Oral Health

CHAPTER 21

Co-Lead Agencies

Centers for Disease Control and Prevention
Health Resources and Services Administration
Indian Health Service
National Institutes of Health

Contents

GOAL:

Prevent and control oral and craniofacial diseases, conditions, and injuries and improve access to related services.

The objectives in this chapter track dental caries, tooth loss, periodontal disease, and untreated dental decay. Preventive measures such as annual dental visits, the use of dental sealants, fluoridation programs, and the availability of school and community-based dental services are also monitored.

All Healthy People tracking data quoted in this chapter, along with technical information and Operational Definitions for each objective, can be found in the Healthy People 2010 database, DATA2010, available from http://wonder.cdc.gov/data2010/.

More information about this Focus Area can be found in the following publications:

- *Healthy People 2010: Understanding and Improving Health*, available from http://www.healthypeople.gov/2010/Document/tableofcontents.htm#under.
- *Healthy People 2010 Midcourse Review*, available from http://www.healthypeople.gov/2010/data/midcourse/html/default.htm#FocusAreas.

Highlights

- Substantial progress was achieved in objectives for this Focus Area during the past decade [1]. Seventy-one percent of the Oral Health objectives with data to measure progress moved toward or achieved their Healthy People 2010 targets (Figure 21-1). However, health disparities among racial and ethnic population groups, as well as by sex and by education level, were observed (Figure 21-2), some of which are highlighted below [2].
- Dental caries experience in primary teeth for children aged 2–4 years (objective 21-1a) increased 33.3% from 1988–94 to 1999–2004, from 18% to 24%, moving away from the Healthy People 2010 target of 11%.
- Dental caries experience in permanent teeth for adolescents aged 15 years (objective 21-1c) decreased 8.2% from 1988–94 to 1999–2004, from 61% to 56%, moving toward the 2010 target of 51%.
- Untreated dental decay in permanent teeth for adolescents aged 15 years (objective 21-2c) decreased 10.0% from 1988–94 to 1999–2004, from 20% to 18%, moving toward the 2010 target of 15%.
- The proportion of adults aged 35–44 with untreated dental decay (objective 21-2d) increased 3.7% from 1988–94 to 1999–2004, from 27% to 28%, moving away from the 2010 target of 15%. However, the change was not statistically significant.
  - Among education groups, persons with at least some college education had the lowest (best) rate of untreated dental decay, 18% in 1999–2004. Persons with less than a high school education had a rate of 50%, almost three times the best group rate [2].
- The proportion of adults aged 35–44 with no permanent tooth loss due to caries or periodontal disease (objective 21-3) increased 26.7% from 1988–94 to 1999–2004, from 30% to 38%, moving toward the 2010 target of 40%. During the same period, the proportion of adults aged 65–74 who experienced complete tooth loss (objective 21-4) declined 17.2%, from 29% to 24%, moving toward the 2010 target of 22%.
- The proportion of children aged 8 and of adolescents aged 14 years (objectives 21-8a and b, respectively) who had a dental sealant on at least one molar increased 39.1% and 40.0%, from 23% to 32% and 15% to 21%, respectively, from 1988–94 to 1999–2004, moving toward their 2010 targets of 50%.

- Several objectives met or exceeded their 2010 targets:
  - The proportion of school-based health centers providing dental sealants as part of an oral health program (objective 21-13a) doubled, increasing from 12% in 2001–02 to 24% in 2007–08, and exceeding the 2010 target of 15%.
  - The proportion of community-based health centers with an oral health component (objective 21-14) increased 44.2% between 1997 and 2007, from 52% to 75%, meeting the 2010 target of 75%.
  - The number of State and local dental programs directed by public health professionals (objective 21-17a) increased 38.5% between 2003 and 2009, from 39 to 54 programs, exceeding the 2010 target of 41 programs.
  - The number of Indian Health Service and Tribal dental programs directed by public health professionals (objective 21-17b) increased from 9 programs in 2003 to 10 in 2006. The target for this objective (9 programs) was met at baseline and exceeded at the final data point.

