group G minus best group rate) is statistically significant at the 0.05 level. See Technical Appendix.

Change in disparity over time is estimated by subtracting the disparity at the baseline from the disparity at the most recent data point. The change is expressed in percentage points: positive differences represent an increase in disparity, and negative differences represent a decrease in disparity. The magnitude of the change is indicated by the number of arrows. (See the third section of the legend, reproduced below in Figure RG-1.) Whenever data are available at both the baseline and most recent time points, changes in disparity over time are shown if the change is greater than or equal to 10 percentage points and statistically significant, or when the change is greater than or equal to 10 percentage points and estimates of variability are not available. See Technical Appendix for a more in-depth discussion.

Footnotes indicate whether statistical testing was performed for either the differences from the best group rate at the most recent data point or the changes in disparities over time.

When there are more than two groups associated with a population characteristic (for example, race and ethnicity, education, and income), a summary index provides a way to determine whether the disparity from the best group rate has increased or decreased on average. The summary index used here is the average of percent differences between the best group rate and

each of the other group rates for a characteristic. These comparisons are made only when disparities data are available for exactly the same groups at the baseline and most recent data points

The statistical significance of the summary index at the most recent data point and changes in the index over time are assessed when possible. The magnitude of the summary index at the most recent data point, and the magnitude and direction of changes in the summary index over time, are indicated by the color gradient and the arrow symbols, respectively.

More detail on measuring, tracking, and summarizing, health disparities can be found in the Technical Appendix, as well as in a related publication [1].

Figure RG-1: Legend for the Health Disparities Table

LEGEND			
The "best" group rate at the most recent data point.	B — The group with the best rate for specified characteristic.	b — Most favorable group rate for specified characteristic, but reliability criterion not met.	Reliability criterion for best group rate not met, or data available for only one group.

	Percent difference from the best group rate			
Disparity from the best group rate at the most recent data point.	Less than 10%, or difference not statistically significant (when estimates of variability are available).	10%–49%	50%–99%	100% or more

Changes in disparity over time are shown when: (a) disparities data are available at both baseline and most recent time points; (b) data are not for the group(s) indicated by "B" or "b" at either time point; and (c) the change is greater than or equal to 10 percentage points and statistically significant, or when the change is greater than or equal to 10 percentage points and estimates of variability were not available. See Technical Appendix.	**Increase** in disparity (percentage points)		
	↑ 10–49 points	↑↑ 50–99 points	↑↑ 100 points or more
	Decrease in disparity (percentage points)		
	↓ 10–49 points	↓↓ 50–99 points	↓↓ 100 points or more

Availability of Data		Data not available.	Characteristic not selected for this objective.

Displaying Data With Maps

When data are available at the subnational level, selected objectives are mapped to display spatial variation in percents, rates, or counts. Subnational data are presented either at the state or Health Service Area (HSA) level. HSAs are defined as "…one or more counties that are relatively self-contained with respect to the provision of routine hospital care" [3]. HSAs are contiguous but may span state boundaries. They frequently contain more than 1 county with an average of 4 and maximum of 20 counties. Maps are presented as simple chloropleths and use either a Jenks or modified Jenks classification [4]. A Jenks classification is a method for grouping ordered data in such a way that within-group variance is minimized and between-group variance is maximized. When geographic units (states or HSAs) have values that meet the Healthy People 2010 target, the classification is modified by manually setting the "best" cut-point to the Healthy People 2010 target. The best cut-point is the highest cut-point for objectives that are expressed in terms of favorable events or conditions that are to be increased, and the lowest cut-point for objectives that are expressed in terms of adverse events or conditions that are to be reduced. In some instances where the number of geographic units meeting the target is large, a cut-point in the middle of the distribution is set to the target. See Technical Appendix for more information.

References and Notes

1. Keppel KG, Pearcy JN, Klein RJ. Measuring progress in Healthy People 2010. Statistical Notes, no. 25. Hyattsville, Maryland: National Center for Health Statistics. September 2004.

2. Characteristics for developmental objectives were not included in the original Healthy People 2010 publication, but were added when data sources were identified and the objectives became measurable. Lists of characteristics for all currently measurable objectives can be found in DATA2010, an online database available from: http://wonder.cdc.gov/data2010.

3. Makuc DM, Haglund B, Ingram DD, et al. Health Service Areas for the United States. National Center for Health Statistics. Vital Health Stat (2)112. 1991.

4. Coulson MR. In the matter of class intervals for chloropleth maps: with particular reference to the work of George F Jenks. Cartographica: The International Journal for Geographic Information and Geovisualization. 24(2), 16-39. 2006.