SAFER • HEALTHIER • PEOPLE™

CDC™

Monitoring the Nation's Health

Preliminary Report

Trends in Oral Health Status: United States, 1988–1994 and 1999–2004

Vital and Health Statistics

Series 11, Number 248

April 2007

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Center for Health Statistics

Copyright information

All material appearing in this report is in the public domain and may be reproduced or copied without permission; citation as to source, however, is appreciated.

Suggested citation

Dye BA, Tan S, Smith V, Lewis BG, Barker LK, Thornton-Evans G, et al. Trends in oral health status: United States, 1988–1994 and 1999–2004. National Center for Health Statistics. Vital Health Stat 11(248). 2007.

Library of Congress Cataloging-in-Publication Data

Trends in oral health status : United States, 1988–1994 and 1999–2004 / Bruce A. Dye ... [et al.].
p. ; cm. — (Vital and health statistics. Series 11 ; no. 248)
Running title: OH trends US 88/04
"April 2007."
Includes bibliographical references.
ISBN 0–8406-0615-X
1. Dental public health—United States—Statistics. 2. Health status indicators—United States. 3. United States—Statistics, Medical. I. Dye, Bruce A. II. National Center for Health Statistics (U.S.) III. National Health and Nutrition Examination Survey (U.S.) IV. Title: OH trends US 88/04. V. Series: Vital and health statistics. Series 11, Data from the national health survey ; no. 248.
[DNLM: 1. Oral Health—United States—Statistics. 2. Stomatognathic Diseases—United States—Statistics. 3. Health Status Indicators—United States. 4. Nutrition Surveys—United States. W2 A N148vk no. 248 2007]
RK52.2.T74 2007
614.5'9960973—dc22 2007007485

Trade name disclaimer

The use of trade names is for identification only and does not imply endorsement by the Centers for Disease Control and Prevention, U.S. Department of Health and Human Services.

For sale by the U.S. Government Printing Office
Superintendent of Documents
Mail Stop: SSOP
Washington, DC 20402-9328
Printed on acid-free paper.

National Center for Health Statistics

Edward J. Sondik, Ph.D., *Director*

Jennifer H. Madans, Ph.D., *Acting Co-Deputy Director*

Michael H. Sadagursky, *Acting Co-Deputy Director*

Jennifer H. Madans, Ph.D., *Associate Director for Science*

Jennifer H. Madans, Ph.D., *Acting Associate Director for Planning, Budget, and Legislation*

Michael H. Sadagursky, *Associate Director for Management and Operations*

Lawrence H. Cox, Ph.D., *Associate Director for Research and Methodology*

Margot A. Palmer, *Director for Information Technology*

Margot A. Palmer, *Acting Director for Information Services*

Linda T. Bilheimer, Ph.D., *Associate Director for Analysis and Epidemiology*

Charles J. Rothwell, M.S., *Director for Vital Statistics*

Jane E. Sisk, Ph.D., *Director for Health Care Statistics*

Jane F. Gentleman, Ph.D., *Director for Health Interview Statistics*

Clifford L. Johnson, M.S.P.H., *Director for Health and Nutrition Examination Surveys*

Division of Health and Nutrition Examination Surveys

Clifford L. Johnson, M.S.P.H., *Director*

Rosemarie Hirsch, M.D., M.P.H., *Chief Analysis Branch*

George Zipf, M.S., *Chief Operations Branch*

Vicki L. Burt, ScM., RN, *Chief Planning Branch*

Jerry Del Rosso, BSEE, *Chief Informatics Branch*

Vital and Health Statistics

Series 11, Number 248

Trends in Oral Health Status: United States, 1988–1994 and 1999–2004

Data From the Continuous National Health and Examination Survey (NHANES)

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Center for Health Statistics

Hyattsville, Maryland
April 2007
DHHS Publication No. (PHS) 2007-1698

Contents

Acknowledgments . . . viii

Abstract . . . 1

Introduction . . . 1

Methods . . . 2
- Source of Data and Survey Design . . . 2
- Oral Health Component . . . 2
- Description of Selected Findings . . . 5
- Discussion of Trends . . . 9

Conclusion . . . 16

References . . . 16

Appendix . . . 92
- Glossary of Dental Terms . . . 92

Figures

1. Mean DMFT scores for persons 6 years of age and older by selected age groups: United States, 1988–1994 and 1999–2004 . . . 3
2. Mean dfs scores by children age 2–11 years of age and federal poverty level status: United States, 1988–1994 and 1999–2004 . . . 4
3. Decayed and filled primary dental surfaces (dfs) for youths 2–11 years of age by age groups and federal poverty level status: United States, 1988–1994 and 1999–2004 . . . 5
4. Prevalence of dental sealants on permanent teeth for youths 6–11 years of age by age groups and federal poverty status levels: United States, 1988–1994 and 1999–2004 . . . 6
5. Decayed, missing, and filled permanent teeth (DMFT) for adolescents 12–19 years of age by age group and poverty status: United States, 1988–1994 and 1999–2004 . . . 7
6. Decayed, missing, and filled permanent dental surfaces (DMFS) for adolescents 12–19 years of age by age group and poverty status: United States, 1988–1994 and 1999–2004 . . . 8
7. Prevalence of dental sealants on permanent teeth for adolescents 12–19 years of age by age group and federal poverty level status: United States, 1988–1994 and 1999–2004 . . . 9
8. Decayed, missing, and filled permanent teeth (DMFT) for adults 20–64 years of age by age group and federal poverty level status: United States, 1988–1994 and 1999–2004 . . . 10
9. Decayed, missing, and filled dental surfaces (DMFS) for adults 20–64 years of age by age group and federal poverty level status: United States, 1988–1994 and 1999–2004 . . . 11
10. Prevalence of pocket depth greater than or equal to 4 millimeters for adults 20–64 years of age by age groups and federal poverty level status: United States, 1988–1994 and 1999–2004 . . . 12
11. Prevalence of attachment loss greater than or equal to 3 millimeters for adults 20–64 years of age by age groups and federal poverty level status: United States, 1988–1994 and 1999–2004 . . . 12
12. Prevalence of moderate/severe periodontitis for adults 20–64 years of age by age group and federal poverty level status: United States, 1988–1994 and 1999–2004 . . . 13
13. Decayed, missing, and filled permanent teeth (DMFT) for seniors 65 years of age and older by age group and federal poverty level: United States, 1988–1994 and 1999–2004 . . . 14
14. Decayed, missing, and filled dental surfaces (DMFS) for seniors 65 years of age and older by age group and federal poverty level: United States, 1988–1994 and 1999–2004 . . . 15

15. Prevalence of pocket depth greater than or equal to 4 millimeters for seniors 65 years of age and older by age groups and federal poverty level status: United States, 1988–1994 and 1999–2004 15
16. Prevalence of attachment loss greater than or equal to 3 millimeters for seniors 65 years of age and older by age groups and federal poverty level status: United States, 1988–1994 and 1999–2004 16
17. Prevalence of moderate/severe periodontitis for seniors 65 years of age and older by age groups and federal poverty level status: United States, 1988–1994 and 1999–2004 17

Detailed Tables

1. Comparison of sampling design characteristics for the National Health and Nutrition Examination Survey III and the National Health and Nutrition Examination Survey 1999–2004. 18
2. Age eligibility for oral health assessments common to both the National Health and Nutrition Examination Survey III and the National Health and Nutrition Examination Survey 1999–2004. 18
3. Number of sampled persons 2 years of age or older participating in Interview, MEC, and Oral Health Exams for the National Health and Nutrition Examination Survey by selected demographics: United States, 1988–1994 and 1999–2004. 19
4. Weighted frequency distribution of persons with oral health examination information by age group for the National Health and Nutrition Examination Survey: United States, 1988–1994 and 1999–2004 20
5. Prevalence of dental caries in primary teeth (dft) among youths 2–11 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004. 20
6. Prevalence of untreated tooth decay in primary teeth among youths 2–11 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004. 21
7. Mean number of decayed, filled, and decayed and filled primary teeth among youths 2–11 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 21
8. Mean number of decayed, filled, and decayed and filled primary tooth surfaces among youths 2–11 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004. 22
9. Contribution of decayed or filled surfaces to the number of decayed and filled surfaces among youths 2–11 years of age with at least one decayed or filled surface in primary teeth, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 22
10. Prevalence of dental caries in permanent teeth (DMFT) among youths 6–11 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004. 23
11. Prevalence of untreated tooth decay in permanent teeth among youths 6–11 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004. 23
12. Mean number of decayed, filled, and decayed, missing and filled permanent teeth among youths 6–11 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 24
13. Mean number of decayed, filled, and decayed, missing and filled permanent teeth among youths 6–11 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 24
14. Contribution of decayed or filled surfaces on the mean number of decayed, missing and filled surfaces among youths 6–11 years of age with at least one decayed, missing or filled surface, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004. 25
15. Prevalence of dental sealants on permanent teeth among youths 6–11 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004. 25
16. Mean number of permanent teeth with dental sealants among youths 6–11 years of age with at least one sealed tooth, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 26
17. Mean number of permanent teeth sealed by tooth type among youths 6–11 years of age with at least one sealed tooth, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 26
18. Prevalence of trauma in permanent incisors, maxillary incisors, and mandibular incisors among youths 6–11 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004. 27
19. Time since last dental visit among youths 2–11 years of age, by selected characteristics: United States, National Health and Nutrition Examination, 1988–1994 and 1999–2004 28

20. Healthy People 2010 Objective 21–1a: Prevalence of dental caries in primary teeth among youths 2–4 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 29
21. Healthy People 2010 Objective 21–1b: Prevalence of dental caries in primary or permanent teeth among youths 6–8 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 29
22. Healthy People 2010 Objective 21–2a: Prevalence of untreated tooth decay in primary teeth among youths 2–4 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 30
23. Healthy People 2010 Objective 21–2b: Prevalence of untreated tooth decay in primary or permanent teeth among youths 6–8 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 30
24. Healthy People 2010 Objective 21–8a: Prevalence of dental sealants on permanent first molars among youths 8 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 31
25. Prevalence of dental caries in permanent teeth (DMFT) among adolescents 12–19 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 31
26. Prevalence of untreated tooth decay in permanent teeth among adolescents 12–19 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 32
27. Mean number of decayed, missing, filled, and decayed, missing and filled permanent teeth among adolescents 12–19 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 33
28. Mean number of decayed, missing, filled, and decayed, missing and filled permanent surfaces among adolescents 12–19 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 34
29. Contribution of decayed, missing, or filled surfaces on the mean number of decayed, missing and filled surfaces among adolescents 12–19 years of age with at least one decayed, missing or filled surface, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 35
30. Prevalence of dental sealants on permanent teeth among adolescents 12–19 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 36
31. Mean number of permanent teeth with dental sealants among adolescents 12–19 years of age with at least one sealed tooth, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 36
32. Mean number of permanent teeth sealed by tooth type among adolescents 12–19 years of age with at least one sealed tooth, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 37
33. Prevalence of trauma in permanent incisors, maxillary incisors, and mandibular incisors among adolescents 12–19 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 37
34. Distribution of trauma calls among adolescents 12–19 years of age with at least one traumatized tooth, by incisal trauma type and age: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 38
35. Time since last dental visit among adolescents 12–19 years of age, by selected characteristics: United States, National Health and Nutrition Examination, 1988–1994 and 1999–2004 . . . 39
36. Healthy People 2010 Objective 21–1c: Prevalence of dental caries in permanent teeth among adolescents 15 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 40
37. Healthy People 2010 Objective 21–2c: Prevalence of untreated tooth decay in permanent teeth among adolescents 15 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 40
38. Healthy People 2010 Objective 21–8b: Prevalence of dental sealants on permanent first molars among adolescents 14 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 41
39. Perceived condition of teeth and mouth among adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination, 1988–1994 and 1999–2004 . . . 42
40. Prevalence of caries in permanent teeth (DMFT) among dentate adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 43
41. Prevalence of untreated tooth decay in permanent teeth among dentate adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 44

42. Mean number of decayed, missing, filled, decayed and filled teeth, and decayed, missing, and filled teeth in permanent teeth of dentate adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 45
43. Mean number of decayed, missing, filled, decayed and filled, and decayed, missing, and filled surfaces in permanent teeth of dentate adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 46
44. Contribution of decayed or filled surfaces on the mean number of decayed and filled surfaces among dentate adults 20–64 years of age with at least one decayed or filled permanent surface, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 47
45. Prevalence of root caries among dentate adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 48
46. Mean number of permanent teeth among dentate adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 49
47. Prevalence of edentulism among adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 50
48. Time since last dental visit among adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination, 1988–1994 and 1999–2004 . . . 51
49. Mean recession among dentate adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 52
50. Mean pocket depth among dentate adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 53
51. Mean loss of attachment among dentate adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 54
52. Prevalence of the level of recession among dentate adults 20–64 years of age, by age and selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 55
53. Prevalence of the level of pocket depth among dentate adults 20–64 years of age, by age and selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 57
54. Prevalence of the level of loss of attachment among dentate adults 20–64 years of age, by age and selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 60
55. Prevalence of periodontal disease among dentate adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 63
56. Prevalence of moderate or severe periodontitis among dentate adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 64
57. Healthy People 2010 Objective 21–2d: Prevalence of untreated tooth decay in permanent teeth among adults 35–44 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 65
58. Healthy People 2010 Objective 21–3: No permanent tooth loss due to caries or periodontal disease among adults 35–44 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 66
59. Healthy People 2010 Objective 21–5b: Prevalence of destructive periodontal disease# among adults 35–44 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 67
60. Perceived condition of teeth and mouth among seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination, 1988–1994 and 1999–2004 . . . 68
61. Prevalence of dental caries in permanent teeth (DMFT) among dentate seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 69
62. Prevalence of untreated tooth decay in permanent teeth among dentate seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 70
63. Mean number of decayed, missing, filled, decayed and filled teeth, and decayed, missing, and filled teeth in permanent teeth of dentate seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 71
64. Mean number of decayed, missing, filled, decayed and filled, and decayed, missing, and filled surfaces in permanent teeth of dentate seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 72
65. Contribution of decayed or filled surfaces on the mean number of decayed and filled surfaces among dentate seniors 65 years of age and older with at least one decayed or filled permanent surface, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 . . . 73

66. Prevalence of root caries among dentate seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 74
67. Mean number of permanent teeth among dentate seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 75
68. Prevalence of edentulism among seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 76
69. Time since last dental visit among seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination, 1988–1994 and 1999–2004 77
70. Mean recession among dentate seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 78
71. Mean pocket depth among dentate seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 79
72. Mean loss of attachment among dentate adults seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 80
73. Prevalence of the level of recession among dentate seniors 65 years of age and older, by age and selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 81
74. Prevalence of the level of pocket depth among dentate seniors 65 years of age and older, by age and selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 83
75. Prevalence of the level of loss of attachment among dentate seniors 65 years of age and older, by age and selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 86
76. Prevalence of periodontal disease among dentate seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 89
77. Prevalence of moderate or severe periodontitis among dentate seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 90
78. Healthy People 2010 Objective 21–4: Prevalence of complete tooth loss among seniors 65–74 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004 91

Acknowledgements

The NHANES oral health component was a funding and content collaborative effort between the National Institutes of Health, National Institute of Dental and Craniofacial Research; the Centers for Disease Control and Prevention, National Center for Health Promotion and Disease Prevention Division of Oral Health and the National Center for Health Statistics.

The authors gratefully acknowledge Ms. Yang Yu, National Center for Health Statistics, for programming support and data table review and Dr. Freder Jaramillo, Division of Oral Health, for assistance in reviewing the tables.

Abstract

Objective

This report presents national estimates and trends for a variety of oral health status measures for persons aged 2 years and older by sociodemographic and smoking status since the late 1980s in the United States.

Methods

Data from the third National Health and Nutrition Examination Survey (NHANES III), 1988–1994 and from the NHANES 1999–2004 were used. These data sources were designed to provide information on the health and nutritional status of the civilian noninstitutionalized population in the United States. Information from oral health examination methods common to both survey periods were used to present prevalence estimates and for trend analyses. Statistical significance of differences between common estimates from each survey period was evaluated using two-sided t-tests.

Results

This report provides mean, percentile values, and standard errors for dental caries, dental sealants, incisal trauma, periodontal health, dental visits, perception of oral health status, tooth retention, and edentulism. Additional estimates for monitoring progress toward the *Healthy People 2010* oral health objectives using NHANES source data are presented as well.

Conclusions

For most Americans, oral health status has improved between 1988–1994 and 1999–2004. For seniors, edentulism and periodontitis has declined; for adults, improvements were seen in dental caries prevalence, tooth retention, and periodontal health; for adolescents and youths, dental sealant prevalence has increased and dental caries have decreased; however, for youth's age 2–5 years, dental caries in primary teeth has increased.

Keywords: *oral health, NHANES, dental caries, periodontitis, edentulism, tooth loss, dental visits, dental trauma, dental public health*

Trends in Oral Health Status: United States, 1988–1994 and 1999–2004

by Bruce A. Dye, DDS, M.P.H., Sylvia Tan, M.S., Vincent Smith, M.S., and Brenda G. Lewis, M.P.H., National Center for Health Statistics, Centers for Disease Control and Prevention; Laurie K. Barker, M.S.P.H., Gina Thornton-Evans, DDS, M.P.H., Paul I. Eke, Ph.D., M.P.H., and Eugenio D. Beltran-Aguilar, DMD, Ph.D., National Center for Chronic Disease Prevention and Health Promotion, Division of Oral Health, Centers for Disease Control and Prevention; Alice M. Horowitz, Ph.D., National Institutes of Health, National Institute of Dental and Craniofacial Research; and Chien-Hsun Li, M.S., M.A., Dental, Oral, and Craniofacial Data Resource Center

Introduction

The Surgeon General has declared that "oral health is essential to the general health and well-being of all Americans" (1). There are important associations between poor oral health status and other systemic diseases, such as diabetes. Moreover, risk factors for oral diseases, such as tobacco use, are shared with other systemic diseases. Poor oral health also impacts diet and nutrition and affects social activities, such as school and work.

Although dental caries has declined significantly among school-aged children since the early 1970s, dental caries has remained the most prevalent chronic disease of childhood (1). Over the same time period, fewer adults have experienced tooth loss because of dental decay or periodontal disease and the prevalence of complete tooth loss among adults has been consistently declining (1). Although significant improvements in oral health for most Americans have been made over the past four decades, oral health disparities remain across some population groups.

The National Health and Nutrition Examination Survey (NHANES) has been an important source of information on oral health and dental care in the United States since the early 1970s. Numerous Vital and Health Statistic Series 11 reports on oral health have been published using data from prior NHANES surveys and its precursor survey conducted in the 1960s (the National Health Examination Survey). However, there has not been a comprehensive Series 11 report published using oral health and dental care data from the more recent surveys. This report provides national estimates for a broad range of oral health measures for the U.S. civilian noninstitutionalized population from 1988–1994 to 1999–2004; and extends a previous report (2) in time period and oral health assessments.

Many of the oral health protocols used for NHANES 1999–2004 were comparable to methods employed on NHANES III (1988–1994). Estimates from assessments common to both survey periods are presented here and cover the following topics: dental caries, dental sealants, tooth loss, incisor trauma, periodontal status, dental visits, and respondent-assessed oral health status. For both surveys, participation in the various oral health assessments was determined by age, which was related to

the disease or condition being evaluated. Additional estimates reflecting the *Healthy People 2010* oral health objectives (3) are presented in this report as well. The presentation of information in this report is structured to represent four major periods of life. These life-stages are designated as youths, adolescents, adults, and seniors.

The design and implementation of the NHANES oral health protocols have involved a collaborative effort among the National Institute of Dental and Craniofacial Research (NIDCR) and two partners within the Centers for Disease Control and Prevention (CDC): the National Center for Chronic Disease Prevention and Health Promotion's Division of Oral Health (DOH) and the National Center for Health Statistics (NCHS). The main NHANES oral health objectives are to:

1. Evaluate trends in oral diseases and conditions.
2. Assess effects to prevent disease and disability.
3. Monitor the oral health status of minority and underserved populations.
4. Assess progress in meeting national health objectives.

Methods

Source of Data and Survey Design

NHANES III used a stratified, multistage design to obtain a representative probability sample of the civilian noninstutionalized population of the United States, 2 months of age and older. The survey was conducted from October 1988 through October 1994 and was designed as two 3-year phases, each of which constitutes a national probability sample. The 6-year sample, also a national probability sample, provides more statistically reliable estimates because of its larger sample size. Subgroups of the population were oversampled to allow increased precision in estimates for these groups; subgroups included non-Hispanic black and Mexican American persons, persons under 6 years of age, and persons 60 years of age and older. Details of the sample design and other methods of the survey have been described elsewhere (4,5).

The survey included an interview conducted in the household and an examination at a mobile examination center (MEC). Information obtained during the interview included individual characteristics such as sex, age, self-reported race and ethnicity, years of education completed, and household income information. The interviewer also asked questions about selected health conditions and behaviors, including information on smoking. The MEC examination consisted of a variety of physical measurements, a collection of biological specimens, and an additional personal interview.

NHANES was changed from a periodic survey to a continuous, annual survey in 1999. Unlike NHANES III, the current NHANES collects information on a nationally representative sample in each year but data are released in 2-year periods to protect confidentiality and increase statistical reliability. Multiple 2-year periods can be combined to form a national probability sample for a longer time period to improve reliability of statistics. As in NHANES III, participants are interviewed in their homes and then complete a health examination, which includes the collection of biologic specimens at the MEC.