Summary of Progress

- Figure 21-1 presents a quantitative assessment of progress in achieving the Healthy People 2010 objectives for Oral Health [1]. Data to measure progress toward target attainment were available for 24 objectives. Of these:
  - Four objectives (21-13a, 21-14, and 21-17a and b) met or exceeded their 2010 targets.
  - Thirteen objectives moved toward their targets. A statistically significant difference between the baseline and the final data points was observed for five of these objectives (21-3, 21-4, 21-5b, 21-7, and 21-12). No significant differences were observed for four objectives (21-1c, 21-2c, and 21-8a and b); and data to test the significance of the difference were unavailable for four objectives (21-9, 21-13b, 21-15, and 21-16).
  - Seven objectives moved away from their targets. A statistically significant difference between the baseline and final data points was observed for one objective (21-1a). No significant differences were observed for five objectives (21-1b; 21-2a, b, and d; and 21-10); and data to test the significance of the difference were unavailable for one objective (21-6).
- Follow-up data were unavailable to measure progress for two objectives (21-5a and 21-11).
- Figure 21-2 displays health disparities in Oral Health from the best group rate for each characteristic at the most recent data point [2]. It also displays changes in disparities from baseline to the most recent data point [3].
  - Nine objectives had statistically significant racial and ethnic health disparities of 10% or more (objectives 21-1a and b, 21-2d, 21-3, 21-5b, 21-7, 21-8a and b, and 21-10). Two additional objectives (21-5a and 21-6) had racial and ethnic health disparities of 10% or more, but lacked data to assess statistical significance. The non-Hispanic white population had the unique best group rate for 10 of these objectives; whereas the Hispanic or Latino and non-Hispanic white populations were tied for the best rate for objective 21-6.
  - Four objectives had statistically significant health disparities of 10% or more by sex (objectives 21-1a, 21-2d, 21-3, and 21-10), and two objectives (21-5a and 21-6) had health disparities of 10% or more by sex but lacked data to assess statistical significance. Females had a better rate for five of these six objectives (21-1a, 21-2d, 21-5a, 21-6, and 21-10). Males had a better rate for the sixth objective (21-3).
  - Nine objectives had statistically significant health disparities of 10% or more by education level (objectives 21-1b and c, 21-2d, 21-3, 21-5b, 21-7, 21-8a and b, and 21-10), and one objective (21-5a) had health disparities of 10% or more by education level but lacked data to assess statistical significance. Persons with at least some college education had the best group rate for all 10 of these objectives.
  - Two objectives had health disparities of 100% or more by education level (objectives 21-2d and 21-5b), and one objective (21-5b) had a change in disparity by education level over time of 100 percentage points or more [3].

Transition to Healthy People 2020

For Healthy People 2020, the focus of the Oral Health objectives has expanded to include a broader range of health behaviors, interventions to reduce tooth decay, improved methods of monitoring oral diseases and conditions, and programs that provide preventive oral health services at the community and national levels. See HealthyPeople.gov for a complete list of Healthy People 2020 topics and objectives.

The Healthy People 2020 objectives for Oral Health can be grouped into several sections:

- Oral health of children and adolescents

- Oral health of adults
- Access to preventive services
- Oral health interventions
- Monitoring, surveillance systems
- Public health infrastructure.

The differences between the Healthy People 2010 and Healthy People 2020 objectives are summarized below:

- The Healthy People 2020 Oral Health Topic Area has 33 objectives, 5 of which are developmental, whereas the Healthy People 2010 Oral Health Focus Area had 26 objectives [4].
- Seven Healthy People 2010 objectives were retained "as is" [5]. These objectives include: untreated dental decay in adults (objective 21-2d), complete tooth loss in older adults (objective 21-4), community water fluoridation (objective 21-9), annual dental visits (objective 21-10), dental care and sealants provided in school-based health centers (objectives 21-13a and b), and community-based health centers with an oral health component (objective 21-14).
- Two Healthy People 2010 objectives were archived [6].
  - The methodology for assessing gingival bleeding used at the baseline was modified over the course of the decade and a new definition has yet to be defined. Therefore, gingivitis in adults (objective 21-5a) will not be tracked in Healthy People 2020.
  - Use of the oral health care system by nursing home residents has not been collected in a national survey since the baseline. Therefore, the objective for residents in long-term facilities (objective 21-11) was archived due to lack of national data.
- Seventeen Healthy People 2010 objectives were modified to create 18 Healthy People 2020 objectives [7].
  - The age groups tracked for the following objectives were modified and expanded: dental caries experience and untreated dental decay in children and adolescents (objectives 21-1a through c, and 21-2a through c), dental sealants in children and adolescents (objectives 21-8a and b), permanent tooth loss in adults (objective 21-3), and destructive periodontal diseases in adults (objective 21-5b).
  - The data sources for early detection of oral and pharyngeal cancers (objective 21-6) and oral and pharyngeal cancer screening by a dental professional (objective 21-7) were modified. In addition, the age group tracked for oral and pharyngeal cancer screening was expanded. This objective is developmental in Healthy People 2020 [4].
  - The definition of an annual preventive dental services visit for low-income youth (objective 21-12) has been changed. The Healthy People 2010 objective defines a preventive visit as one in which the patient received 1) an examination, 2) a dental sealant, 3) a fluoride treatment, 4) a dental prophylaxis, or 5) an X-ray examination. The Healthy People 2020 objective defines a preventive visit as one in which the patient received 1) a dental sealant, 2) a fluoride treatment, or 3) a dental prophylaxis. In addition, the age group tracked was changed from 2–19 years to 2–18 years.
  - The objective tracking the number of States that record and refer children and youth diagnosed with a cleft lip or palate (objective 21-15) has been expanded to two developmental objectives, tracking the registry and referral of such children separately.
  - The definitions of State oral and craniofacial surveillance systems (objective 21-16) and State and local dental health programs directed by public health professionals (objective 21-17a) were modified.
  - The number of Indian Health Service and Tribal dental programs that serve jurisdictions of 30,000 or more persons and are directed by a public health professional (objective 21-17b) has increased to 33: one headquarter or national program, 20 field programs, and 12 regional or area offices.
- Eight new objectives, two of which are developmental, were added to the Healthy People 2020 Topic Area [4]:
  - One new objective tracks the proportion of patients who receive oral health at federally qualified health centers. Two objectives track untreated dental decay: adults aged 65–74 with coronal caries in at least one tooth, and adults aged 75 and over with root surface caries in at least one tooth.
  - Two developmental prevention objectives focus on counseling to reduce tobacco use and encourage smoking cessation and referral for glycemic control by dental professionals.
  - One new objective tracks sealant placement on primary molars for children aged 3–5 years.
  - One new objective expands the scope of services tracked in school-based health centers to include fluoride treatments.
  - One new objective tracks the expansion of existing infrastructure by monitoring the increase of oral health prevention and care services provided by local health departments.

Appendix D, "A Crosswalk Between Objectives From Healthy People 2010 to Healthy People 2020," summarizes the changes between the two decades of objectives, reflecting new knowledge and direction for this area.

Data Considerations

Education and income are the primary measures of socioeconomic status in Healthy People 2010. Most data systems used in Healthy People 2010 define income as a family's income before taxes. To facilitate comparisons among groups and over time, while adjusting for family size and for inflation, Healthy People 2010 categorizes income using the poverty thresholds developed by the Census Bureau. Thus, the three categories of family income that are primarily used are:

- Poor—below the Federal poverty level
- Near poor—100% to 199% of the Federal poverty level
- Middle/high income—200% or more of the Federal poverty level.

These categories may be overridden by considerations specific to the data system, in which case they are modified as appropriate. See *Healthy People 2010: General Data Issues*, referenced below.

In general, data on educational attainment are presented for persons aged 25 and over, consistent with guidance given by the Census Bureau. However, because of the requirements of the different data systems, the age groups used to calculate educational attainment for any specific objective may differ from the age groups used to report the data for other Healthy People 2010 objectives, as well as from select populations within the same objective. Therefore, the reader is urged to exercise caution in interpreting the data by educational attainment shown in the Health Disparities Table. See *Healthy People 2010: General Data Issues*, referenced below.