During the NHANES 1999–2004, oversampling occurred for persons aged 12–19 years, adults 60 years and older, African-American persons, and Mexican American persons. Furthermore, all women who indicated that they were pregnant at the time of the screening interview were selected into the sample, and low-income white persons were over sampled in 2000–2004. Sample design characteristics for NHANES III and the current NHANES are shown in Table 1. Additional details of the survey are available at: http://www.cdc.gov/nchs/about/major/nhanes/datalink.htm.

Oral Health Component

Participation in the oral health component was limited to age groups considered most critical for monitoring oral health and dental care. Age groups for some of the oral health examination and interview components differed among NHANES III and 2-year data cycles within NHANES 1999–2004 (Table 2). For this report, information on oral health status was obtained from the following assessments conducted during the dental examination: tooth count, dental caries, dental sealants, dental incisor trauma, and periodontal status. Information was also obtained from the home interview covering assessments on perceived oral health status and the frequency of dental care. A list of oral health terms and abbreviations is included in the Appendix to facilitate interpretation of the information presented in this report.

For both surveys, the dental examinations were conducted in the MEC by trained dentists who were periodically calibrated by the reference dental examiner. In brief, dental examiners used a nonmagnifying mirror and a dental explorer under dry conditions (with compressed air) to assess for dental caries. The NHANES examining protocol was based upon the Radike criteria (6) with minor modifications. Assessments for coronal caries and restorations were made at the tooth surface level. The presence of dental root caries and restorations was assessed at the tooth level for NHANES III and at the person level for NHANES 1999–2004. Consequently, only prevalence of root caries and restorations are included in this report.

Selected dental surfaces on the 1st and 2nd primary and permanent molars, premolars, and upper lateral permanent incisors were assessed for dental sealants. A surface was considered sealed if any part of the surface remained covered with sealant material. Dental examiners queried participants about the possibility of any prior dental incisor trauma and examined for clinical signs of trauma or repair.

Periodontal assessments in NHANES III were made at two facial sites (mesio- and mid-facial) on each fully erupted permanent tooth, except third molars, in two randomly selected quadrants (that is, one maxillary and one mandibular). Periodontal measurements

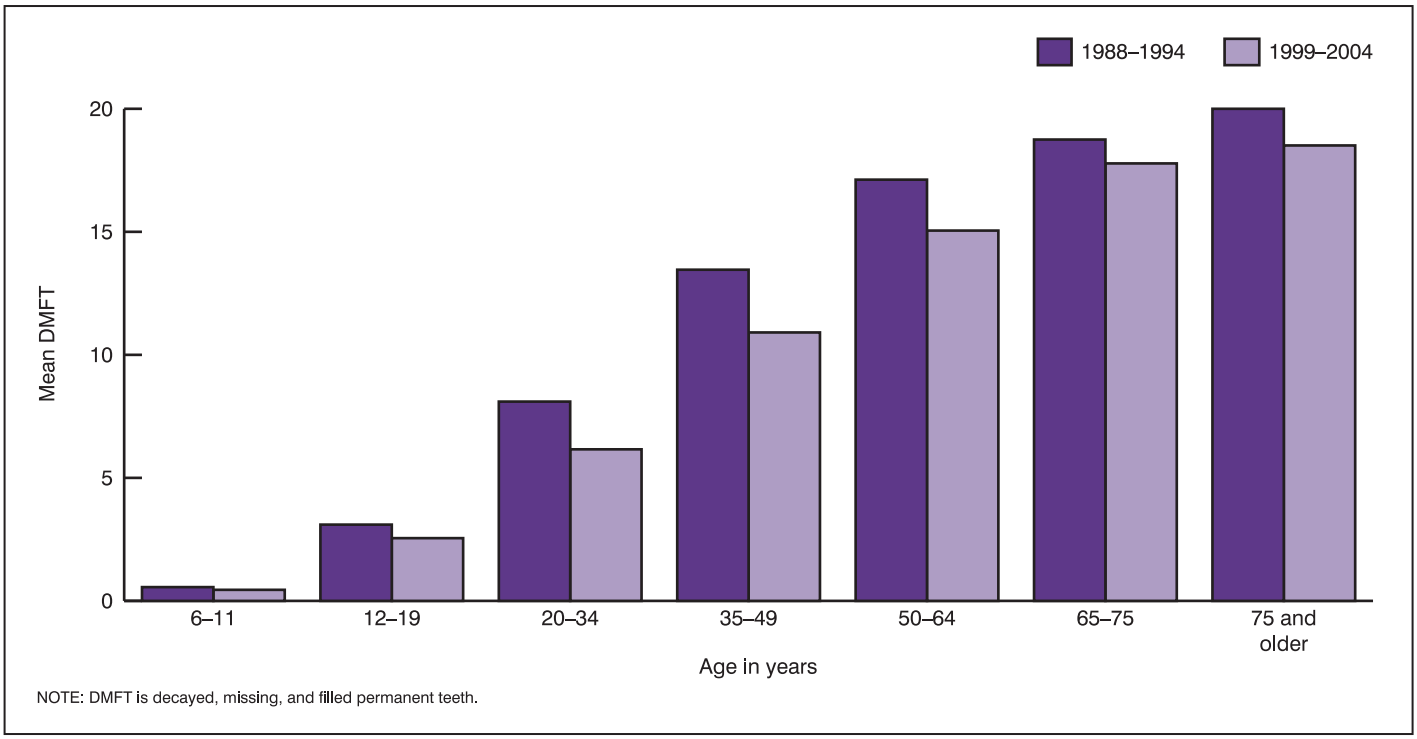

Figure 1. Mean DMFT scores for persons 6 years of age and older by selected age groups: United States, 1988–1994 and 1999–2004

were truncated to the whole millimeter and were made with a color-banded periodontal probe graduated at 2, 4, 6, 8, 10, and 12 millimeters. A third probing site (disto-facial) was added in 2001; however, information obtained only from measuring the mesio-facial and mid-facial sites are used in this report to be consistent with periodontal measurements collected prior to 2001. Detailed information on the NHANES dental examinations for the survey periods are available elsewhere (4,7,8).

Sample Size and Response Rates

Table 3 shows the demographic distribution of sampled persons participating in the interview, MEC and oral health exam during 1988–1994 and 1999–2004. Among the 30,548 participants completing the home interview during NHANES III, 87.9% completed an oral health exam. Overall, participation among those younger than 65 years of age was approximately 91% versus 75% for those 65 years of age or older. The overall completion rate during NHANES 1999–2004 was nearly the same. Among the 28,661 participants completing the home interview, 88.4% completed the oral health exam. The oral health completion rate among interviewed participants during 1999–2004 was approximately 90% for persons younger than 65 years of age and 81% for persons 65 years of age or older. The estimated population distribution by age for those completing an oral health exam is presented in Table 4.

Data Analysis

For this report, indicators for dental caries were calculated based on the number of decayed, missing, and filled teeth or surfaces (DMFT or DMFS) as proposed by Klein et al. (9). Observed trauma on incisal permanent teeth was categorized as a nonrestored fracture in enamel, a nonrestored fracture in dentin, a restored fracture, and endodontic trauma, which was defined having either prior endodontic therapy or untreated pulpal damage. Participants were identified as having periodontal disease if they had at least one periodontal site with 3 mm or more of loss of attachment and 4 mm or more of pocket depth at the same periodontal site. This definition of periodontal disease has been used in prior NHANES data analyses (8, 10,11). Additionally, moderate and severe periodontitis were combined for this report using the CDC American Academy of Periodontology (AAP) definitions for periodontitis surveillance in populations (12). These definitions are described in the Appendix.

The age categories used in this report are 2–11 years for youths, 12–19 years for adolescents, 20–64 years for adults, and 65 years and older for seniors. The selected age subgroups used were 2–5 years, 6–8 years, 9–11 years, 12–15 years, 16–19 years, 20–34 years, 35–49 years, 50–64 years, 65–74 years, and 75 years or older. Estimates presented for *Healthy People 2010* were not adjusted for age. All other estimates were adjusted for age to the U.S. 2000 standard population to control for potential differences in age distribution between NHANES III and NHANES 1999–2004 and to facilitate comparisons between the surveys and among sociodemographic groups (13). Estimates for youths and adolescents were adjusted using single years of age. Estimates for adults were adjusted using 15-year age groups. For seniors, estimates were adjusted for two groups: 65–74 year-olds and those age 75 years or older.

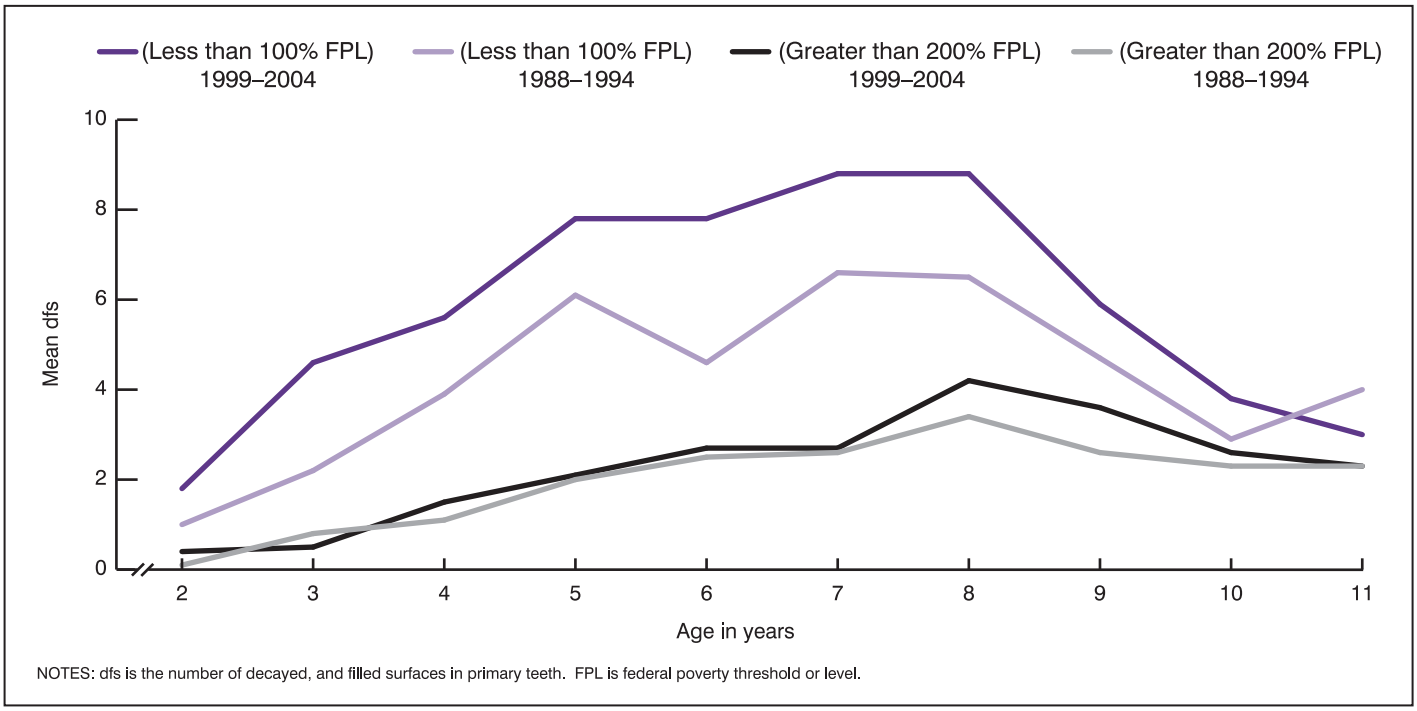

Figure 2. Mean dfs scores by children age 2–11 years of age and federal poverty level status: United States, 1988–1994 and 1999–2004

Estimates of oral health status are reported by sociodemographic characteristics similar to those reported in the previous MMWR (2). In brief, educational attainment was classified as less than high school, high school graduate or (General Educational Development high school equivalency test (GED), and greater than high school. Poverty status defined by the ratio of family income to federal poverty threshold or level (FPL) for family size has been associated with poorer oral health status and was reported in three levels: less than 100% FPL, greater than or equal to 100% but less than 200%, and greater than or equal to 200% FPL. Information on self-reported race and ethnicity was reported for three groups, for which statistical reliability was adequate for most estimates: Mexican American, non-Hispanic black, and non-Hispanic white. Smoking status was categorized as current smokers, former smokers, and never smoked.

All statistical analyses were performed with SUDAAN software (Version 9.0; Research Triangle Institute, Research Triangle Park, NC) and SAS software (Version 9.1; SAS Institute Inc, Cary, NC). Population means, standard errors of means, and differences in means for a variety of oral health outcomes are presented in this report. Sample weights were used to produce accurate population estimates because each sample person did not have the same probability of selection. Sample weights for the 6-year sample were calculated from the 4-year sample weights for 1999–2002 and 2-year sample weights for 2003–2004. Additional information related to calculating sample weights and the NHANES analytical guidelines is available elsewhere (14).

The statistical significance of differences between estimates was evaluated using two-sided t-tests at the α=0.05 level. In this report, statements that an estimate has increased, decreased, or changed over time, or that an estimate is higher, lower, or different between two populations, indicate that the difference is statistically significant when tested using the two-sided t-test. These tests were conducted without adjustment for other sociodemographic factors, other than age adjustments described previously. Stability of an estimate can be defined by the coefficient of variation (COV) or relative standard error (RSE), which is defined as the ratio of the standard error of the estimate to the point estimate and is expressed as a percentage of the point estimate. The larger the RSE of the estimate, the less stable the estimate is. For this report, estimates with an RSE greater than 30% are considered unstable. Additional information pertaining to criteria for reporting NHANES data reliability or precision is available elsewhere (14,15).

Healthy People 2010

Healthy People 2010 is the third in a series of 10-year health promotion, disease prevention, and health access goals and objectives for the United States (3). There are approximately 470 objectives across 28 Focus areas with an overarching goal of eliminating health disparities and improving quality of life. The Oral Health Focus area has 17 main objectives of which 6 objectives use NHANES as the data source. These objectives are:

- 21–1: Reduce the proportion of children and adolescents who have dental caries experience in their primary or permanent teeth.
- 21–2: Reduce the proportion of children, adolescents, and adults with untreated dental decay.
- 21–3: Increase the proportion of adults who have never had a

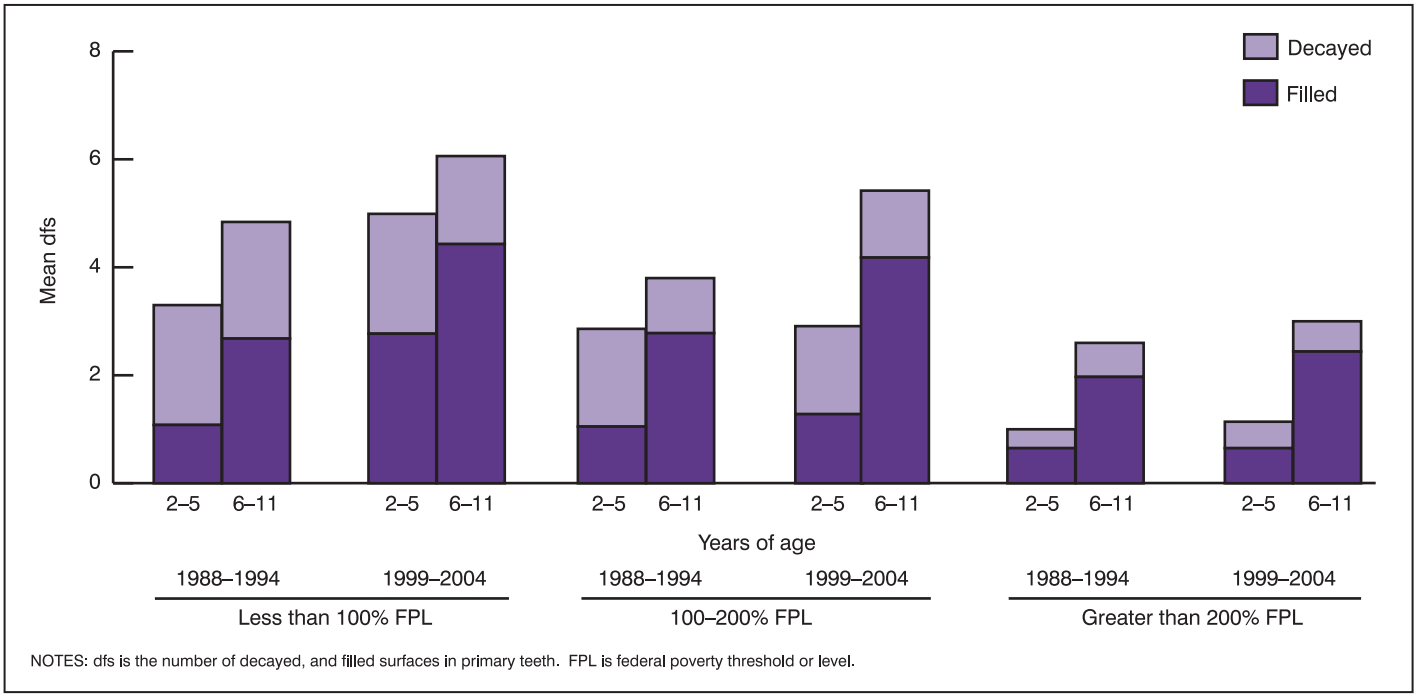

Figure 3. Decayed and filled primary dental surfaces (dfs) for youths 2–11 years of age by age groups and federal poverty level status: United States, 1988–1994 and 1999–2004

permanent tooth extracted because of dental caries or periodontal disease.

- 21–4: Reduce the proportion of older adults who have had all their natural teeth extracted.
- 21–5b: Reduce periodontal disease.
- 21–8: Increase the proportion of children who have received dental sealants on their molar teeth.

These six objectives use NHANES III data as baseline information with progress toward each of these goals measured using subsequent NHANES data. Additional tables are presented reporting estimates for oral health objectives relevant to each life stage. These additional tables present oral health estimates using the more narrowly defined Healthy People age criteria appropriate for each objective.

Description of Selected Findings

Youths (2–11 Years)

Tables 5–24 present selected oral health estimates for persons aged 2–11 years. Overall, the prevalence of dental caries in primary teeth (dft) increased from approximately 40% from 1988–1994 to 42% during 1999–2004 (Table 5). However, among 2–5 year-olds, the prevalence of dental caries in primary teeth significantly increased from approximately 24% to 28%. The prevalence of untreated primary tooth decay has remained unchanged (approximately 23%) between 1988–1994 and 1999–2004 for 2–11 year-olds (Table 6). For this age group, the mean number of decayed and filled primary teeth has significantly increased from 1.39 to 1.58 dft (Table 7). Statistically significant increases were observed among males, non-Hispanic white persons, and youths living in households below 100% FPL. Similarly, the mean number of decayed and filled primary dental surfaces significantly increased from 2.94 to 3.63 from 1988–1994 to 1999–2004 (Table 8). Increases were observed for all subgroups evaluated except for non-Hispanic black persons and youths living in households at or above 200% FPL. Figure 2 shows the mean dfs scores for youths by the lowest and highest poverty strata and by survey period. Mean dfs scores are higher and may peak earlier in age for youths living in households less than 100% FPL compared with youths living in households greater than or equal to 200% FPL. The contribution of untreated tooth decay to total number of decayed and filled primary tooth surfaces decreased for males (6.53%), Mexican Americans (12.15%), and youths living in households below 100% FPL (12.47%) (Table 9). Figure 3 shows that the difference between 1988–1994 and 1999–2004 in mean dfs scores for 2–11 year-olds varies by both age group and poverty status.