Additional information on data issues is available from the following sources:

- All Healthy People 2010 tracking data can be found in the Healthy People 2010 database, DATA2010, available from http://wonder.cdc.gov/data2010/.
- Detailed information about the data and data sources used to support these objectives can be found in the Operational Definitions on the DATA 2010 website, available from http://wonder.cdc.gov/data2010/focusod.htm.
- More information on statistical issues related to Healthy People tracking and measurement can be found in the Technical Appendix and in *Healthy People 2010: General Data Issues*, which is available in the General Data Issues section of the NCHS Healthy People website under Healthy People 2010; see http://www.cdc.gov/nchs/healthy_people/hp2010/hp2010_data_issues.htm.

Notes

1. Displayed in the Progress Chart (Figure 21-1), 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. See the Reader's Guide for more information. When standard errors were available, the difference between the baseline and the final value was tested at the 0.05 level of significance. See the Figure 21-1 footnotes, as well as the Technical Appendix, for more detail.
2. Information about disparities among select populations is shown in the Health Disparities Table (Figure 21-2). 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. For example, racial and ethnic health disparities 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). Some 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. For comparability across objectives, 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. For example, 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. See the Reader's Guide for more information. When standard errors

were available, the difference between the best group rate and each of the other group rates was tested at the 0.05 level of significance. See the Figure 21-2 footnotes, as well as the Technical Appendix, for more detail.

3. The change in disparity is estimated by subtracting the disparity at baseline from the disparity at the most recent data point and, therefore, is expressed in percentage points. See the Reader's Guide for more information. When standard errors were available, the change in disparity was tested at the 0.05 level of significance. See the Figure 21-2 footnotes, as well as the Technical Appendix, for more detail.

4. To be included in Healthy People 2010, an objective must have a national data source that provides a baseline and at least one additional data point for tracking progress. Some objectives lacked baseline data at the time of their development but had a potential data source and were considered of sufficient national importance to be included in Healthy People. These are called "developmental" objectives. When data become available, a developmental objective is moved to measurable status and a Healthy People target can be set.

5. As of the Healthy People 2020 launch, Healthy People 2020 objectives that were retained "as is" from Healthy People 2010 had no change in the numerator or denominator definitions, the data source(s), or the data collection methodology. These include objectives that were developmental in Healthy People 2010 and are developmental in Healthy People 2020, and for which no numerator information is available.

6. Archived objectives had at least one data point in Healthy People 2010 but were not carried forward into Healthy People 2020.

7. As of the Healthy People 2020 launch, objectives that were modified from Healthy People 2010 had some change in the numerator or denominator definitions, the data source(s), or the data collection methodology. These include objectives that went from developmental in Healthy People 2010 to measurable in Healthy People 2020, or vice versa.

Comprehensive Summary of Objectives: Oral Health

Objective	Description	Data Source
21-1a	Dental caries experience—Primary teeth—Young children (2–4 years)	National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.
21-1b	Dental caries experience—Primary or permanent teeth—Children (6–8 years)	National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.
21-1c	Dental caries experience—Permanent teeth—Adolescents (15 years)	National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.
21-2a	Untreated dental decay—Primary teeth—Young children (2–4 years)	National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.
21-2b	Untreated dental decay—Primary or permanent teeth—Children (6–8 years)	National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.
21-2c	Untreated dental decay—Permanent teeth—Adolescents (15 years)	National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.
21-2d	Untreated dental decay—Adults (35–44 years)	National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.
21-3	No permanent tooth loss due to caries or periodontal disease in adults (35–44 years)	National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.
21-4	Complete tooth loss in older adults (65–74 years)	National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.
21-5a	Gingivitis in adults (35–44 years)	National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.