The prevalence of dental caries in permanent teeth (DMFT) for youths has decreased significantly from approximately 25% in 1988–1994 to 21% in 1999–2004 (Table 10). The prevalence of untreated permanent tooth decay has remained nearly unchanged for all youths, except for children age 6–8 years and non-Hispanic black personss for whom the prevalence declined from 2.4% and 4.5%, respectively, from 1988–1994 to 1999–2004 (Table 11). Overall, DMFT and DMFS declined in permanent teeth for youths during the same period (Tables 12, 13). The prevalence of dental sealants on permanent teeth among all youths significantly increased from approximately 22% in 1988–1994 to 30% in 1999–2004 (Table 15). This increase was observed for all subgroups evaluated except youths aged 6–8 years

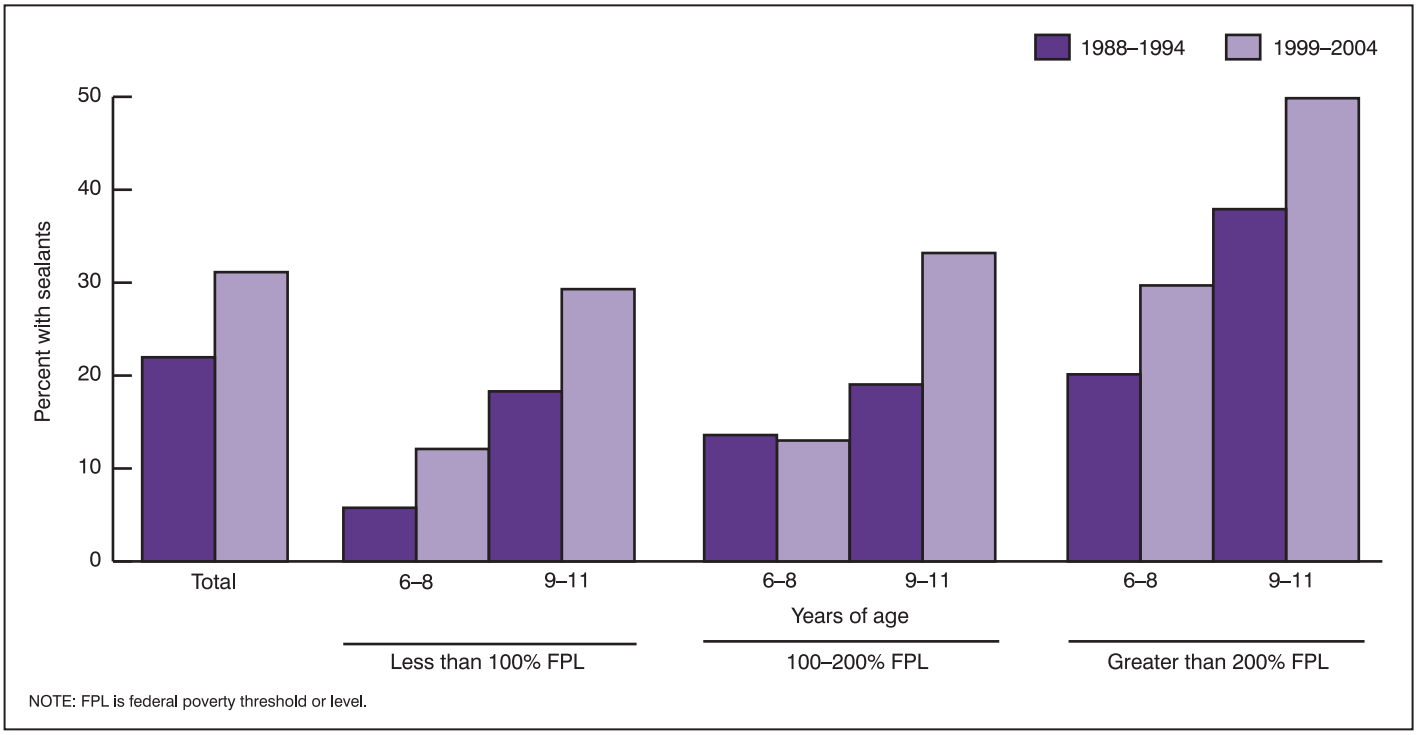

Figure 4. Prevalence of dental sealants on permanent teeth for youths 6–11 years of age by age groups and federal poverty status levels: United States, 1988–1994 and 1999–2004

and those living in households between 100%–199% FPL. Figure 4 shows that the increase in dental sealant prevalence from 1988–1994 to 1999–2004 occurred across both age and poverty strata. Table 18 shows that overall youth incisal trauma did not significantly change between 1988–1994 and 1999–2004. Likewise, there was little change among youths reporting a dental visit in the past year between 1988–1994 (63.59%) and 1999–2004 (64.84%) (Table 19).

Information pertaining to youth *Healthy People 2010* oral health objectives is presented in Tables 20–24. For 2–4 year-olds, prevalence of dental caries in primary teeth (objective 21–1a) has increased from approximately 18% to 24% between 1988–1994 and 1999–2004 (Table 20). The prevalence of untreated primary dental decay (objective 21–2a) increased from approximately 16% in 1988–1994 to nearly 19% in 1999–2004 for 2–4 year-olds (Table 22). Overall, this increase for untreated primary tooth decay was not statistically significant; but for select subgroups of youths age 2–4 years, the difference was statistically significant among non-Hispanic white persons and youths living in households at or above 200% FPL (approximately 5% point increase for both groups). Table 21 shows that the prevalence of dental caries in permanent teeth remained relatively unchanged between the survey periods for youths aged 6–8 years (objective 21–1b). However, the prevalence of dental caries in permanent teeth significantly increased for 6–8 year-old non-Hispanic black persons from approximately 49% in 1988–1994 to 56% in 1999–2004. The prevalence of untreated tooth decay in permanent teeth for 6–8 year-olds (objective 21–2b) remained unchanged (approximately 28% to 29%) between 1988–1994 and 1999–2004 (Table 23). Although not statistically significant, a large increase in prevalence of dental sealants on permanent first molars (objective 21–8a) was observed among youth aged 8 years, from nearly 23% in 1988–1994 to approximately 32% in 1999–2004 (Table 24). This increase in prevalence was statistically significant for non-Hispanic black and Mexican American persons.

Adolescents (12–19 Years)

Tables 25–38 present selected oral health estimates for persons aged 12–19 years. Overall, the prevalence of dental caries in permanent teeth significantly decreased from approximately 68% from 1988–1994 to 59% during 1999–2004 (Table 25). This decrease was significant for all subgroups evaluated except for Mexican American adolescents and adolescents living in households between 100%–199% FPL. Little change was observed in the prevalence of untreated decay on permanent teeth for adolescents between 1988–1994 (20.57%) and 1999–2004 (19.59%) (Table 26). However, a significant decrease in untreated decay was seen for non-Hispanic black adolescents and adolescents living in households below 100% FPL. Overall, DMFT and DMFS declined in permanent teeth for adolescents (Tables 27, 28). Figures 5 and 6 show that the greatest change observed for mean DMFT and DMFS scores between 1988–1994 and 1999–2004 occurred in older adolescents regardless of poverty status.

The prevalence of dental sealants on permanent teeth among all adolescents has significantly increased from approximately 18% in 1988–1994 to 38% in 1999–2004 (Table 30). This increase was significant across all subgroups evaluated. Figure 7 shows the

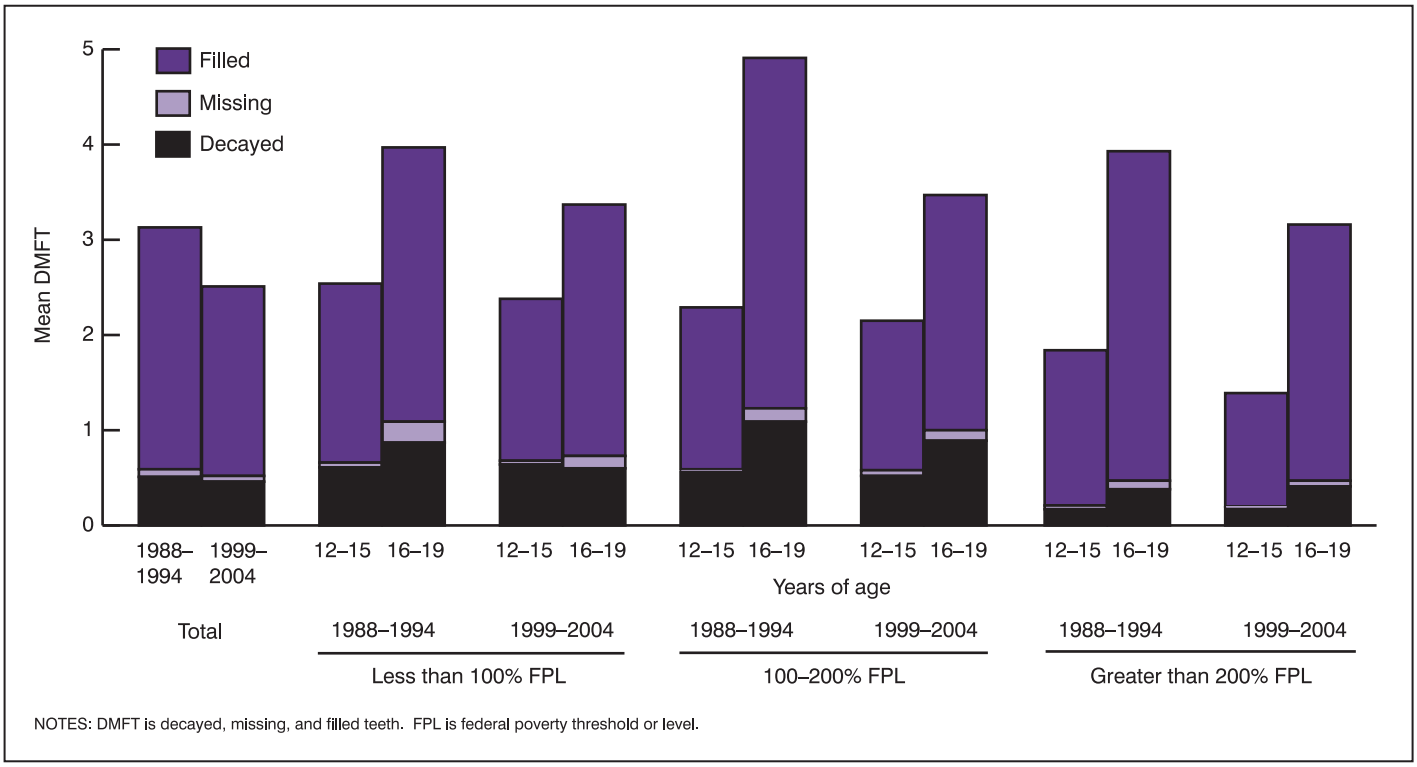

Figure 5. Decayed, missing, and filled permanent teeth (DMFT) for adolescents 12–19 years of age by age group and poverty status: United States, 1988–1994 and 1999–2004

magnitude of this increase by age and poverty subgroups. Table 33 shows that overall incisal trauma prevalence for adolescents remained unchanged between 1988–1994 and 1999–2004 (approximately 20%). There was little change among adolescents reporting a dental visit in the past year between 1988–1994 (73.95%) and 1999–2004 (72.63%) (Table 35).

Information for *Healthy People 2010* oral health youth objectives is presented in Tables 36–39. Although the prevalence of dental caries in permanent teeth for 15-year-olds (objective 21–1c) decreased from approximately 61% in 1988–1994 to 56% during 1999–2004 (Table 36), this decrease was significant only for non-Hispanic black persons (decreasing from approximately 68% to 53%). The prevalence of untreated tooth decay among 15-year-olds (objective 21–2c) was approximately 20% during 1988–1994 and 18% during 1999–2004 (Table 37). However, for Mexican-American persons untreated tooth decay significantly declined from approximately 36% to 21% between survey periods. For all 14-year-olds, the prevalence of dental sealants on permanent first molars (objective 21–8b) has increased from approximately 15% to 21% from 1988–1994 to 1999–2004 (Table 38).

Adults (20–64 Years)

Tables 39–59 present selected oral health estimates for persons aged 20–64 years. Overall, the prevalence of adults reporting the condition of their teeth and mouth to be "excellent or very good" significantly declined from 30% in 1988–1994 to 26% during 1999–2004 (Table 39). This decrease was significant for persons age 20–34 years, men, Mexican American persons, non-Hispanic white persons, persons with more than a high school education, and adults not living in poverty (≥100% FPL). The prevalence of adult coronal caries declined from approximately 95% in 1988–1994 to 92% during 1999–2004 (Table 40). The largest decline in prevalence was 6.5 percentage points for persons aged 20–34 years. Table 41 shows an overall decline in the prevalence of untreated tooth decay for adults (2 percentage points); however, this decline was significant only for non-Hispanic black persons (7 percentage points). There was a statistically significant decline (2.21 overall) in mean DMFT scores for all adults between the two survey periods (Table 42). Mean DMFT and DMFS scores for adults were generally lower in 1999–2004 compared with 1988–1994 regardless of age and poverty status (Figures 8, 9). Overall, the prevalence of root caries for all adults decreased from 19% during 1988–1994 to 14% during 1999–2004 (Table 45). The decline was the greatest for adults aged 50–64 years (9 percentage points).

Tooth retention significantly increased from approximately 24 teeth in 1988–1994 to 25 teeth in 1999–2004 for all adults (Table 46) and the prevalence of edentulism for similarly aged adults decreased from approximately 6% to 4% over the same period (Table 47). The greatest decrease in edentulism was observed in the oldest cohort (age 50–64 years). There was a significant decline among adults reporting a dental visit in the past year between 1988–1994 (66%) and 1999–2004 (60%) (Table 48).

Overall mean pocket depth decreased from 1.47 mm to 1.02 mm between 1988–1994 and 1999–2004 (Table 50) and mean loss of attachment

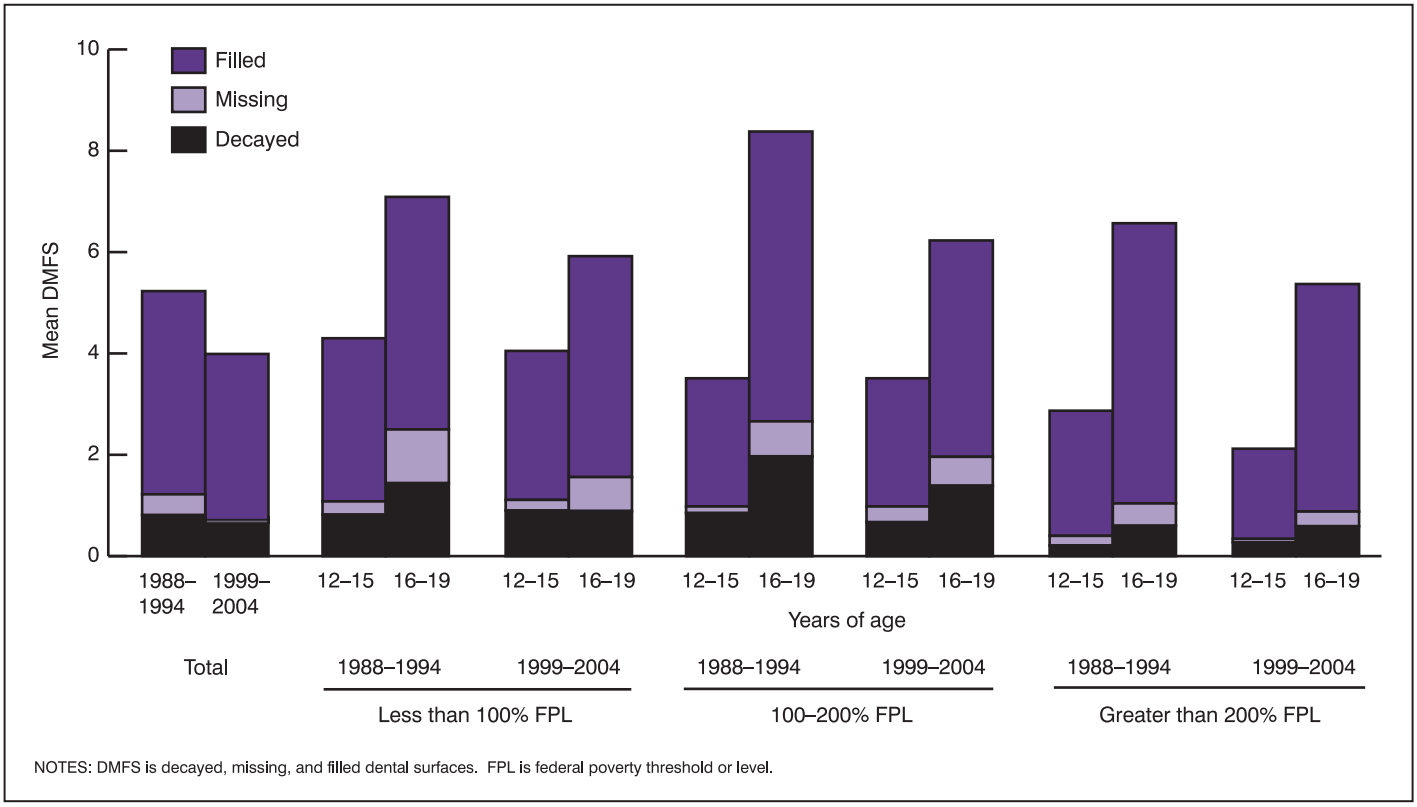

Figure 6. Decayed, missing, and filled permanent dental surfaces (DMFS) for adolescents 12–19 years of age by age group and poverty status: United States, 1988–1994 and 1999–2004

decreased from 1.07 mm to 0.72 mm over the same period (Table 51). During 1988–1994, the percent of adults having at least one periodontal site with greater than or equal to 2 mm (32%) of recession, greater than or equal to 4 mm (23%) of pocket depth, or greater than 4 mm (25%) of attachment loss (Tables 52–54); compared with 1999–2004 the percent of adults with the same periodontal conditions were approximately 21%, 10%, and 17%. The distribution of adults having at least one periodontal pocket greater than or equal to 4 mm or a periodontal site with attachment loss greater than or equal to 3 mm was lower in 1999–2004 compared with 1988–1994 regardless of poverty status (Figures 10, 11).

Data from 1999–2004 indicate that 9% of all adults were affected by periodontal disease (having at least one periodontal site with greater than or equal to 3 mm of loss of attachment and greater than or equal to 4 mm of pocket depth) with prevalence ranging from approximately 4% for persons aged 20–34 years to 12% for persons aged 50–64 years (Table 55). The prevalence of periodontal disease significantly declined by 6 percentage points between 1988–1994 and 1999–2004 with the greatest decline (14 percentage points) observed for those adults living in poverty (less than 100% FPL). Likewise, the distribution of moderate or severe periodontitis (CDC/AAP definition) declined from 10% in 1988–1994 to 5% in 1999–2004 with adults living below 100% FPL experiencing the greatest decline (9.14 percentage points) (Table 56). The distribution of moderate or severe periodontitis by age group and poverty status is shown in Figure 12.

Information pertaining to *Healthy People 2010* oral health objectives for adults aged 35–44 years is presented in Tables 57–59. Although there was little change in the prevalence of untreated tooth decay (objective 21–2d) between 1988–1994 (27%) and 1999–2004 (28%) (Table 57), a significant improvement in no permanent tooth loss due to dental disease (objective 21–3) was observed for these adults (30% versus 38%) (Table 58). Table 59 shows that the prevalence of destructive periodontal disease (having attachment loss greater than or equal to 4mm at one or more sites) (objective 21–5b) significantly declined from approximately 22% in 1988–1994 to approximately 16% in 1999–2004. Among 35–44 year-old adults living in poverty (less than 100% FPL), the decline in periodontal disease was approximately 14 percentage points during the same period.

Seniors (65 years and older)

Tables 60–78 present selected oral health estimates for persons aged 65 years and older. Overall, the prevalence of seniors reporting the condition of their teeth and mouth to be "excellent or very good" increased from 21% in 1988–1994 to 24% during 1999–2004 (Table 60). However, there was a decrease in the prevalence of seniors living in poverty (less than 100% FPL) reporting the condition of their teeth and mouth to be "excellent or very good" during this period (approximately 13% versus 8%). Although the overall prevalence of senior coronal caries remained unchanged from 1988–1994 to 1999–2004 (Table 61), the prevalence of

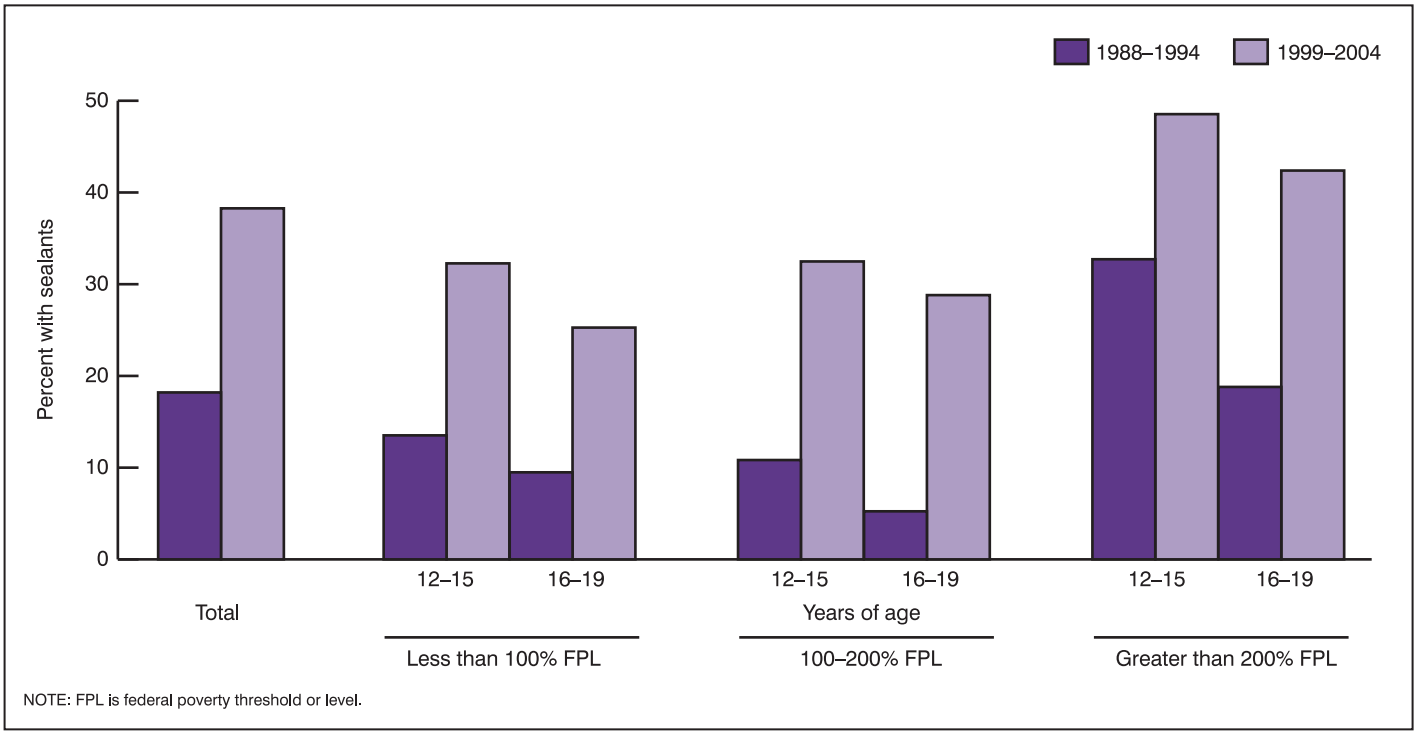

Figure 7. Prevalence of dental sealants on permanent teeth for adolescents 12–19 years of age by age group and federal poverty level status: United States, 1988–1994 and 1999–2004

untreated coronal caries significantly declined from approximately 28% to 18% between 1988–1994 and 1999–2004 (Table 62).