Comprehensive Summary of Objectives: Oral Health (continued)

Objective	Description	Data Source
21-5b	Destructive periodontal disease in adults (35–44 years)	National Health and Nutrition Examination Survey (NHANES), CDC, NCHS; Oral Health Survey of Native Americans, 1999–2000, IHS.
21-6	Early detection of oral and pharyngeal cancers	Surveillance, Epidemiology, and End Results (SEER) Program, NIH, NCI.
21-7	Annual examinations for oral and pharyngeal cancers in adults (age adjusted, 40+ years)	National Health Interview Survey (NHIS), CDC, NCHS.
21-8a	Dental sealants—Children (8 years)	National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.
21-8b	Dental sealants—Adolescents (14 years)	National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.
21-9	Population served by optimally fluoridated community water	CDC Fluoridation Census, CDC, NCCDPHP.
21-10	Annual dental visits (age adjusted, 2+ years)	Medical Expenditure Panel Survey (MEPS), AHRQ.
21-11	Use of oral health care system by residents in long-term care facilities	National Nursing Home Survey (NNHS), CDC, NCHS.
21-12	Annual preventive dental services for low-income children and adolescents (<19 years)	Medical Expenditure Panel Survey (MEPS), AHRQ.
21-13a	School-based health centers with oral health component—Dental sealants	School-Based Health Care Census, National Assembly of School Based Health Care.
21-13b	School-based health centers with oral health component—Dental care	School-Based Health Care Census, National Assembly of School Based Health Care.
21-14	Community-based health centers with oral health components	HRSA, Bureau of Primary Health Care.
21-15	Recording and referral of children and youth with cleft lip or palate (no. States and D.C.)	Annual Synopses of State and Territorial Dental Public Health Programs, Association of State and Territorial Dental Directors (ASTDD).
21-16	Oral and craniofacial State-based surveillance systems (no. States and D.C.)	Annual Synopses of State and Territorial Dental Public Health Programs, Association of State and Territorial Dental Directors (ASTDD).
21-17a	State and local dental programs directed by public health professionals	Association of State and Territorial Dental Directors (ASTDD).
21-17b	Indian Health Service and Tribal dental programs directed by public health professionals	IHS, Division of Oral Health.

Figure 21-1. Progress Toward Target Attainment for Focus Area 21: Oral Health

LEGEND — Moved away from target[1] | Moved toward target | Met or exceeded target

	Objective	Percent of targeted change achieved[2] (0 25 50 75 100)	2010 Target	Baseline (Year)	Final (Year)	Baseline vs. Final: Difference[3]	Statistically Significant[4]	Percent Change[5]
21-1.	Dental caries experience							
	a. Primary teeth—Young children (2–4 years)		11%	18% (1988–94)	24% (1999–2004)	6	Yes	33.3%
	b. Primary or permanent teeth—Children (6–8 years)		42%	52% (1988–94)	53% (1999–2004)	1	No	1.9%
	c. Permanent teeth—Adolescents (15 years)	50.0%	51%	61% (1988–94)	56% (1999–2004)	-5	No	-8.2%
21-2.	Untreated dental decay							
	a. Primary teeth—Young children (2–4 years)		9%	16% (1988–94)	19% (1999–2004)	3	No	18.8%
	b. Primary or permanent teeth—Children (6–8 years)		21%	28% (1988–94)	29% (1999–2004)	1	No	3.6%
	c. Permanent teeth—Adolescents (15 years)	40.0%	15%	20% (1988–94)	18% (1999–2004)	-2	No	-10.0%
	d. Adults (35–44 years)		15%	27% (1988–94)	28% (1999–2004)	1	No	3.7%
21-3.	No permanent tooth loss due to caries or periodontal disease in adults (35–44 years)	80.0%	40%	30% (1988–94)	38% (1999–2004)	8	Yes	26.7%
21-4.	Complete tooth loss in older adults (65–74 years)	71.4%	22%	29% (1988–94)	24% (1999–2004)	-5	Yes	-17.2%
21-5b.	Destructive periodontal disease in adults (35–44 years)	75.0%	14%	22% (1988–94)	16% (1999–2004)	-6	Yes	-27.3%
21-6.	Early detection of oral and pharyngeal cancers		51%	36% (1992–95)	33% (2006)	-3	Not tested	-8.3%
21-7.	Annual examinations for oral and pharyngeal cancers in adults (age adjusted, 40+ years)	71.4%	20%	13% (1998)	18% (2008)	5	Yes	38.5%
21-8.	Dental sealants							
	a. Children (8 years)	33.3%	50%	23% (1988–94)	32% (1999–2004)	9	No	39.1%
	b. Adolescents (14 years)	17.1%	50%	15% (1988–94)	21% (1999–2004)	6	No	40.0%
21-9.	Population served by optimally fluoridated community water	76.9%	75%	62% (1992)	72% (2008)	10	Not tested	16.1%
21-10.	Annual dental visits (age adjusted, 2+ years)		56%	44% (1996)	43% (2008)	-1	No	-2.3%
21-12.	Annual preventive dental services for low-income children and adolescents (<19 years)	14.6%	66%	25% (1996)	31% (2008)	6	Yes	24.0%