Between 1988–1994 and 1999–2004, there was a statistically significant decline in DMFT scores for all dentate seniors (19.11 versus 17.96) (Table 63) and the contribution of the number of decayed coronal surfaces to the overall DFS declined (13% versus 8%) (Table 65). The distribution of mean DMFT and DMFS scores are presented in Figures 13, 14. Although the overall distributions vary little across age and poverty subgroups, there is greater variation by the proportion of missing teeth across these same subgroups. Overall root caries experience improved among dentate seniors (46% versus 36%) with the largest decrease observed for seniors living below 100% FPL (16%) (Table 66).

The prevalence of tooth retention significantly increased from 17.9 teeth in 1988–1994 to 18.9 teeth in 1999–2004 for all seniors (Table 67) and the prevalence of edentulism for similarly aged adults significantly decreased from approximately 34% to 27% over the same period (Table 68). Some of the largest declines in edentulism were observed for persons aged 75 years and older and men (more than 9 percentage points each). There was no change among seniors reporting a dental visit in the past year between 1988–1994 and 1999–2004 (approximately 54%) (Table 69).

Overall mean pocket depth decreased from 1.47 mm to 1.07 mm between 1988–1994 and 1999–2004 (Table 71) and mean loss of attachment decreased from 2.04 mm to 1.55 mm over the same period (Table 72). The distribution of seniors having at least one periodontal site with an attachment loss greater than or equal to 3 mm or pocket depth greater than or equal to 4 mm by age and poverty subgroups are presented in Figures 15, 16. The overall percentage of seniors having periodontal disease significantly declined between 1988–1994 and 1999–2004 (9 percentage points) (Table 76). This decrease in prevalence was statistically significant for all major sociodemographic subgroups. Moderate or severe periodontitis significantly decreased from approximately 27% to 17% between 1988–1994 and 1999–2004 (Table 77). The largest decrease in the prevalence of moderate or severe periodontitis was for non-Hispanic black personss (47%–24%). The prevalence of moderate or severe periodontitis was lower in 1999–2004 for all age and poverty subgroups, except for seniors aged 75 years or older and living below 100% FPL (Figure 17).

Findings related to the only *Healthy People 2010* oral health objective for seniors are presented in Table 78. The prevalence of complete tooth loss among seniors aged 65–74 years (objective 21–4) was approximately 29% in 1988–1994 compared with 24% in 1999–2004; however, the difference was not significant. A statistically significant decrease was observed only for non-Hispanic white persons.

Discussion of Trends

NHANES 1999–2004 oral health data represent the most recent cross-sectional information from which estimates can be generalized to the U.S. population. The data reported here reflect trends in oral health status that have occurred between the NHANES survey years 1988–1994 and 1999–2004. These data also constitute one of

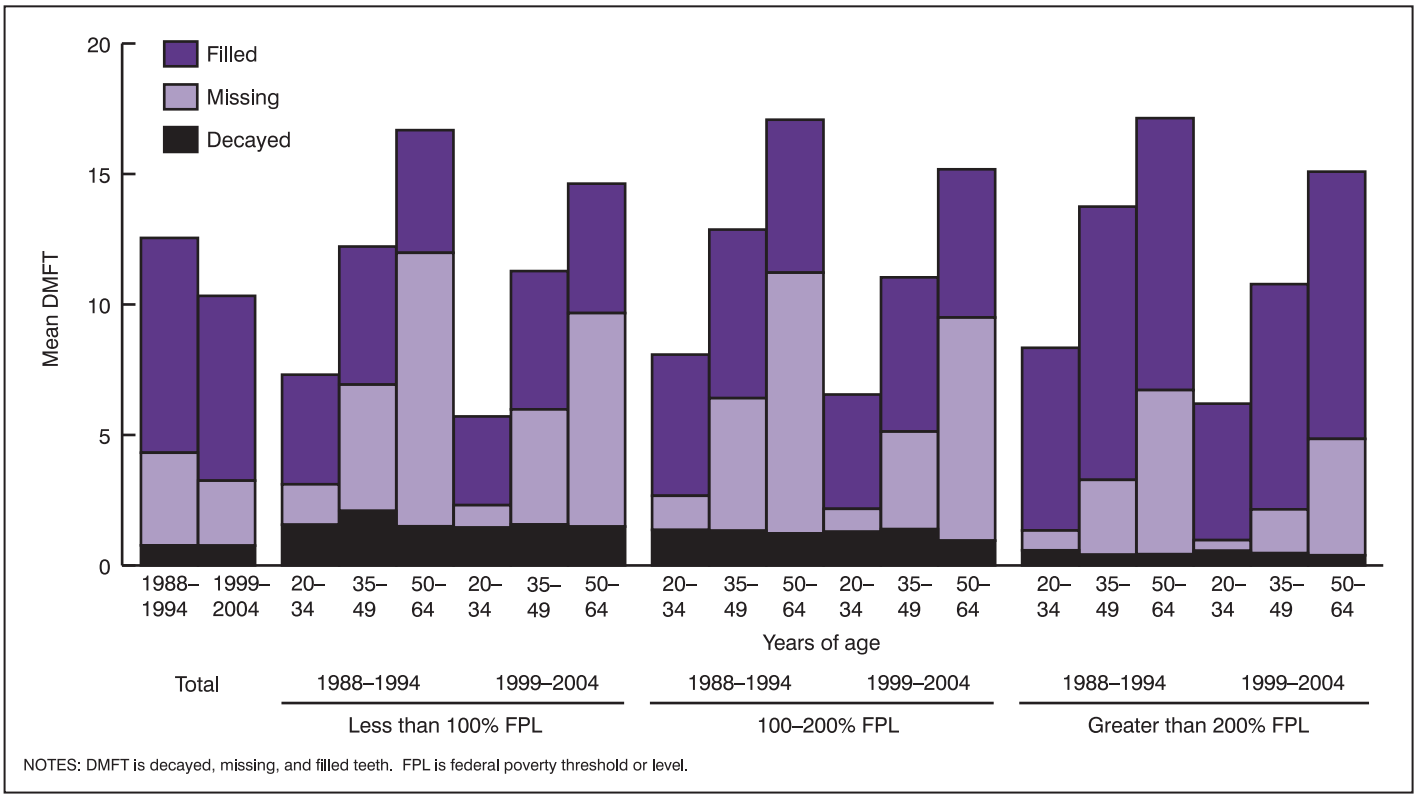

Figure 8. Decayed, missing, and filled permanent teeth (DMFT) for adults 20–64 years of age by age group and federal poverty level status: United States, 1988–1994 and 1999–2004

the most comprehensive sources of oral health assessment data on the U.S. population and major subgroups. Consequently, these data are used to assess progress toward the elimination of oral health disparities and improving quality of life using *Healthy People 2010* objectives.

Monitoring changes in periodontal status over the prior decades has been problematic in the United States. Earlier national surveys have used Russell's Periodontal Index (16) to assess periodontal disease whereas surveys since the 1980s have used a different methodology (17). Partial-mouth examinations, like the examination procedures used on NHANES, also may underestimate the prevalence of periodontal disease, particularly the more severe conditions (18–21). Nevertheless, information collected from current NHANES periodontal examination methods are useful for assessing trends in periodontal status in the United States (8).

One additional caveat for the reader, due to limited space, not all oral health findings have been presented or discussed in this report. Moreover, because results are based on large sample sizes, small differences in prevalence and severity of the conditions assessed may appear statistically significant but have limited clinical importance.

Youths (2–11 Years)

The first national survey to ascertain oral health information among youths aged 6–11 years was conducted by NCHS during 1963–1965 (22). Youths aged 1–11 years also were included in NHANES I, which was conducted by NCHS during 1971–1974 (23). Information from these earlier surveys, including two surveys among school-aged children conducted by the National Institute of Dental Craniofacial Research during the 1980s (24–25), and NHANES III have been used to demonstrate a decline in dental caries in both the primary and permanent dentitions in U.S. youth.

Data from NHANES 1988–1994 and 1999–2004 suggest that caries experience in primary teeth among youths aged 6–11 years has remained unchanged. However, among youths aged 2–5 years, dental caries in the primary dentition is increasing. This increase in prevalence among 2–5 year olds was not accompanied by an increase in untreated decay but was accompanied by a greater number of dental surfaces restored between 1988–1994 and 1999–2004. This suggests that the increase in prevalence of dental caries (dft) in primary teeth for youths under 6 years may be the result of youths receiving more restorative treatment during 1999–2004 compared with 1988–1994. Overall, the mean dft and mean dfs for youths aged 2–11 years has increased from 1988–1994 to 1999–2004, whereas the prevalence of dental caries in the permanent dentition among 6–11 year-olds has continued to decline. There is no change in the prevalence of untreated decay in the permanent dentition for youths aged 6–11 years.

For all youths aged 6–11 years, the presence of dental sealants on permanent teeth has increased. The presence of sealants has increased among the major demographic subgroups except for youths aged 6–8

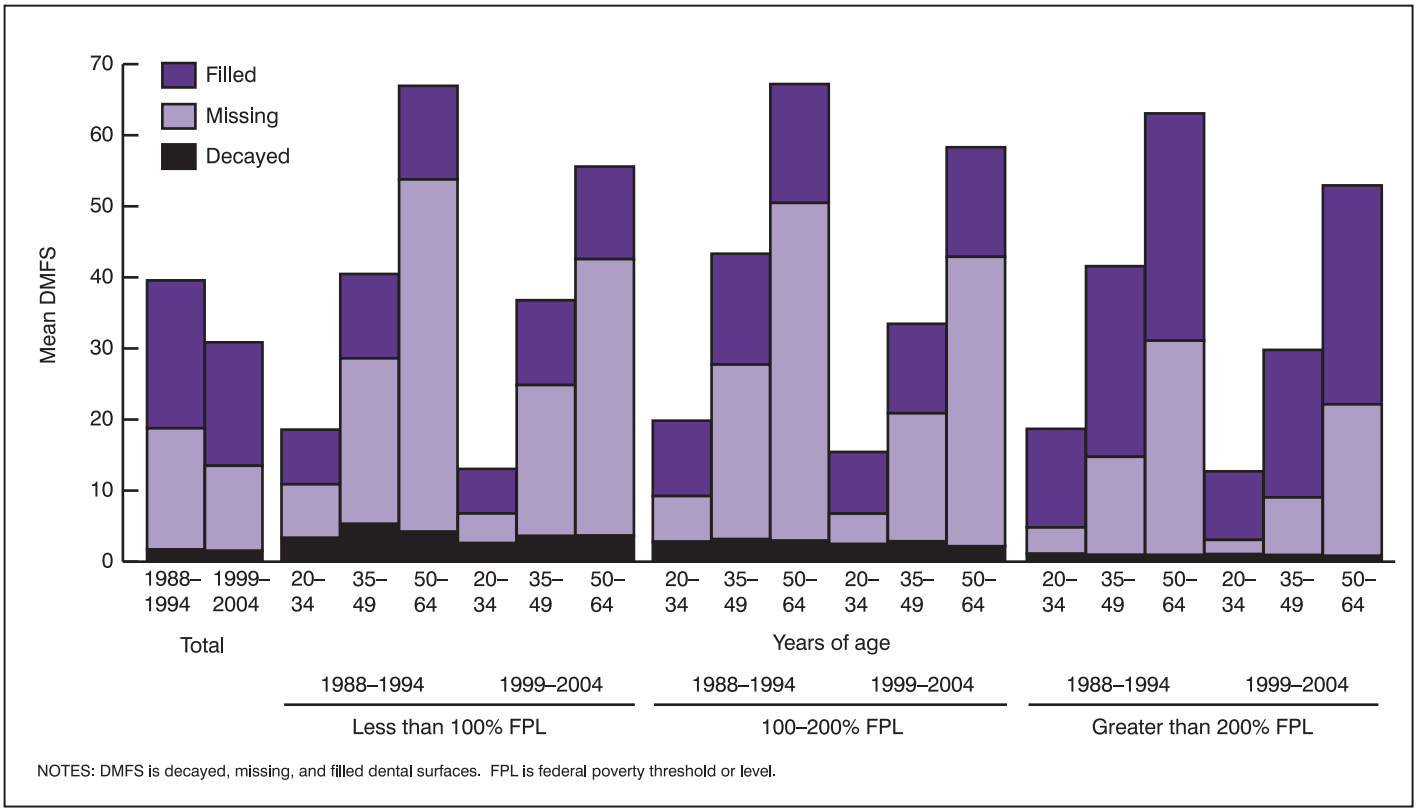

Figure 9. Decayed, missing, and filled dental surfaces (DMFS) for adults 20–64 years of age by age group and federal poverty level status: United States, 1988–1994 and 1999–2004

years and those living in households at 100%–199% FPL. While there was an increase in the number of youths receiving dental sealants, there was no change in the actual number of teeth sealed. The prevalence of incisal trauma affecting the permanent dentition remained unchanged for youths aged 6–11 years and the proportion of all youth having a dental visit within 1 year or less remained unchanged between 1988–1994 and 1999–2004.

Adolescents (12–19 Years)

The first national survey to ascertain oral health information among adolescents aged 12–17 years was conducted by NCHS during 1966–1970 (23). Adolescents aged 12–19 years also were included in NHANES I, which was conducted by NCHS during 1971–1974 (23) and the NIDCR conducted two school-based surveys among 12–17 year-olds during the 1980s (24–25). Dental information from these prior surveys and NHANES III has been used to show a decline in dental caries in the permanent dentitions of adolescents in the United States as well.

Data from NHANES 1988–1994 and 1999–2004 suggest that caries experience in permanent teeth continues to decline for adolescents aged 12–19 years. Although untreated dental decay has remained unchanged for this age group overall, caries experience has continued to decline between 1988–1994 and 1999–2004. The percent of all adolescents aged 12–19 years with dental sealants has more than doubled between 1988–1994 and 1999–2004. A significant increase in sealant presence has occurred across all major demographic subgroups. The prevalence of dental trauma affecting permanent incisors remained unchanged for adolescents and the proportion of all adolescents having a dental visit within 1 year or less remained unchanged between 1988–1994 and 1999–2004.

Adults (20–64 Years)

National information on adult oral health status was first collected by NCHS during the first National Health Examination cycle (1960–1962) (27). Adults were also included in NHANES I (1971–1974) (23) and the NIDCR conducted a national survey of oral health for employed U.S. adults during 1985–1986 (28). Findings from these surveys and NHANES III have demonstrated a steady increase in tooth retention in the United States over four decades beginning in 1960.

The number of permanent teeth among all dentate adults increased between 1988–1994 and 1999–2004. This increase was significant across all major demographic subgroups. Overall, adult edentulism has declined in the United States between 1988–1994 and 1999–2004. A significant decline was observed for adults aged 50–64 years, both sexes, non-Hispanic white and black personss, persons living at FPL or higher, and persons with less than a high school education. The prevalence of coronal dental caries declined for all adults except for persons aged 50–64 years and those living below the FPL between the survey periods.

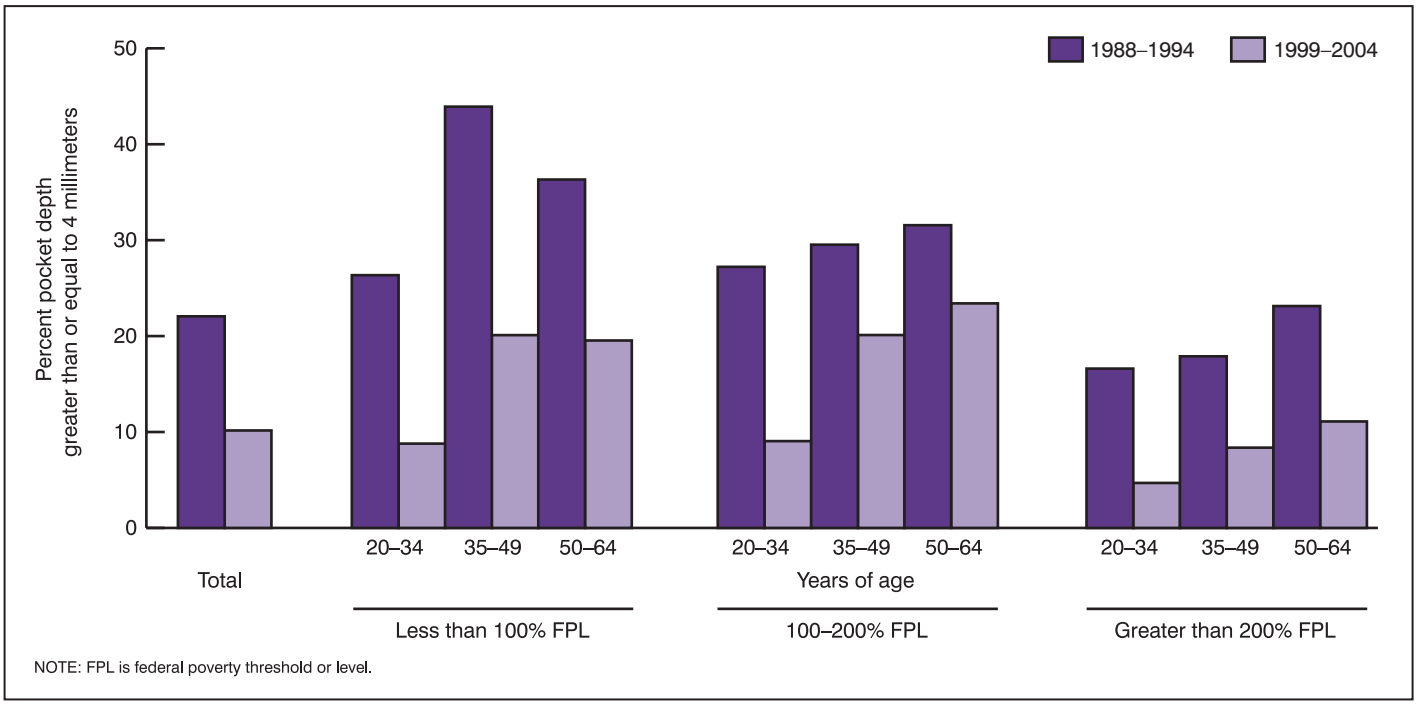

Figure 10. Prevalence of pocket depth greater than or equal to 4 millimeters for adults 20–64 years of age by age groups and federal poverty level status: United States, 1988–1994 and 1999–2004

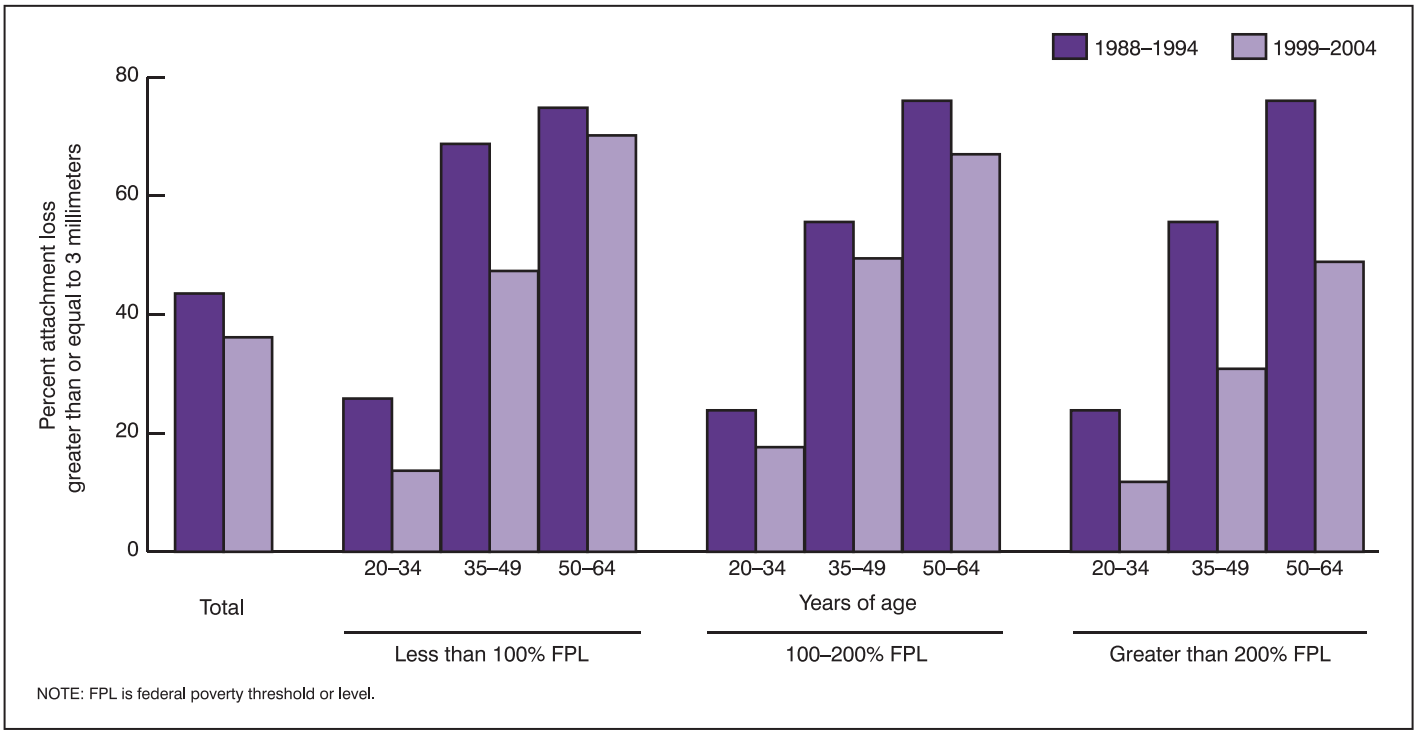

Figure 11. Prevalence of attachment loss greater than or equal to 3 millimeters for adults 20–64 years of age by age groups and federal poverty level status: United States, 1988–1994 and 1999–2004

The presence of untreated coronal decay remained unchanged for all adults during the same period except non-Hispanic black persons, who experienced a significant decline in untreated decay prevalence. Overall, caries experience has declined among adults from 1988–1994 to 1999–2004.

Data from NHANES III and NHANES 1999–2004 indicate that mean periodontal recession, pocket depth, and attachment loss have all significantly declined among adults across nearly all major demographic subgroups. Only mean recession measures among adults aged 20–34 years remained unchanged between the survey periods. The prevalence of periodontal disease has declined for all adults and this decline is significant

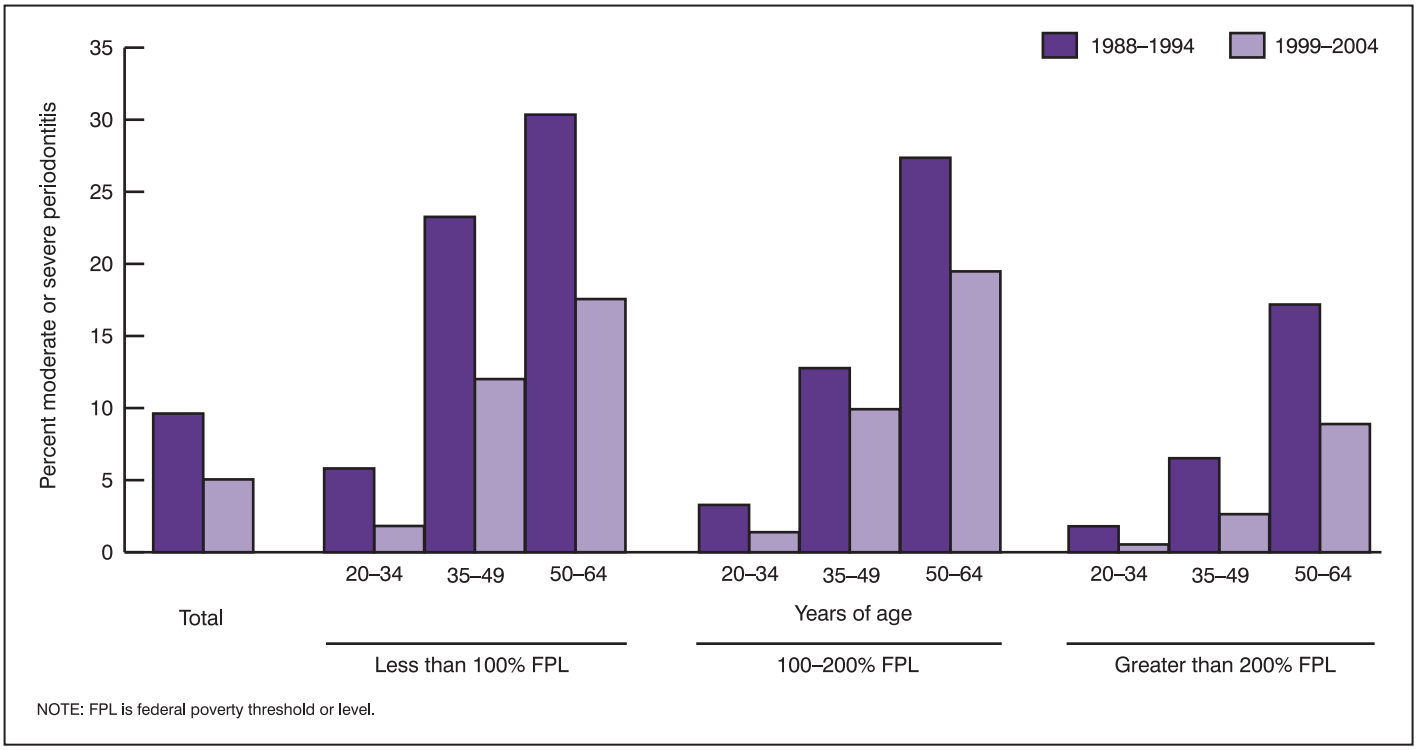

Figure 12. Prevalence of moderate/severe periodontitis for adults 20–64 years of age by age group and federal poverty level status: United States, 1988–1994 and 1999–2004

for all major subgroups except for persons living at 100%–199% FPL. Similarly, the prevalence of moderate or severe periodontitis has declined for all major adult subgroups.

Overall, the percent of adults reporting the condition of their teeth and mouth to be ‘‘excellent/very good’’ decreased between 1988–1994 and 1999–2004. This decrease was significant for adults aged 20–34 years, males, non-Hispanic white and Mexican American persons, persons living at 100% FPL or higher, and persons with at least a high school education. The percent of all adults having a dental visit within 1 year or less declined between 1988–1994 and 1999–2004. This decline was significant across most of the major demographic subgroups except for persons aged 50–64 years and living below 100% FPL.

Seniors (65 Years and Older)

Oral health information was first collected on seniors aged 65–79 years during 1960–1962 (27) and later during 1971–1974 for persons aged 65–74 years (23). The NIDCR’s 1985–1986 national oral health survey of adults included a sample of retired persons aged 65 years and older (28). Findings from these surveys and NHANES III have shown a steady decline in edentulism in the United States over previous decades beginning in 1960.

Overall, senior edentulism has declined in the United States between 1988–1994 and 1999–2004. A significant decline was observed for males, non-Hispanic white seniors, seniors living above the FPL, former smokers and nonsmokers. Tooth retention increased for males and females, non-Hispanic White seniors, nonsmokers, seniors aged 75 years or older, persons living at 200% FPL or higher, and having educational attainment greater than high school. Although the prevalence of dental caries remained unchanged for seniors between 1988–1994 and 1999–2004, the presence of untreated decay decreased for seniors across most of the major demographic subgroups. This downward trend was most noteworthy for non-Hispanic black seniors (53.9% versus 36.78%). Overall, the prevalence of root caries significantly decreased for seniors between 1988–1994 and 1999–2004. This decrease was observed for most of the major demographic subgroups except non-Hispanic black and Mexican-American seniors.

Senior periodontal health improved between NHANES III and NHANES 1999–2004 as well. Data indicate that mean periodontal recession, pocket depth, and attachment loss among seniors have all declined and this decline was significant across all major demographic subgroups. Furthermore, the prevalence of periodontal disease has decreased across most of the major demographic subgroups for seniors. Moderate or severe periodontitis has declined for seniors, except for those aged 75 years or older and living below 100% FPL (Figure 17). The percent of adults reporting the condition of their teeth and mouth to be ‘‘excellent/very good’’ increased between 1988–1994 and 1999–2004; however, the percent of all seniors having a dental visit within 1 year or less remained unchanged during the same period.

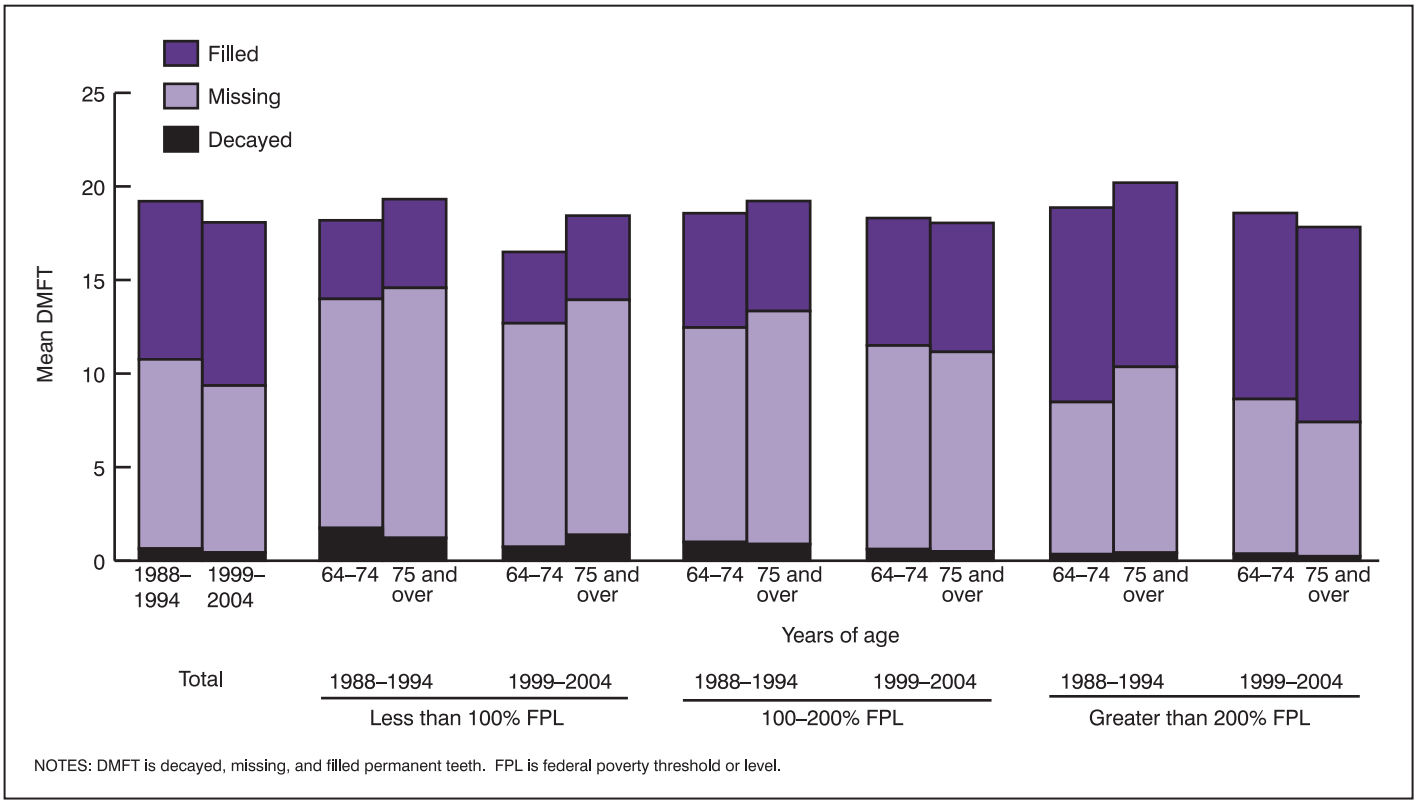

Figure 13. Decayed, missing, and filled permanent teeth (DMFT) for seniors 65 years of age and older by age group and federal poverty level: United States, 1998–1994 and 1999–2004

Healthy People 2010 Oral Health Objectives

To assess progress toward national oral health promotion goals for Americans, there are 12 *Healthy People 2010* subobjectives using NHANES data. There are five subobjectives for youths, three each for adolescents and adults, and one for seniors. Each of these subobjectives focuses on a more narrow age range, and in some cases on single years of age, compared with the broader age ranges used for the four life stage categories in this report.

Estimates describing the prevalence of dental caries among youths aged 2–4 years (objective 21–1a) indicate that caries experience has increased between 1988–1994 and 1999–2004. This increase is notable for males, for non-Hispanic white persons, and for youths living in households above twice the FPL. The prevalence of untreated decay for this age group (objective 21–2a) has increased only for non-Hispanic white persons and for youths living in households greater than or equal to 200% FPL. There is no change in the prevalence of dental caries (objective 21–1b) and untreated tooth decay (objective 21–2b) among youths aged 6–8 years. Although estimates suggest that the prevalence of dental sealants on first molars among youths aged 8 years (objective 21–8a) is increasing, the difference is not statistically significant. However, among non-Hispanic black and Mexican-American persons, the documented increase is significant.

Among adolescents aged 15 years, estimates describing the prevalence of dental caries (objective 21–1c) indicate that caries experience may have declined over the past decade but this decline is only statistically significant for non-Hispanic black adolescents. Likewise, the prevalence of untreated decay for 15-year-olds (objective 21–2c) may have declined for most demographic subgroups, but the results are only statistically significant for Mexican-American persons. Overall, the prevalence of dental sealants on first molars among 14-year-olds (objective 21–8b) has increased by approximately 5 percentage points.

For adults aged 35–44 years, the prevalence of untreated dental decay (objective 21–2d) remained unchanged between the two survey periods. However, non-Hispanic black adults experienced a decrease in untreated decay whereas Mexican American adults experienced an increase in untreated decay. The prevalence of 35–44 year-olds with no tooth loss due to dental disease (objective 21–3) increased across all major demographic subgroups. Overall, the prevalence of destructive periodontal disease among same-aged persons (objective 21–5b) decreased between 1988–1994 and 1999–2004. This decrease was significant for most major demographic subgroups except for females, persons living between 100% and 199% FPL, having less than high school education, former smokers, and nonsmokers. Although estimates for the prevalence of complete tooth loss for seniors aged 65–74 years (objective 21–4) showed a decrease, the trend was not significant between the two survey periods for seniors overall.

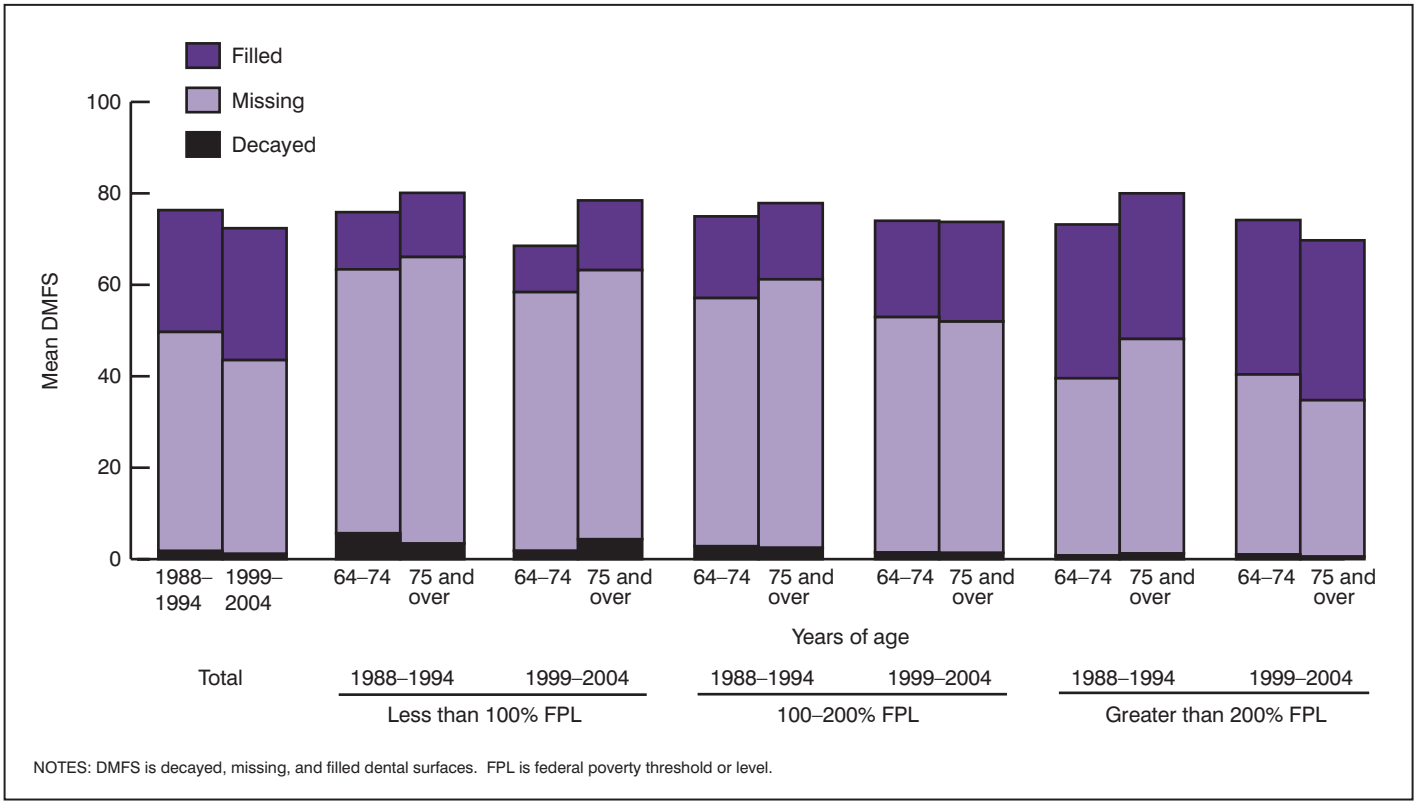

Figure 14. Decayed, missing, and filled dental surfaces (DMFS) for seniors 65 years of age and older by age group and federal poverty level: United States, 1988–1994 and 1999–2004

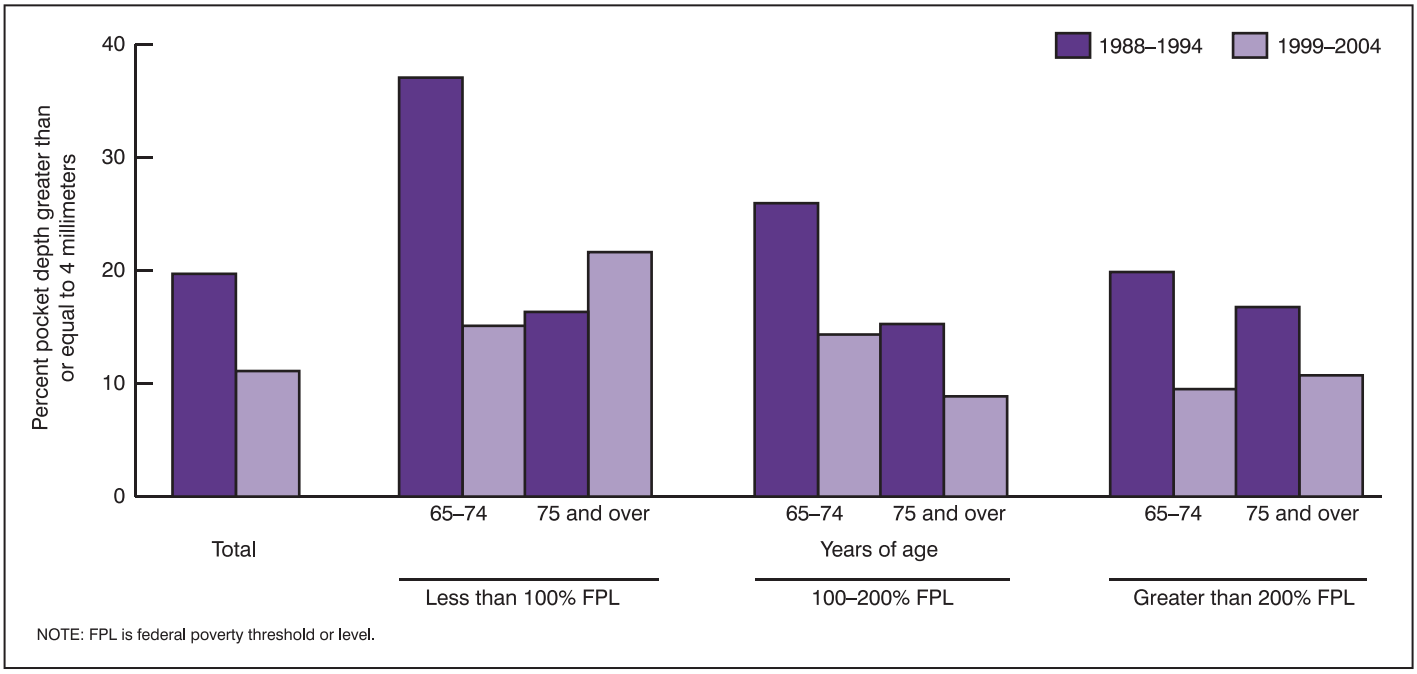

Figure 15. Prevalence of pocket depth greater than or equal to 4 millimeters for seniors 65 years of age and older by age groups and federal poverty level status: United States, 1988–1994 and 1999–2004