Figure 21-1. Progress Toward Target Attainment for Focus Area 21: Oral Health (continued)

	Objective	Percent of targeted change achieved[2] (0 25 50 75 100)	2010 Target	Baseline (Year)	Final (Year)	Baseline vs. Final: Difference[3]	Baseline vs. Final: Statistically Significant[4]	Baseline vs. Final: Percent Change[5]
21-13.	School-based health centers with oral health components							
	a. Dental sealants	400.0%	15%	12% (2001–02)	24% (2007–08)	12	Not tested	100.0%
	b. Dental care	50.0%	11%	9% (2001–02)	10% (2007–08)	1	Not tested	11.1%
21-14.	Community-based health centers with oral health components	100.0%	75%	52% (1997)	75% (2007)	23	Not tested	44.2%
21-15.	Recording and referral of children and youth with cleft lip or palate (no. States and D.C.)	48.6%	51	16 (2003)	33 (2009)	17	Not tested	106.3%
21-16.	Oral and craniofacial State-based surveillance systems (no. States and D.C.)	84.3%	51	0 (1999)	43 (2010)	43	Not tested	*
21-17a.	State and local dental programs directed by public health professionals	750.0%	41	39 (2003)	54 (2009)	15	Not tested	38.5%
21-17b.	Indian Health Service and Tribal dental programs directed by public health professionals	Target met at baseline and exceeded at final	9	9 (2003)	10 (2006)	1	Not tested	11.1%

NOTES

See the Reader's Guide for more information on how to read this figure. See DATA2010 at http://wonder.cdc.gov/data2010 for all HealthyPeople 2010 tracking data. Tracking data are not available for objectives 21-5a and 21-11.

FOOTNOTES

[1] Movement away from target is not quantified using the percent of targeted change achieved. See Technical Appendix for more information.

[2] Percent of targeted change achieved = $\frac{\text{Final value} - \text{Baseline value}}{\text{Healthy People 2010 target} - \text{Baseline value}} \times 100$.

[3] Difference = Final value – Baseline value. Differences between percents (%) are measured in percentage points.

[4] When estimates of variability are available, the statistical significance of the difference between the final value and the baseline value is assessed at the 0.05 level. See Technical Appendix for more information.

[5] Percent change = $\frac{\text{Final value} - \text{Baseline value}}{\text{Baseline value}} \times 100$.

* Percent change cannot be calculated. See Technical Appendix for more information.

DATA SOURCES

21-1a–c.	National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.
21-2a–d.	National Health and Nutrition Examination Survey (NHANES), CDC, NCHS
21-3–21-4.	National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.
21-5b.	National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.
21-6.	Surveillance, Epidemiology, and End Results (SEER) Program, NIH, NCI.
21-7.	National Health Interview Survey (NHIS), CDC, NCHS.
21-8a–b.	National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.
21-9.	CDC Fluoridation Census, CDC, NCCDPHP.
21-10.	Medical Expenditure Panel Survey (MEPS), AHRQ.
21-12.	Medical Expenditure Panel Survey (MEPS), AHRQ.
21-13a–b.	School-Based Health Care Census, National Assembly of School Based Health Care.
21-14.	HRSA, Bureau of Primary Health Care.
21-15–21-16.	Annual Synopses of State and Territorial Dental Public Health Programs, Association of State and Territorial Dental Directors (ASTDD).
21-17a.	Association of State and Territorial Dental Directors (ASTDD).
21-17b.	IHS, Division of Oral Health.