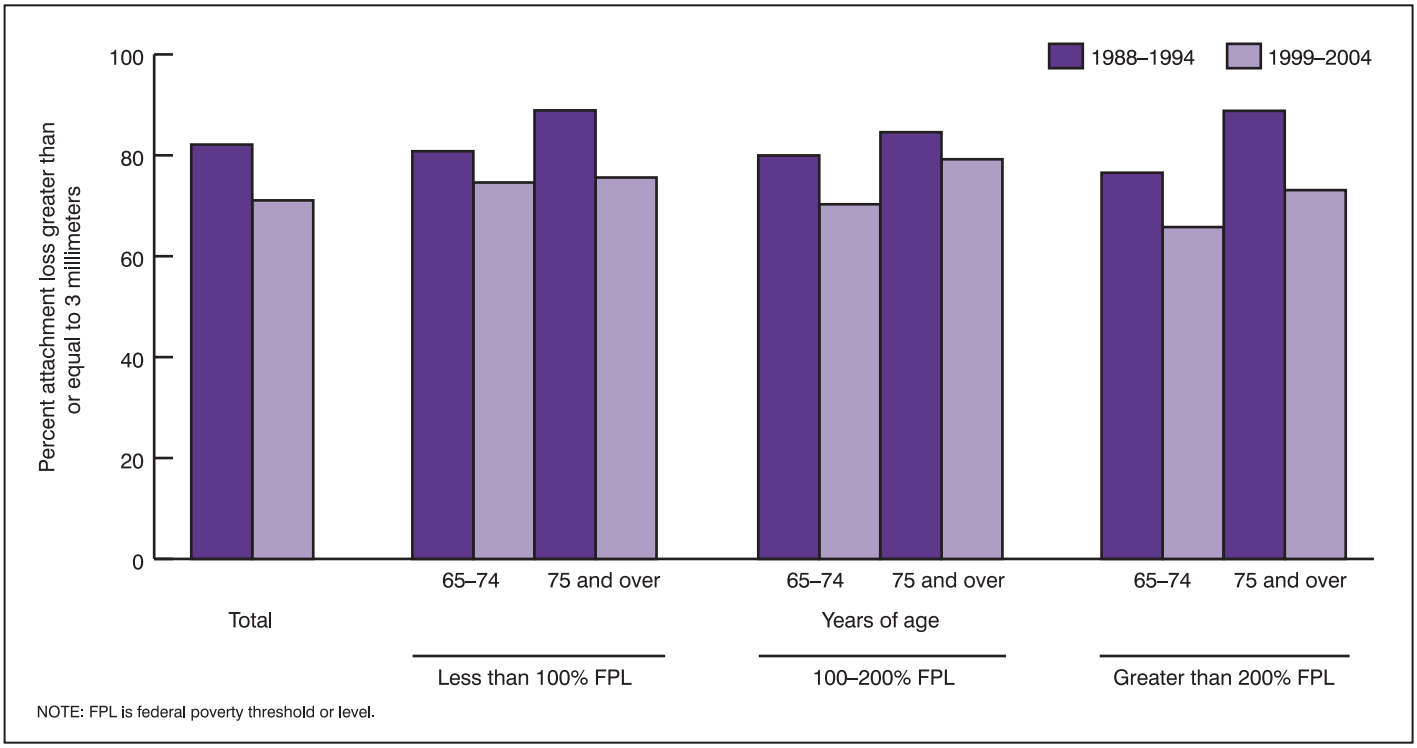

Figure 16. Prevalence of attachment loss greater than or equal to 3 millimeters for seniors 65 years of age and older by age groups and federal poverty level status: United States, 1988–1994 and 1999–2004

Conclusion

For most Americans, oral health status has improved since 1988–1994. Dental caries continues to decrease in the permanent dentition for youths, adolescents, and most adults. Among seniors, the prevalence of root caries decreased, but there was no change in the prevalence of coronal caries. However, the prevalence of dental caries in the primary dentition for youths aged 2–5 years increased from 1988–1994 to 1999–2004. The prevalence of dental sealants among youths and adolescents increased. Tooth retention and periodontal health improved for both adults and seniors; and edentulism among seniors continued to decline. Dental utilization (experiencing a dental visit within the past 12 months) remained unchanged between 1988–1994 and 1999–2004 for youths, adolescents, and seniors; however, dental utilization declined for most adults.

References

1. U.S. Department of Health and Human Services. Oral health in America: A Report of the Surgeon General. DHHS, Rockville, MD. 2000.
2. Beltran-Aguilar ED, Barker LK, Canto MT, Dye BA, Gooch BF, Griffin SO, et al. Surveillance for dental caries, dental sealants, tooth retention, edentulism, and enamel fluorosis—United States, 1988–1994 and 1999–2002. MMWR Surveill Summ 54(3):1–43. 2005.
3. .S. Department of Health and Human Services. Healthy People 2010. 2nd ed. With understanding and improving health and objectives for improving health. 2 vols. Washington, DC: U.S. Government Printing Office. 2000.
4. Plan and operation of the Third National Health and Nutrition Examination Survey, 1988—94. National Center for Health Statistics. Vital Health Stat 1 (32). 1994.
5. Sample Design: Third National Health and Nutrition Examination Survey, 1988–94. National Center for Health Statistics. Vital Health Stat 2(113). 1992.
6. American Dental Association.Proceedings of the Conference on the Clinical Testing of Cariostatic Agents, October 1968. Chicago, IL: Council on Dental Research and Council on Dental Therapeutics, American Dental Association. 1972.
7. Drury T, Winn D, Snowden C, Kingman A, Kleinman D, Lewis B. An overview of the oral health component of the 1988–91 National Health and Nutrition Examination Survey. J Dent Res 75(Spec Issue): 620–30. 1996.
8. Dye BA, Barker, LK, Selwitz RH, Lewis BG, Wu T, Fryar CD, et al. Overview and quality assurance for the National Health and Nutrition Examination Survey (NHANES) oral health component, 1999–2002. Community Dent Oral Epidemiol 35:140–51. 2007.
9. Klein H, Palmer CE, Knutson JW. Studies on dental caries: I. Dental status and dental needs or elementary school children. Public Health Rep 1938 53:751–65.
10. Arbes S, Agustsdottir H, Slade G. Environmental tobacco smoke and periodontal disease in the U.S. Am J Public Health 91:253–7. 2001.

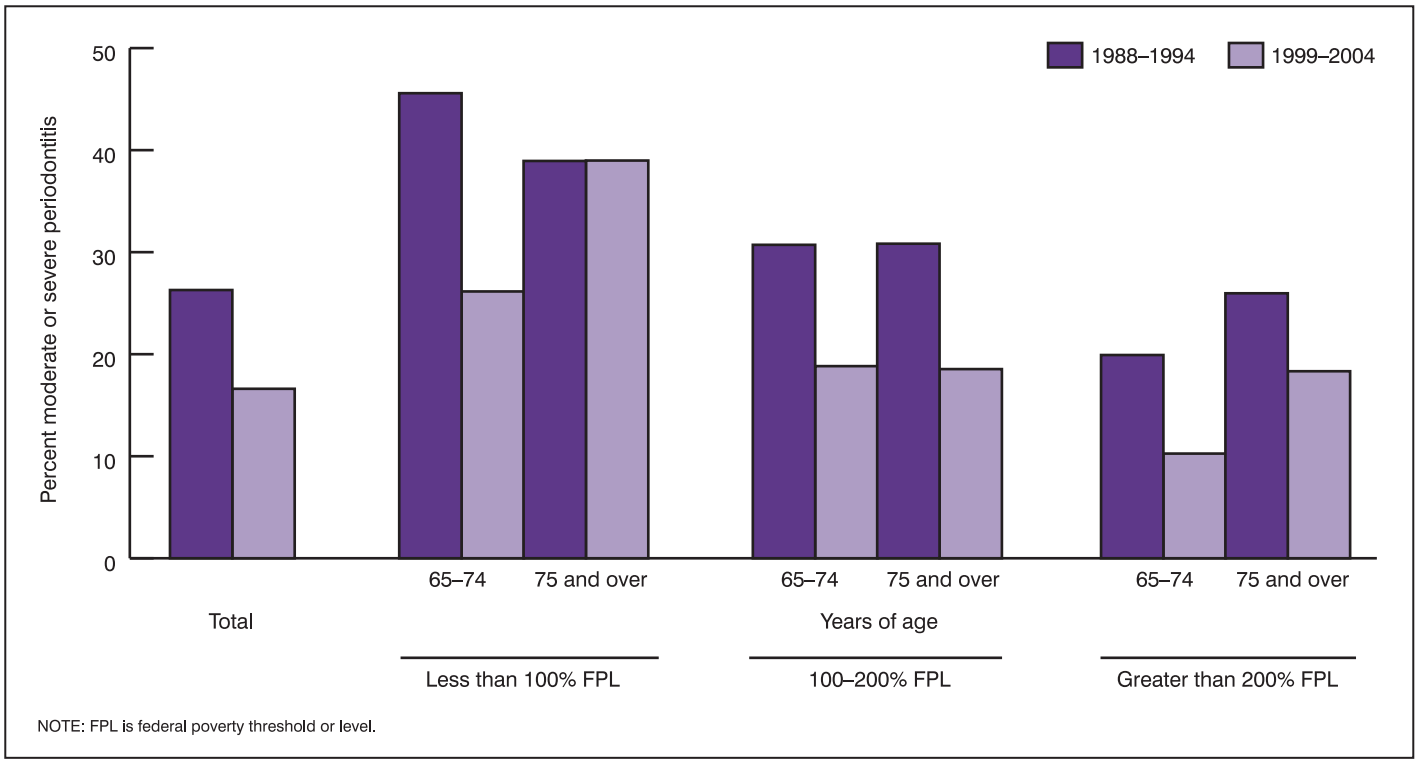

Figure 17. Prevalence of moderate/severe periodontitis for seniors 65 years of age and older by age groups and federal poverty level status: United States, 1988–1994 and 1999–2004

11. Dye BA, Choudhary K, Shea S, Papapanou PN. Serum antibodies to periodontal pathogens and markers of systemic inflammation. J Clin Periodontol 32:1189–99. 2005.
12. Page RL, Eke PI. Case definitions for use in Population-based surveillance of Periodontitis. J Periodontal 2007;78 (suppl). In press.
13. Klein RJ, Schoenborn CA. Age adjustment using the 2000 projected U.S. population. Healthy People Statistical Notes, no 20. Hyattsville, MD: National Center for Health Statistics. 2001.
14. National Health and Nutrition Examination Survey (NHANES) analytical guidelines available at: http://www.cdc.gov/nchs/about/major/nhanes/nhanes2003-2004/analytical_guidelines.htm (accessed February 22, 2007).
15. Klein RJ, Proctor SE, Boudreault MA, Turczyn KM. Healthy People 2010 Crieteria for Data Suppression. Statistical Notes, no 24. Hyattsville, MD: National Center for Health Statistics. 2002.
16. Russell AL. A system of classification and scoring for prevalence surveys of periodontal disease. J Dent Res 35:350–9. 1956.
17. Dye BA, Thornton-Evans G. A brief history of national surveillance efforts for periodontal disease in the U.S. J Periodontal 2007;78 (suppl). In press.
18. Kingman A, Morrison E, Loe H. Systematic errors in estimating prevalence and severity of periodontal disease. J Periodontol 59:707–13. 1988.
19. Kingman A, Albandar JM. Methodological aspects of epidemiological studies of periodontal diseases. Periodontol 2000 29:11–30. 2002.
20. Hunt R, Fann S. Effect of examining half teeth in a partial periodontal recording of older adults. J Dent Res 70:1380–5. 1991.
21. Beck JD, Caplan DJ, Presser JS, Moss K. Reducing the bias of probing depth and attachment level estimates using random partial-mouth recording. Community Dent Oral Epidemiol 34:1–10. 2006.
22. U.S. Department of Health, Education, and Welfare, National Center for Health Statistics. VitalHealth Stat 11(106). Decayed, missing, and filled teeth among children—United States. 1965.
23. U.S. Department of Health and Human Services, National Center for Health Statistics. Vital Health Stat 11(223). Decayed, missing , and filled teeth among persons 1–74 years—United States. 1981.
24. U.S. Department of Health and Human Services. National Institutes of Health The prevalence of dental caries in United States children—The National Dental Caries Prevaelnce Survey-1979–1980. 1981.
25. U.S. Department of Health and Human Services. National Institutes of Health. Oral Health of United States Children—The National Survey of Dental Caries in U.S. School Children:1986–1987. 1989.
26. U.S. Department of Health, Education, and Welfare, National Center for Health Statistics. Vital Health Stat 11(144). Decayed, missing, and filled teeth among youths 12–17 years—United States. 1974.
27. U.S. Department of Health, Education, and Welfare, National Center for Health Statistics. Vital Health Stat 11(7). Selected dental findings in adults by age, race, and sex—United States, 1960–1962. 1965.
28. U.S. Department of Health and Human Services. National Institutes of Health. Oral Health of United States Adults—The National Survey of Oral Health in U.S. Employed Adults and Seniors: 1985–1986. 1987.

Table 1. Comparison of sampling design characteristics for the National Health and Nutrition Examination Survey III and the National Health and Nutrition Examination Survey 1999–2004

Characteristic	NHANES III	NHANES 1999–2004
Data collection year	1988–1994	1999–2004
Age of the target population	2 months and older	From birth
Dental exam age	1 year and older	2 years and older
Number of survey exam locations	89	87
Eligible geographical areas for sample	50 states and the District of Columbia	50 states and the District of Columbia
Groups targeted for expanded sampling	Persons 2 months to less than 6 years; Non-Hispanic black and Mexican American persons; and persons 60 years and older	Persons 12–19 years;Non-Hispanic black and Mexican American persons; persons 60 years and older; and low-income white and other persons[1,2]

[1]Low-income white persons were over sampled for NHANES 2000–2004.

[2]All women who indicated that they were pregnant at time of screening were included in the sample. National Health and Nutrition Examination Survey.

Table 2. Age eligibility for oral health assessments common to both the National Health and Nutrition Examination Survey III and the National Health and Nutrition Examination Survey 1999–2004

Assessment	NHANES III	NHANES 1999–2004
Exam	Age	
Tooth count	2 years and older	2 years and older
Coronal caries	2 years and older	2 years and older
Root caries and restorations	18 years and older	18 years and older
Dental sealants	2 years and older	2–34 years
Incisor trauma	6–50 years	6–29 years
Periodontal assessment[1]	13 years and older	13 years and older
Interview		
Dental health perception and frequency of dental visits	2 years and older	2 years and older

[1]Age of eligibility for the 1999–2000 periodontal assessment was 18 years and older.

Table 3. Number of sampled persons 2 years of age or older participating in Interview, MEC, and Oral Health Exams for the National Health and Nutrition Examination Survey by selected demographics: United States, 1988–1994 and 1999–2004

Characteristic	1988–1994			1999–2004		
	HIQ	MEC	OHX	HIQ	MEC	OHX
Age						
2–5 years	4,815	4,529	4,352	2,735	2,584	2,379
6–8 years	1,690	1,601	1,580	1,717	1,648	1,598
9–11 years	1,777	1,685	1,660	1,672	1,607	1,573
12–15 years	1,755	1,652	1,619	3,646	3,545	3,406
16–19 years	1,686	1,559	1,526	3,559	3,435	3,249
20–34 years	5,675	5,246	5,126	4,131	3,901	3,593
35–49 years	4,496	4,172	4,065	3,708	3,536	3,250
50–64 years	3,402	3,063	2,982	3,144	2,966	2,777
65–74 years	2,542	2,164	2,084	2,085	1,942	1,816
75 years or older	2,710	1,928	1,871	2,264	1,868	1,723
Sex						
Male	14,566	13,174	12,829	13,890	13,151	12,411
Female	15,982	14,425	14,036	14,771	13,881	12,953
Race and ethnicity[1]						
Black, non-Hispanic	8,912	8,322	8,100	7,208	6,906	6,467
Mexican American	8,942	8,328	8,101	7,807	7,480	6,960
White, non-Hispanic	11,420	9,752	9,499	11,487	10,656	10,086
Others including multi-racial	1,274	1,197	1,165	858	778	719
Other Hispanic	–	–	–	1,301	1,212	1,132
Poverty status[2]						
Less than 100% FPL	8,097	7,626	7,430	6,744	6,491	6,096
100%–199% FPL	7,622	6,930	6,767	6,990	6,654	6,236
Greater than 200% FPL	11,763	10,534	10,265	12,254	11,564	10,948
Education[3]						
Less than high school	18,947	17,286	6,531	14,690	13,967	4,138
High school	5,958	5,354	4,899	4,224	3,943	3,130
More than high school	5,357	4,798	4,587	6,946	6,501	5,821
Smoking history[3]						
Current smoker	4,990	4,485	4,173	3,301	3,107	2,844
Former smoker	4,807	4,142	3,994	4,089	3,780	3,545
Never smoked	10,235	9,077	7,960	7,905	7,304	6,750
Total	30,548	27,599	26,865	28,661	27,032	25,364

– Quantity zero.

[1]RIDRETH2 is race and ethnicity variable.

[2]FPL is federal poverty threshold or level.

[3]For sampled persons aged 20 years or older.

NOTES: HIQ is number of sampled persons completing a Home Interview Questionnaire; MEC is a Mobile Examination Center; and OHX is an Oral Health examination.

Table 4. Weighted frequency distribution of persons with oral health examination information by age group for the National Health and Nutrition Examination Survey: United States, 1988–1994 and 1999–2004

Age	1988–1994	1999–2004
	Number in thousands	
2–5 years	15,133	14,504
6–8 years	10,688	12,216
9–11 years	11,444	11,692
12–15 years	14,088	15,810
16–19 years	13,724	15,252
20–34 years	59,525	54,108
35–49 years	52,319	60,472
50–64 years	31,383	41,214
65–74 years	17,657	17,847
75 years or older	11,256	14,263

Table 5. Prevalence of dental caries in primary teeth (dft) among youths 2–11 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference (percent)
	Percent	Standard error	Percent	Standard error	
Age					
2–5 years	24.23	1.32	27.90	1.29	†3.67
6–11 years	49.90	1.79	51.17	1.96	1.27
Sex					
Male	39.50	1.73	44.43	1.90	4.92
Female	40.24	1.44	39.80	1.79	–0.44
Race and ethnicity					
White, non-Hispanic	35.84	1.46	38.56	1.90	2.72
Black, non-Hispanic	40.99	1.65	43.34	1.83	2.35
Mexican American	53.61	2.15	55.40	1.75	1.78
Poverty status					
Less than 100% FPL	51.18	2.02	54.33	2.47	3.15
100%–199% FPL	44.50	1.94	48.75	2.43	4.24
Greater than 200% FPL	31.10	1.74	32.30	1.62	1.20
Total	39.97	1.16	42.17	1.44	2.20

† *P*-value < 0.05.

NOTES: dft is the number of decayed and filled primary teeth and FPL is federal poverty threshold or level.

Table 6. Prevalence of untreated tooth decay in primary teeth among youths 2–11 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994 Percent	1988–1994 Standard error	1999–2004 Percent	1999–2004 Standard error	Difference (percent)
Age					
2–5 years	19.13	1.21	20.48	1.25	1.35
6–11 years	25.45	1.51	24.49	1.47	–0.96
Sex					
Male	23.02	1.18	24.16	1.66	1.13
Female	22.79	1.32	21.66	1.56	–1.13
Race and ethnicity					
White, non-Hispanic	18.15	1.28	19.47	1.70	1.32
Black, non-Hispanic	28.10	1.57	27.58	1.66	–0.53
Mexican American	38.01	1.74	33.09	1.90	–4.92
Poverty status					
Less than 100% FPL	37.39	2.07	32.52	1.78	–4.87
100%–199% FPL	25.95	1.63	28.40	2.52	2.45
Greater than 200% FPL	13.70	1.03	15.01	1.13	1.30
Total	23.01	1.04	22.94	1.19	–0.07

NOTE: FPL is federal poverty threshold or level.

Table 7. Mean number of decayed, filled, and decayed and filled primary teeth among youths 2–11 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994 dft Percent	1988–1994 dft Standard error	1988–1994 dt Mean	1988–1994 dt Standard error	1988–1994 ft Mean	1988–1994 ft Standard error	1999–2004 dft Mean	1999–2004 dft Standard error	1999–2004 dt Mean	1999–2004 dt Standard error	1999–2004 ft Mean	1999–2004 ft Standard error	Difference in percent dft
Age													
2–5 years	1.01	0.08	0.67	0.06	0.34	0.04	1.17	0.09	0.71	0.07	0.47	0.05	0.16
6–11 years	1.62	0.08	0.56	0.04	1.06	0.06	1.84	0.08	0.58	0.04	1.26	0.06	0.22
Sex													
Male	1.38	0.07	0.60	0.04	0.78	0.06	1.67	0.08	0.66	0.06	1.01	0.05	†0.29
Female	1.39	0.07	0.60	0.05	0.79	0.05	1.48	0.09	0.59	0.05	0.89	0.06	0.09
Race and ethnicity													
White, non-Hispanic	1.15	0.06	0.44	0.05	0.71	0.04	1.46	0.10	0.53	0.06	0.93	0.05	†0.31
Black, non-Hispanic	1.35	0.08	0.71	0.06	0.64	0.05	1.45	0.08	0.72	0.06	0.73	0.07	0.10
Mexican American	2.05	0.11	1.15	0.08	0.90	0.07	2.18	0.10	0.90	0.06	1.28	0.08	0.13
Poverty status													
Less than 100% FPL	1.94	0.11	1.08	0.09	0.86	0.08	2.34	0.16	1.01	0.09	1.33	0.11	†0.40
100%–199% FPL	1.60	0.10	0.69	0.06	0.91	0.07	1.89	0.11	0.80	0.09	1.09	0.07	0.29
Greater than 200% FPL	0.94	0.07	0.27	0.03	0.67	0.06	1.04	0.07	0.34	0.03	0.70	0.05	0.09
Total	1.39	0.05	0.60	0.04	0.78	0.04	1.58	0.07	0.63	0.04	0.95	0.04	†0.19

† *P*-value < 0.05.

NOTE: dft is decayed and filled primary teeth, dt is decayed primary teeth, and ft is filled primary teeth. FPL is federal poverty threshold or level.

Table 8. Mean number of decayed, filled, and decayed and filled primary tooth surfaces among youths 2–11 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994						1999–2004						Difference between surveys	
	dfs		ds		fs		dfs		ds		ds			
	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	ds	fs
Age														
2–5 years	2.15	0.21	1.27	0.14	0.87	0.12	2.58	0.23	1.25	0.15	1.33	0.16	–0.02	†0.45
6–11 years	3.45	0.16	1.14	0.09	2.31	0.13	4.30	0.24	0.98	0.09	3.32	0.21	–0.16	†1.01
Sex														
Male	2.94	0.17	1.19	0.10	1.74	0.15	3.95	0.25	1.17	0.16	2.78	0.16	–0.02	†1.04
Female	2.94	0.18	1.19	0.10	1.76	0.14	3.28	0.26	0.99	0.09	2.29	0.21	–0.19	†0.53
Race and ethnicity														
White, non-Hispanic	2.39	0.14	0.85	0.09	1.54	0.10	3.46	0.28	0.92	0.14	2.55	0.20	0.06	†1.01
Black, non-Hispanic	2.87	0.23	1.37	0.13	1.49	0.17	3.02	0.20	1.22	0.12	1.80	0.19	–0.15	0.30
Mexican American	4.50	0.27	2.32	0.21	2.17	0.17	4.72	0.27	1.47	0.11	3.25	0.22	†–0.86	†1.08
Poverty status														
Less than 100% FPL	4.24	0.29	2.18	0.20	2.06	0.21	5.63	0.50	1.84	0.26	3.79	0.39	–0.34	†1.73
100%–199% FPL	3.39	0.24	1.32	0.14	2.06	0.17	4.45	0.34	1.39	0.19	3.05	0.29	0.07	†0.99
Greater than 200% FPL	1.98	0.15	0.52	0.06	1.46	0.13	2.28	0.19	0.53	0.06	1.75	0.17	0.01	0.29
Total	2.94	0.12	1.19	0.08	1.75	0.10	3.63	0.19	1.08	0.10	2.55	0.14	–0.11	†0.80

† *P*-value < 0.05.

NOTES: dfs is decayed and filled surfaces in primary teeth, ds is decayed surfaces in primary teeth, fs is filled surfaces in primary teeth. FPL is federal poverty threshold or level.

Table 9. Contribution of decayed or filled surfaces to the number of decayed and filled surfaces among youths 2–11 years of age with at least one decayed or filled surface in primary teeth, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994				1999–2004				Difference (percent) ds/dfs
	Percent ds/dfs		Percent fs/dfs		Percent ds/dfs		Percent fs/dfs ds/dfs		
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	
Age									
2–5 years	76.32	2.14	23.68	2.14	71.60	2.47	28.40	2.47	–4.73
6–11 years	36.13	1.99	63.88	1.99	32.26	1.81	67.75	1.81	–3.87
Sex									
Male	53.66	1.78	46.34	1.78	47.13	2.30	52.88	2.30	†–6.53
Female	49.67	2.21	50.34	2.21	47.83	1.84	52.17	1.84	–1.83
Race and ethnicity									
White, non-Hispanic	47.81	2.05	52.19	2.05	44.42	2.45	55.58	2.45	–3.39
Black, non-Hispanic	61.88	2.18	38.13	2.18	57.13	2.77	42.87	2.77	–4.75
Mexican American	61.48	2.05	38.52	2.05	49.34	2.30	50.68	2.30	†–12.15
Poverty status									
Less than 100% FPL	62.66	2.85	37.35	2.85	50.19	2.25	49.83	2.25	†–12.47
100%–199% FPL	52.19	1.82	47.81	1.82	50.97	2.66	49.04	2.66	–1.22
Greater than 200% FPL	38.65	2.86	61.35	2.86	43.25	2.57	56.75	2.57	4.60
Total	51.69	1.54	48.32	1.54	47.48	1.66	52.52	1.66	–4.20

† *P*-value < 0.05.

NOTE: ds is decayed surfaces in primary teeth, fs is filled surfaces in primary teeth, and dfs is decayed and filled surfaces in primary teeth. FPL is federal poverty threshold or level.

Table 10. Prevalence of dental caries in permanent teeth (DMFT) among youths 6–11 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994 Percent	1988–1994 Standard error	1999–2004 Percent	1999–2004 Standard error	Difference (percent)
Age					
6–8 years	14.48	1.55	10.16	1.01	†–4.31
9–11 years	35.90	2.35	31.36	1.48	–4.53
Sex					
Male	23.39	1.86	19.36	1.20	–4.03
Female	27.49	1.95	22.87	1.31	–4.62
Race and ethnicity					
White, non-Hispanic	23.69	1.77	18.59	1.39	†–5.11
Black, non-Hispanic	23.38	1.98	19.03	1.52	–4.35
Mexican American	27.56	1.62	30.76	2.01	3.20
Poverty status					
Less than 100% FPL	28.00	3.02	28.28	2.28	0.27
100%–199% FPL	29.89	3.03	24.09	2.14	–5.80
Greater than 200% FPL	22.28	1.93	16.31	1.33	†–5.97
Total	25.49	1.60	21.06	0.91	†–4.43

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 11. Prevalence of untreated tooth decay in permanent teeth among youths 6–11 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994 Percent	1988–1994 Standard error	1999–2004 Percent	1999–2004 Standard error	Difference (percent)
Age					
6–8 years	6.43	0.93	4.05	0.73	†–2.38
9–11 years	10.56	1.38	11.05	1.33	0.49
Sex					
Male	7.14	0.97	7.45	1.02	0.31
Female	10.09	1.32	7.91	1.13	–2.17
Race and ethnicity					
White, non-Hispanic	6.16	0.97	5.56	1.16	–0.61
Black, non-Hispanic	13.09	1.30	8.55	1.01	†–4.53
Mexican American	12.93	1.65	12.71	1.07	–0.22
Poverty status					
Less than 100% FPL	13.75	1.75	11.76	1.74	–1.99
100%–199% FPL	10.58	1.66	11.94	1.95	1.36
Greater than 200% FPL	5.29	1.18	3.57	0.66	–1.72
Total	8.55	0.92	7.65	0.85	–0.90

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 12. Mean number of decayed, filled, and decayed, missing and filled permanent teeth among youths 6–11 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994						1999–2004						Difference in mean DMFT
	DMFT		DT		FT		DMFT		DT		FT		
	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	
Age													
6–8 years	0.24	0.03	0.08	0.01	0.16	0.02	0.19	0.02	0.06	0.01	0.13	0.02	–0.05
9–11 years	0.86	0.06	0.20	0.03	0.66	0.05	0.69	0.04	0.19	0.02	0.50	0.03	†–0.16
Sex													
Male	0.52	0.05	0.13	0.02	0.39	0.04	0.41	0.03	0.11	0.02	0.29	0.02	–0.11
Female	0.59	0.05	0.16	0.03	0.43	0.04	0.49	0.03	0.14	0.02	0.34	0.03	–0.10
Race and ethnicity													
White, non-Hispanic	0.53	0.05	0.12	0.02	0.41	0.04	0.38	0.03	0.08	0.02	0.29	0.03	†–0.15
Black, non-Hispanic	0.52	0.05	0.20	0.02	0.32	0.04	0.43	0.04	0.14	0.02	0.27	0.03	–0.09
Mexican American	0.62	0.04	0.20	0.03	0.42	0.03	0.70	0.05	0.22	0.02	0.47	0.04	0.07
Poverty status													
Less than 100% FPL	0.61	0.06	0.23	0.04	0.37	0.04	0.63	0.06	0.18	0.03	0.44	0.04	0.03
100%–199% FPL	0.72	0.09	0.20	0.05	0.52	0.09	0.55	0.06	0.21	0.04	0.33	0.04	–0.18
Greater than 200% FPL	0.47	0.05	0.08	0.02	0.39	0.04	0.32	0.03	0.05	0.01	0.26	0.03	†–0.15
Total	0.56	0.04	0.14	0.02	0.41	0.03	0.45	0.02	0.12	0.02	0.32	0.02	†–0.11

† *P*-value < 0.05.

NOTE: DMFT is decayed, missing, and filled permanent teeth; DT is decayed permanent teeth; and FT is filled permanent teeth. FPL is federal poverty threshold or level.

Table 13. Mean number of decayed, filled, and decayed, missing and filled permanent teeth among youths 6–11 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994						1999–2004						Difference between surveys	
	DMFS		DS		FS		DMFS		DS		FS			
	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	DS	FS
Age														
6–8 years	0.33	0.04	0.10	0.01	0.22	0.03	0.29	0.04	0.07	0.02	0.19	0.02	–0.03	–0.03
9–11 years	1.32	0.11	0.25	0.05	1.04	0.09	1.06	0.06	0.26	0.04	0.76	0.05	0.01	†–0.28
Sex														
Male	0.77	0.08	0.17	0.04	0.58	0.06	0.61	0.05	0.15	0.02	0.45	0.04	–0.03	–0.14
Female	0.90	0.08	0.18	0.03	0.69	0.07	0.76	0.06	0.20	0.03	0.52	0.05	0.01	–0.17
Race and ethnicity														
White, non-Hispanic	0.80	0.08	0.15	0.04	0.62	0.07	0.55	0.06	0.10	0.03	0.42	0.04	–0.05	†–0.21
Black, non-Hispanic	0.81	0.08	0.26	0.02	0.54	0.07	0.70	0.07	0.21	0.04	0.43	0.06	–0.05	–0.11
Mexican American	0.98	0.07	0.24	0.03	0.72	0.06	1.12	0.08	0.30	0.04	0.81	0.07	0.06	0.09
Poverty status														
Less than 100% FPL	0.99	0.13	0.27	0.04	0.71	0.13	1.02	0.10	0.28	0.05	0.69	0.07	0.01	–0.02
100%–199% FPL	1.08	0.14	0.28	0.08	0.77	0.13	0.82	0.09	0.29	0.06	0.51	0.06	0.01	–0.26
Greater than 200% FPL	0.66	0.07	*	*	0.55	0.07	0.47	0.05	0.06	0.01	0.38	0.05	**	†–0.17
Total	0.84	0.06	0.18	0.03	0.64	0.05	0.68	0.04	0.17	0.02	0.48	0.03	–0.01	†–0.16

† *P*-value < 0.05.

* CV is less than 30 percent.

** Difference could not be estimated because CV of one or more estimates is greater than 30 percent.

NOTES: DMFS is decayed, missing, and filled surfaces in permanent teeth; DS is decayed surfaces in permanent teeth; and FS is filled surfaces in permanent teeth. FPL is federal poverty threshold or level.

Table 14. Contribution of decayed or filled surfaces on the mean number of decayed, missing and filled surfaces among youths 6–11 years of age with at least one decayed, missing or filled surface, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994				1999–2004				Difference (percent) DS/DMFS
	Percent DS/DMFS		Percent FS/DMFS		Percent DS/DMFS		Percent FS/DMFS		
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	
Age									
6–8 years	44.42	4.98	52.69	4.89	36.11	6.47	61.97	6.57	–8.32
9–11 years	24.34	2.77	74.72	2.98	28.90	3.30	69.92	3.30	4.56
Sex									
Male	33.16	4.79	66.10	4.76	36.36	5.43	62.37	5.44	3.20
Female	36.26	4.26	60.94	4.47	28.92	4.56	69.28	4.65	–7.34
Race and ethnicity									
White, non-Hispanic	27.80	4.51	69.08	4.74	25.94	6.07	71.79	6.26	–1.86
Black, non-Hispanic	51.40	3.77	47.65	3.72	41.52	5.82	56.94	5.99	–9.88
Mexican American	46.78	3.89	52.21	3.85	38.39	3.84	60.95	3.86	–8.39
Poverty status									
Less than 100% FPL	51.60	3.59	47.76	3.63	36.53	4.77	62.10	4.77	†–15.07
100%–199% FPL	31.55	6.03	65.73	6.18	44.14	8.40	54.72	8.29	12.59
Greater than 200% FPL	24.69	6.10	72.89	6.63	19.64	3.81	78.27	3.95	–5.05
Total	34.10	3.01	64.02	3.20	32.40	4.05	66.05	4.11	–1.70

† *P*-value < 0.05. * CV is less than 30 percent.

NOTES: DMFS is decayed, missing, and filled surfaces in permanent teeth; DS is decayed surfaces in permanent teeth; and FS is filled surfaces in permanent teeth. FPL is federal poverty threshold or level.

Table 15. Prevalence of dental sealants on permanent teeth among youths 6–11 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference (percent)
	Percent	Standard error	Percent	Standard error	
Age					
6–8 years	14.41	2.65	20.28	1.66	5.87
9–11 years	28.62	2.75	40.12	2.27	†11.50
Sex					
Male	20.71	3.23	28.81	2.10	†8.10
Female	22.64	2.24	32.42	1.86	†9.77
Race and ethnicity					
White, non-Hispanic	26.48	3.14	36.06	2.32	†9.58
Black, non-Hispanic	9.72	0.81	21.26	1.82	†11.54
Mexican American	10.99	1.59	24.22	2.27	†13.23
Poverty status					
Less than 100% FPL	12.21	3.09	20.94	2.84	†8.74
100%–199% FPL	16.40	2.98	23.38	2.28	6.99
Greater than 200% FPL	29.27	2.76	40.06	2.24	†10.79
Total	21.71	2.36	30.48	1.71	†8.76

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 16. Mean number of permanent teeth with dental sealants among youths 6–11 years of age with at least one sealed tooth, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference in mean teeth
	Mean	Standard error	Mean	Standard error	
Age					
6–8 years	3.22	0.17	3.37	0.08	0.15
9–11 years	3.54	0.11	3.39	0.09	–0.15
Sex					
Male	3.32	0.15	3.32	0.08	0.00
Female	3.40	0.13	3.44	0.09	0.04
Race and ethnicity					
White, non-Hispanic	3.43	0.11	3.44	0.09	0.00
Black, non-Hispanic	3.31	0.21	3.32	0.10	0.01
Mexican American	2.93	0.17	3.14	0.10	0.21
Poverty status					
Less than 100% FPL	3.21	0.21	3.10	0.11	–0.11
100%–199% FPL	2.91	0.15	3.30	0.14	0.39
Greater than 200% FPL	3.54	0.08	3.45	0.09	–0.09
Total	3.38	0.11	3.38	0.07	0.00

NOTE: FPL is federal poverty threshold or level.

Table 17. Mean number of permanent teeth sealed by tooth type among youths 6–11 years of age with at least one sealed tooth, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994						1999–2004					
	Premolar		1st molar		2nd molar		Premolar		1st molar		2nd molar	
	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error
Age												
6–8 years	*	*	3.22	0.17	–	–	–	–	3.37	0.08	–	–
9–11 years	*	*	3.25	0.10	0.58	0.15	0.30	0.08	3.12	0.07	0.14	0.04
Sex												
Male	*	*	3.26	0.13	*	*	*	*	3.23	0.07	*	*
Female	*	*	3.18	0.13	*	*	*	*	3.25	0.06	*	*
Race and ethnicity												
White, non-Hispanic	*	*	3.30	0.11	*	*	*	*	3.31	0.08	*	*
Black, non-Hispanic	*	*	3.00	0.13	*	*	0.26	0.08	3.08	0.07	*	*
Mexican American	*	*	2.64	0.11	0.55	0.14	0.30	0.08	2.90	0.10	*	*
Poverty status												
Less than 100% FPL	0.27	0.06	2.98	0.16	0.94	0.26	0.25	0.07	2.87	0.11	*	*
100%–199% FPL	*	*	2.83	0.17	*	*	*	*	3.15	0.11	*	*
Greater than 200% FPL	*	*	3.39	0.08	*	*	*	*	3.34	0.07	*	*
Total	*	*	3.23	0.10	0.58	0.15	0.18	0.05	3.24	0.06	0.10	0.03

* CV is less than 30 percent.

– Quantity zero.

NOTE: FPL is federal poverty threshold or level.

Table 18. Prevalence of trauma in permanent incisors, maxillary incisors, and mandibular incisors among youths 6–11 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994						1999–2004						Difference (percent)
	Overall Incisal Trauma		Mandibular Incisal Trauma		Maxillary Incisal Trauma		Overall Incisal Trauma		Mandibular Incisal Trauma		Maxillary Incisal Trauma		
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Overall Incisal Trauma
Age													
6–8 years	4.29	0.77	*	*	4.01	0.75	2.92	0.48	*	*	2.21	0.40	–1.37
9–11 years	13.60	1.60	1.73	0.49	12.45	1.51	11.06	1.15	2.02	0.51	9.98	1.06	–2.54
Sex													
Male	11.08	1.31	1.70	0.50	9.91	1.24	8.62	1.19	1.89	0.52	7.18	0.96	–2.46
Female	7.10	1.16	*	*	6.84	1.14	5.54	0.63	1.04	0.29	5.15	0.62	–1.56
Race and ethnicity													
White, non-Hispanic	9.05	1.17	*	*	8.11	1.11	6.57	0.87	*	*	5.94	0.80	–2.48
Black, non-Hispanic	11.75	1.27	*	*	11.5	1.25	10.13	1.16	1.61	0.39	9.18	1.09	–1.62
Mexican American	7.03	1.15	*	*	6.16	1.04	7.27	1.08	*	*	5.87	0.89	0.24
Poverty status													
Less than 100% FPL	8.44	1.24	*	*	8.24	1.23	7.61	1.10	1.08	0.31	6.93	1.03	–0.83
100%–199% FPL	8.72	2.00	*	*	7.71	1.89	6.67	1.52	*	*	5.46	1.19	–2.05
Greater than 200% FPL	9.00	1.35	*	*	8.12	1.34	7.08	1.04	*	*	6.26	0.96	–1.92
Total	9.08	0.91	1.06	0.27	8.35	0.86	7.11	0.70	1.45	0.31	6.21	0.59	–1.97

* CV is less than 30 percent.

NOTE: FPL is federal poverty threshold or level.

Table 19. Time since last dental visit among youths 2–11 years of age, by selected characteristics: United States, National Health and Nutrition Examination, 1988–1994 and 1999–2004

Characteristic	1988–1994											
	Never		1 year or less		1–2 years		2–3 years		3–5 years		More than 5 years	
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
Age												
2–5 years	53.22	1.14	43.78	1.20	2.51	0.45	NA	NA	NA	NA	NA	NA
6–11 years	10.51	1.19	76.10	1.68	9.51	1.03	1.77	0.31	1.66	0.31	*	*
Sex												
Male	28.56	1.40	62.35	1.65	6.56	0.84	1.33	0.29	1.08	0.32	*	*
Female	25.56	0.95	64.85	1.29	6.95	0.88	1.06	0.23	1.13	0.32	*	*
Race and ethnicity												
White, non-Hispanic	23.30	1.13	68.36	1.66	6.35	1.05	*	*	0.93	0.24	*	*
Black, non-Hispanic	29.56	1.21	56.87	1.60	8.41	0.93	2.44	0.40	2.26	0.50	0.47	0.14
Mexican American	38.59	1.67	51.07	2.19	5.97	0.54	2.61	0.53	1.48	0.34	*	*
Poverty status												
Less than 100% FPL	34.39	2.46	50.25	2.88	10.32	1.49	2.66	0.57	2.05	0.48	*	*
100%–199% FPL	31.24	1.61	57.31	2.17	7.99	1.60	0.87	0.24	1.80	0.38	*	*
Greater than 200% FPL	20.10	0.93	74.10	1.41	4.69	0.98	*	*	*	*	*	*
Total	27.04	0.97	63.59	1.30	6.80	0.71	1.19	0.20	1.10	0.19	*	*

Characteristic	1999–2004												Different (percent), last dental visit within the past year
	Never		1 year or less		1–2 years		2–3 years		3–5 years		More than 5 years		
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	
Age													
2–5 years	49.00	1.28	45.84	1.37	4.08	0.68	NA	NA	NA	NA	NA	NA	2.06
6–11 years	6.89	0.73	76.84	1.48	10.54	0.99	3.27	0.63	1.61	0.30	0.85	0.25	0.74
Sex													
Male	23.62	0.88	64.06	1.53	8.32	1.01	2.15	0.45	1.26	0.31	*	*	1.70
Female	22.83	0.89	65.61	1.11	7.72	0.81	2.56	0.47	0.86	0.18	*	*	0.76
Race and ethnicity													
White, non-Hispanic	22.75	0.96	67.28	1.61	6.94	0.96	*	*	*	*	*	*	–1.08
Black, non-Hispanic	21.85	0.97	64.68	1.51	8.99	1.15	2.42	0.46	1.37	0.30	*	*	†7.81
Mexican American	28.16	1.48	56.45	1.87	10.14	0.87	3.12	0.49	1.36	0.37	*	*	5.37
Poverty status													
Less than 100% FPL	26.22	1.40	57.17	2.12	10.28	1.30	2.68	0.38	2.30	0.52	*	*	6.92
100%–199% FPL	25.18	1.41	56.83	2.47	12.05	1.54	*	*	1.23	0.34	*	*	–0.48
Greater than 200% FPL	20.62	1.10	72.35	1.57	5.22	0.73	*	*	*	*	*	*	–1.75
Total	23.19	0.69	64.84	1.21	8.04	0.68	2.35	0.40	1.06	0.19	0.52	0.16	1.25

NA is not applicable.