Figure 21-2. Health Disparities Table for Focus Area 21: Oral Health

Disparities from the best group rate for each characteristic at the most recent data point and changes in disparity from the baseline to the most recent data point.

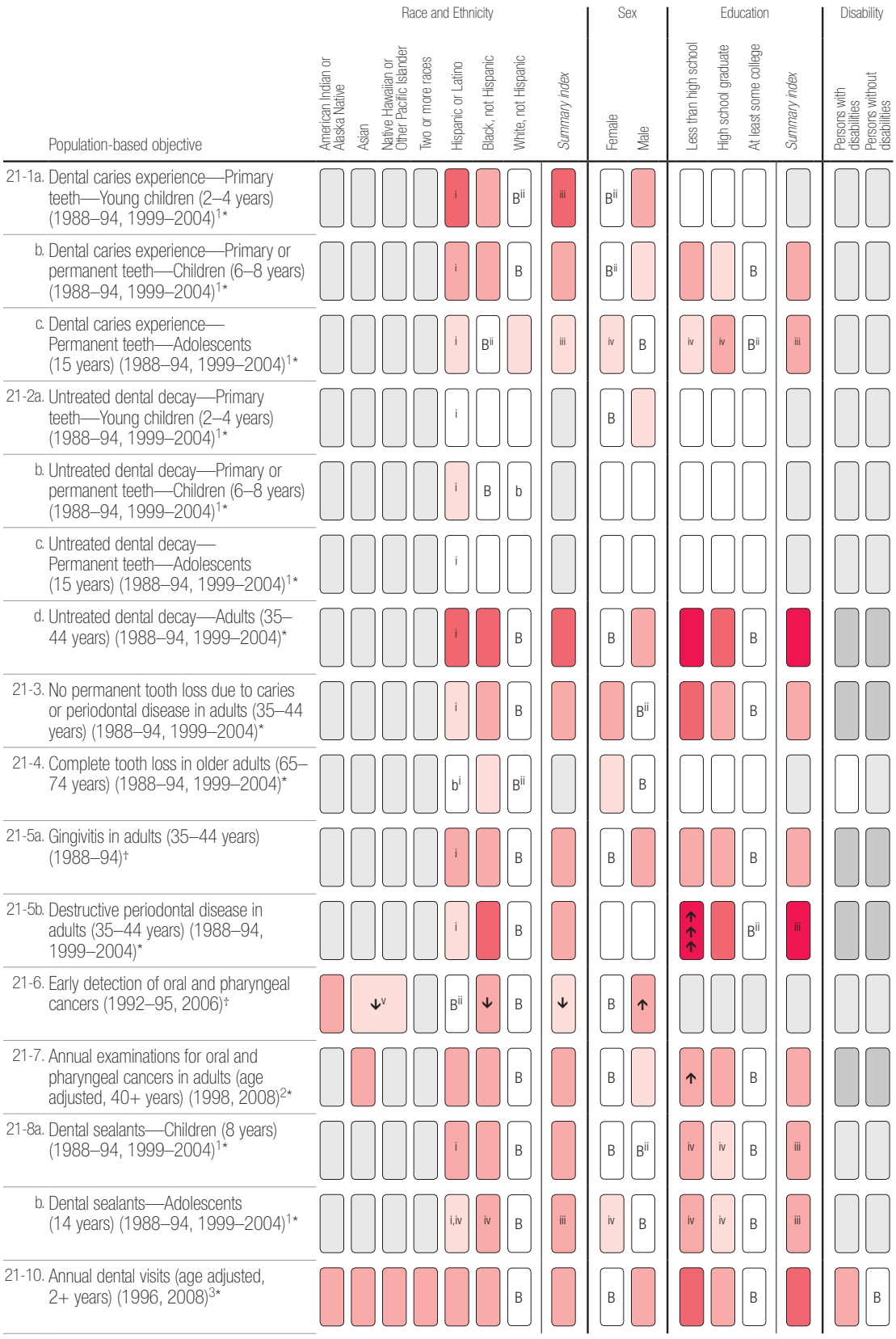
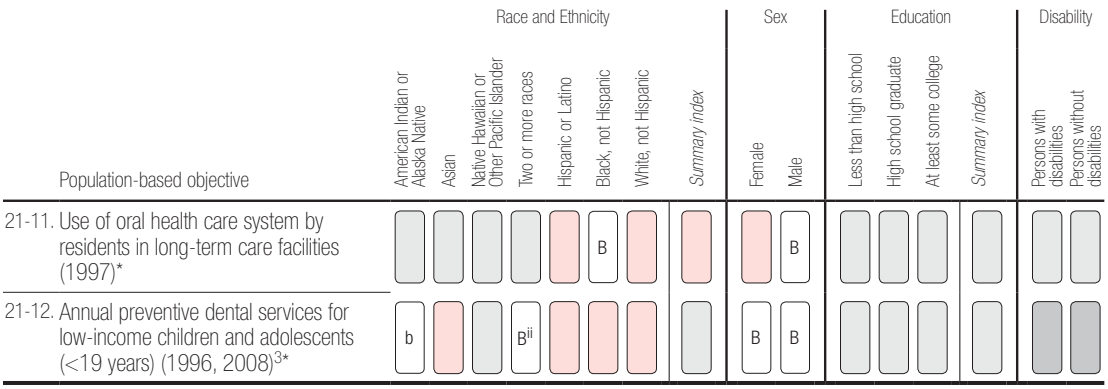


Figure 21-2. Health Disparities Table for Focus Area 21: Oral Health (continued)



NOTES

See DATA2010 at http://wonder.cdc.gov/data2010 for all Healthy People 2010 tracking data. Disparity data are either unavailable or not applicable for objectives 21-9, 21-13a and b, 21-14 through 21-16, and 21-17a and b.

Years in parentheses represent the baseline and most recent data years (if available).

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 (e.g., race and ethnicity). The summary index is the average of these percent differences for a characteristic. Change in disparity is estimated by subtracting the disparity at baseline from the disparity at the most recent data point. Change in the summary index is estimated by subtracting the summary index at baseline from the summary index at the most recent data point. See Technical Appendix for more information.

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.

FOOTNOTES

* Measures of variability were available. Thus, the variability of best group rates was assessed, and statistical significance was tested. Disparities of 10% or more are displayed when the differences from the best group rate are statistically significant at the 0.05 level. Changes in disparities over time are indicated by arrows when the changes are greater than or equal to 10 percentage points and are statistically significant at the 0.05 level. See Technical Appendix.

† Measures of variability were not available. Thus, the variability of best group rates was not assessed, and statistical significance could not be tested. Nonetheless, disparities and changes in disparities over time are displayed according to their magnitude. See Technical Appendix.

[1] Data by education level are for the head of household.

[2] Baseline data by race and ethnicity are for 2008.

[3] Baseline data by race and ethnicity are for 2002.

[i] Data are for Mexican American.

Figure 21-2. Health Disparities Table for Focus Area 21: Oral Health (continued)

[ii] The group with the best rate at the most recent data point is different from the group with the best rate at baseline. Both rates met the reliability criterion. See Technical Appendix.

[iii] Change in the summary index cannot be assessed. See Technical Appendix.

[iv] Reliability criterion for best group rate not met, or data available for only one group, at baseline. Change in disparity cannot be assessed. See Technical Appendix.

[v] Data are for Asian or Pacific Islander.

DATA SOURCES

21-1a–c.	National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.
21-2a–d.	National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.
21-3–21-4.	National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.
21-5a–b.	National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.
21-6.	Surveillance, Epidemiology, and End Results (SEER) Program, NIH, NCI.
21-7.	National Health Interview Survey (NHIS), CDC, NCHS.
21-8a–b.	National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.
21-10.	Medical Expenditure Panel Survey (MEPS), AHRQ.
21-11.	National Nursing Home Survey (NNHS), CDC, NCHS.
21-12.	Medical Expenditure Panel Survey (MEPS), AHRQ.