† *P*-value < 0.05.

* CV is less than 30 percent.

NOTE: FPL is federal poverty threshold or level.

Table 20. Healthy People 2010 Objective 21–1a: Prevalence of dental caries in primary teeth among youths 2–4 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference (percent)
	Percent	Standard error	Percent	Standard error	
Sex					
Male	18.36	1.44	25.92	2.03	†7.57
Female	18.63	1.62	21.34	1.75	2.72
Race and ethnicity					
White, non-Hispanic	12.94	1.44	20.45	1.99	†7.52
Black, non-Hispanic	24.31	2.11	26.13	2.44	1.82
Mexican American	33.84	1.59	35.33	1.82	1.49
Poverty status					
Less than 100% FPL	28.61	2.20	34.07	2.56	5.46
100%–199% FPL	21.01	1.91	27.61	3.35	6.61
Greater than 200% FPL	10.08	1.40	14.54	1.51	†4.46
Total	18.49	1.24	23.67	1.44	†5.18

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 21. Healthy People 2010 Objective 21–1b: Prevalence of dental caries in primary or permanent teeth among youths 6–8 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference (percent)
	Percent	Standard error	Percent	Standard error	
Sex					
Male	49.58	3.13	55.65	2.79	6.07
Female	53.98	2.94	50.61	3.36	–3.37
Race and ethnicity					
White, non-Hispanic	48.50	2.51	48.92	3.56	0.43
Black, non-Hispanic	49.41	2.25	56.12	2.05	†6.71
Mexican American	63.85	3.13	68.53	2.82	4.68
Poverty status					
Less than 100% FPL	61.80	2.29	67.40	3.26	5.60
100%–199% FPL	59.39	4.56	61.60	3.50	2.21
Greater than 200% FPL	42.21	3.19	41.60	3.66	–0.61
Total	51.62	1.96	53.20	2.49	1.59

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 22. Healthy People 2010 Objective 21–2a: Prevalence of untreated tooth decay in primary teeth among youths 2–4 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference (percent)
	Percent	Standard error	Percent	Standard error	
Sex					
Male	16.25	1.35	20.06	1.94	3.81
Female	15.53	1.44	17.64	1.70	2.11
Race and ethnicity					
White, non-Hispanic	10.79	1.24	16.04	1.87	†5.25
Black, non-Hispanic	21.99	1.98	20.39	2.40	–1.61
Mexican American	30.11	1.40	28.01	1.76	–2.10
Poverty status					
Less than 100% FPL	25.79	2.34	28.36	2.25	2.57
100%–199% FPL	19.57	1.82	21.10	3.22	1.53
Greater than 200% FPL	6.92	0.94	11.60	1.27	†4.67
Total	15.90	1.44	18.87	1.70	2.97

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 23. Healthy People 2010 Objective 21–2b: Prevalence of untreated tooth decay in primary or permanent teeth among youths 6–8 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference (percent)
	Percent	Standard error	Percent	Standard error	
Sex					
Male	25.37	2.20	30.29	2.76	4.93
Female	32.02	2.53	28.11	2.99	–3.92
Race and ethnicity					
White, non-Hispanic	22.37	2.24	25.02	3.41	2.65
Black, non-Hispanic	35.12	1.63	37.38	1.96	2.26
Mexican American	47.16	3.20	40.57	2.64	–6.59
Poverty status					
Less than 100% FPL	47.32	3.26	41.29	2.73	–6.03
100%–199% FPL	31.68	3.30	36.66	3.94	4.98
Greater than 200% FPL	16.22	2.40	18.79	2.29	2.57
Total	28.45	1.77	29.23	2.12	0.79

NOTE: FPL is federal poverty threshold or level.

Table 24. Healthy People 2010 Objective 21–8a: Prevalence of dental sealants on permanent first molars among youths 8 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994 Percent	1988–1994 Standard error	1999–2004 Percent	1999–2004 Standard error	Difference (percent)
Sex					
Male	22.05	5.92	32.17	3.64	10.12
Female	23.52	4.17	32.39	4.54	8.87
Race and ethnicity					
White, non-Hispanic	28.69	5.83	37.65	4.53	8.95
Black, non-Hispanic	11.27	2.80	22.64	3.07	†11.37
Mexican American	9.78	2.36	19.44	3.71	†9.65
Poverty status					
Less than 100% FPL	*	*	21.03	5.33	**
100%–199% FPL	18.46	4.82	25.46	4.25	7.01
Greater than 200% FPL	35.06	6.20	42.37	4.95	7.32
Total	22.70	4.27	32.27	3.25	9.57

† *P*-value < 0.05.

* CV is less than 30 percent.

** Difference could not be estimated because CV of one or more estimates is greater than 30 percent.

NOTE: FPL is federal poverty threshold or level.

Table 25. Prevalence of dental caries in permanent teeth (DMFT) among adolescents 12–19 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994 Percent	1988–1994 Standard error	1999–2004 Percent	1999–2004 Standard error	Difference (percent)
Age					
12–15 years	57.32	2.22	50.67	1.19	†-6.65
16–19 years	78.20	1.63	67.49	1.38	†–10.71
Sex					
Male	66.53	2.83	55.66	1.24	†–10.87
Female	68.93	1.67	62.74	1.29	†-6.19
Race and ethnicity					
White, non-Hispanic	68.15	2.22	58.08	1.55	†–10.07
Black, non-Hispanic	62.93	2.10	54.36	1.66	†–8.57
Mexican American	68.53	2.19	64.49	1.53	–4.04
Poverty status					
Less than 100% FPL	72.29	2.35	65.55	1.40	†–6.75
100%–199% FPL	69.16	2.66	64.40	1.51	–4.77
Greater than 200% FPL	65.58	2.20	54.00	1.49	†–11.59
Total	67.80	1.51	59.11	0.96	†-8.69

† *P*-value < 0.05.

NOTES: FPL is federal poverty threshold or level. DMFT is the number of decayed, missing, and filled permanent teeth.

Table 26. Prevalence of untreated tooth decay in permanent teeth among adolescents 12–19 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference percent
	Percent	Standard error	Percent	Standard error	
Age					
12–15 years	16.89	1.52	16.91	0.99	0.03
16–19 years	24.22	1.72	22.24	1.45	–1.98
Sex					
Male	19.98	1.30	19.89	1.22	–0.08
Female	21.02	1.74	19.31	1.30	–1.71
Race and ethnicity					
White, non-Hispanic	15.40	1.31	16.22	1.45	0.82
Black, non-Hispanic	33.15	2.12	25.66	1.39	†–7.49
Mexican American	33.09	1.88	28.57	1.54	–4.52
Poverty status					
Less than 100% FPL	33.90	2.61	27.15	1.99	†–6.75
100%–199% FPL	26.46	3.43	27.02	1.82	0.55
Greater than 200% FPL	12.48	1.32	12.86	1.33	0.37
Total	20.57	1.20	19.59	1.05	–0.98

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 27. Mean number of decayed, missing, filled, and decayed, missing and filled permanent teeth among adolescents 12–19 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994								1999–2004								Difference in mean DMFT
	DMFT		DT		MT		FT		DMFT		DT		MT		FT		
	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	
Age																	
12–15 years	2.06	0.10	0.37	0.04	0.04	0.01	1.66	0.09	1.78	0.08	0.36	0.03	0.03	0.01	1.38	0.10	†–0.28
16–19 years	4.12	0.15	0.68	0.08	0.13	0.02	3.31	0.16	3.31	0.09	0.58	0.06	0.10	0.01	2.63	0.08	†–0.81
Sex																	
Male	2.98	0.15	0.52	0.05	0.07	0.02	2.39	0.14	2.31	0.09	0.52	0.06	0.06	0.01	1.74	0.08	†–0.67
Female	3.21	0.11	0.52	0.08	0.09	0.02	2.59	0.11	2.79	0.08	0.42	0.04	0.07	0.01	2.29	0.09	†–0.42
Race and ethnicity																	
White, non-Hispanic	3.01	0.15	0.37	0.04	*	*	2.59	0.14	2.54	0.10	0.42	0.06	0.06	0.01	2.06	0.11	†–0.47
Black, non-Hispanic	2.80	0.13	0.84	0.05	0.19	0.03	1.77	0.09	2.20	0.10	0.56	0.04	0.09	0.01	1.55	0.10	†–0.60
Mexican American	3.06	0.16	0.78	0.06	0.09	0.01	2.19	0.16	2.82	0.13	0.63	0.05	0.06	0.01	2.12	0.13	–0.24
Poverty status																	
Less than 100% FPL	3.25	0.17	0.74	0.07	0.13	0.03	2.38	0.14	2.88	0.14	0.62	0.06	0.09	0.01	2.17	0.16	–0.37
100%–199% FPL	3.60	0.23	0.83	0.20	0.08	0.02	2.69	0.21	2.81	0.12	0.70	0.09	0.09	0.02	2.02	0.11	†–0.79
Greater than 200% FPL	2.89	0.15	0.27	0.04	*	*	2.55	0.14	2.28	0.12	0.30	0.04	0.04	0.01	1.94	0.11	†–0.61
Total	3.10	0.11	0.52	0.05	0.08	0.01	2.49	0.11	2.55	0.06	0.47	0.04	0.07	0.01	2.01	0.07	†–0.55

* CV is more than 30 percent.

† *P*-value < 0.05.

NOTES: DT is number of decayed permanent teeth, MT is number of permanent teeth missing due to disease, FT is number of filled permanent teeth, and DMFT is number of decayed, missing (due to disease), and filled permanent teeth. FPL is federal poverty threshold or level.

Table 28. Mean number of decayed, missing, filled, and decayed, missing and filled permanent surfaces among adolescents 12–19 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994								1999–2004								Difference between surveys	
	DMFS		DS		MS		FS		DMFS		DS		MS		FS			
	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	DS	FS
Age																		
12–15 years	3.30	0.16	0.52	0.05	0.18	0.05	2.60	0.15	2.85	0.15	0.50	0.05	0.17	0.03	2.19	0.17	–0.02	–0.41
16–19 years	7.01	0.30	1.15	0.15	0.63	0.10	5.23	0.29	5.79	0.19	0.87	0.10	0.50	0.06	4.41	0.18	–0.27	†–0.82
Sex																		
Male	4.90	0.26	0.83	0.09	0.35	0.08	3.72	0.23	3.92	0.19	0.77	0.09	0.30	0.04	2.84	0.15	–0.06	†–0.88
Female	5.41	0.22	0.83	0.15	0.47	0.09	4.11	0.20	4.74	0.16	0.60	0.06	0.37	0.05	3.77	0.18	–0.23	–0.34
Race and ethnicity																		
White, non-Hispanic	4.86	0.27	0.55	0.07	*	*	4.05	0.25	4.32	0.20	0.62	0.09	0.28	0.05	3.42	0.20	0.07	†–0.63
Black, non-Hispanic	5.24	0.31	1.54	0.14	0.95	0.14	2.75	0.14	3.88	0.18	0.89	0.07	0.46	0.06	2.54	0.16	†–0.66	–0.22
Mexican American	5.26	0.28	1.16	0.11	0.44	0.06	3.67	0.27	4.69	0.23	0.87	0.07	0.32	0.03	3.51	0.22	†–0.29	–0.16
Poverty status																		
Less than 100% FPL	5.70	0.34	1.13	0.12	0.66	0.13	3.91	0.25	4.99	0.30	0.89	0.09	0.44	0.07	3.66	0.31	–0.24	–0.25
100%–199% FPL	5.95	0.43	1.41	0.37	0.41	0.08	4.13	0.29	4.88	0.25	1.03	0.15	0.44	0.08	3.41	0.19	–0.38	†–0.72
Greater than 200% FPL	4.73	0.26	0.40	0.06	*	*	4.01	0.27	3.75	0.23	0.43	0.07	0.18	0.03	3.14	0.20	0.03	†–0.87
Total	5.16	0.20	0.83	0.09	0.41	0.07	3.92	0.18	4.33	0.13	0.69	0.06	0.34	0.04	3.30	0.14	–0.15	†–0.62

* CV is more than 30 percent.

† *P*-value < 0.05.

NOTES: DS is number of decayed surfaces in permanent teeth, MS is number of surfaces that are missing because permanent teeth were extracted due to disease, FS is number of filled surfaces in permanent teeth, and DMFS is number of decayed, missing, and filled surfaces in permanent teeth. FPL is federal poverty threshold or level.

Table 29. Contribution of decayed, missing, or filled surfaces on the mean number of decayed, missing and filled surfaces among adolescents 12–19 years of age with at least one decayed, missing or filled surface, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994						1999–2004						Difference (percent) DS/DMFS
	Percent DS/DMFS		Percent MS/DMFS		Percent FS/DMFS		Percent DS/DMFS		Percent MS/DMFS		Percent FS/DMFS		
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	
Age													
12–15 years	18.92	1.59	2.12	0.48	78.97	1.74	22.60	1.61	2.78	0.57	74.63	1.85	3.67
16–19 years	14.63	1.36	4.78	0.73	80.60	1.63	18.35	1.30	4.94	0.55	76.73	1.48	3.72
Sex													
Male	17.40	1.46	2.71	0.54	79.91	1.65	22.97	1.35	3.73	0.57	73.31	1.55	†5.58
Female	16.25	1.83	4.21	0.75	79.55	2.12	18.23	1.39	3.94	0.52	77.85	1.69	1.98
Race and ethnicity													
White, non-Hispanic	10.95	1.17	*	*	86.86	1.44	16.61	1.72	3.17	0.67	80.24	2.14	†5.65
Black, non-Hispanic	35.40	1.86	8.81	1.21	55.81	2.03	30.19	1.70	5.66	0.74	64.16	2.09	†–5.21
Mexican American	31.75	2.05	4.45	0.52	63.82	2.27	28.25	1.98	3.99	0.43	67.77	2.04	–3.50
Poverty status													
Less than 100% FPL	27.16	2.08	5.18	0.72	67.69	2.34	27.61	2.02	4.78	0.61	67.64	2.06	0.45
100%–199% FPL	22.48	3.42	3.93	0.73	73.60	3.48	25.06	2.09	4.89	1.08	70.08	2.42	2.58
Greater than 200% FPL	9.03	1.33	*	*	88.39	1.78	14.19	1.43	2.30	0.38	83.52	1.69	†5.16
Total	16.77	1.14	3.46	0.56	79.79	1.40	20.47	1.18	3.86	0.47	75.69	1.43	†3.70

* CV is more than 30 percent.

† *P*-value < 0.05.

NOTES: DS is number of decayed surfaces in permanent teeth, MS is number of surfaces that are missing because permanent teeth were extracted due to disease, FS is number of filled surfaces in permanent teeth, and DMFS is number of decayed, missing, and filled surfaces in permanent teeth. FPL is federal poverty threshold or level.

Table 30. Prevalence of dental sealants on permanent teeth among adolescents 12–19 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994 Percent	1988–1994 Standard error	1999–2004 Percent	1999–2004 Standard error	Difference (percent)
Age					
12–15 years	22.84	2.59	41.04	1.83	†18.20
16–19 years	13.25	1.60	34.28	1.70	†21.03
Sex					
Male	14.82	1.47	36.43	1.65	†21.61
Female	21.41	2.66	38.93	1.51	†17.51
Race and ethnicity					
White, non-Hispanic	22.57	2.34	43.90	1.81	†21.33
Black, non-Hispanic	7.97	1.27	25.68	2.01	†17.71
Mexican American	8.16	1.07	27.23	2.34	†19.07
Poverty status					
Less than 100% FPL	11.50	1.59	28.76	2.37	†17.26
100%–199% FPL	8.03	1.76	30.64	2.04	†22.61
Greater than 200% FPL	25.74	2.40	45.45	1.84	†19.71
Total	18.03	1.69	37.65	1.47	†19.62

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 31. Mean number of permanent teeth with dental sealants among adolescents 12–19 years of age with at least one sealed tooth, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994 Mean	1988–1994 Standard error	1999–2004 Mean	1999–2004 Standard error	Difference in mean teeth
Age					
12–15 years	5.43	0.42	4.86	0.14	–0.57
16–19 years	5.47	0.58	5.32	0.20	–0.16
Sex					
Male	5.19	0.46	4.97	0.15	–0.22
Female	5.59	0.41	5.18	0.16	–0.41
Race and ethnicity					
White, non-Hispanic	5.44	0.43	5.09	0.16	–0.34
Black, non-Hispanic	5.54	0.40	4.56	0.23	†–0.98
Mexican American	5.34	0.44	4.97	0.24	–0.36
Poverty status					
Less than 100% FPL	4.65	0.67	5.03	0.23	0.38
100%–199% FPL	4.89	0.32	5.18	0.37	0.30
Greater than 200% FPL	5.66	0.38	5.06	0.15	–0.60
Total	5.45	0.37	5.09	0.13	–0.36

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 32. Mean number of permanent teeth sealed by tooth type among adolescents 12–19 years of age with at least one sealed tooth, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994						1999–2004					
	Premolar		1st molar		2nd molar		Premolar		1st molar		2nd molar	
	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error
Age												
12–15 years	1.18	0.26	2.60	0.12	1.74	0.13	0.71	0.09	2.76	0.07	1.45	0.08
16–19 years	1.48	0.36	1.85	0.25	2.16	0.19	1.14	0.14	2.29	0.06	1.85	0.08
Sex												
Male	1.06	0.30	2.23	0.15	1.95	0.18	0.78	0.09	2.63	0.06	1.57	0.08
Female	1.47	0.29	2.25	0.17	1.93	0.14	1.07	0.13	2.42	0.06	1.71	0.08
Race and ethnicity												
White, non-Hispanic	1.31	0.29	2.18	0.17	2.02	0.13	0.79	0.12	2.60	0.06	1.72	0.06
Black, non-Hispanic	1.46	0.32	2.14	0.17	1.95	0.17	1.13	0.21	2.22	0.08	1.24	0.08
Mexican American	1.46	0.28	2.15	0.18	1.76	0.17	1.22	0.17	2.26	0.07	1.50	0.09
Poverty status												
Less than 100% FPL	*	*	1.83	0.18	1.72	0.20	1.20	0.16	2.31	0.12	1.53	0.10
100%–199% FPL	*	*	2.52	0.11	1.69	0.13	1.25	0.26	2.37	0.09	1.60	0.12
Greater than 200% FPL	1.47	0.31	2.22	0.13	2.02	0.14	0.72	0.07	2.63	0.06	1.70	0.07
Total	1.33	0.25	2.22	0.14	1.95	0.11	0.93	0.10	2.53	0.05	1.65	0.06

* CV is more than 30 percent.

NOTE: FPL is federal poverty threshold or level.

Table 33. Prevalence of trauma in permanent incisors, maxillary incisors, and mandibular incisors among adolescents 12–19 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994						1999–2004						Difference (percent) overall incisal trauma
	Overall incisal trauma		Mandibular incisal trauma		Maxillary incisal trauma		Overall incisal trauma		Mandibula incisal traumar		Maxillary incisal trauma		
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	
Age													
12–15 years	17.27	1.52	3.57	0.62	15.79	1.56	17.79	0.87	3.45	0.49	16.08	0.91	0.51
16–19 years	21.92	1.62	4.43	0.83	20.88	1.61	22.51	1.25	4.63	0.63	20.50	1.21	0.59
Sex													
Male	25.22	1.80	6.87	0.88	23.36	1.90	24.64	1.36	5.60	0.73	22.28	1.38	–0.58
Female	13.95	1.19	1.14	0.29	13.31	1.16	15.53	0.97	2.41	0.44	14.19	0.83	1.59
Race and ethnicity													
White, non-Hispanic	21.19	1.44	4.54	0.71	19.82	1.48	20.34	1.11	4.77	0.65	18.12	1.11	–0.85
Black, non-Hispanic	19.34	1.07	2.81	0.58	18.35	1.05	19.76	1.21	2.44	0.44	18.57	1.18	0.43
Mexican American	18.64	1.50	4.75	0.79	17.24	1.29	17.93	0.99	3.68	0.44	16.36	1.07	–0.71
Poverty status													
Less than 100% FPL	21.51	2.26	4.25	0.89	20.67	2.28	22.71	2.26	4.16	0.68	20.79	2.32	1.19
100%–199% FPL	15.38	2.21	*	*	14.32	2.05	20.77	1.61	3.91	0.71	18.75	1.66	5.39
Greater than 200% FPL	20.67	1.46	4.79	0.85	19.22	1.45	19.26	1.17	4.39	0.59	17.34	1.11	–1.40
Total	19.60	1.04	4.00	0.52	18.34	1.08	20.16	0.94	4.04	0.43	18.30	0.92	0.55

* CV is more than 30 percent.

NOTE: FPL is federal poverty threshold or level.

Table 34. Distribution of trauma calls among adolescents 12–19 years of age with at least one traumatized tooth, by incisal trauma type and age: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994								1999–2004							
	Unrestored fracture in enamel		Unrestored fracture in dentin		Endotrauma (has or needs endodontic treatment)		Restored fracture		Unrestored fracture in enamel		Unrestored fracture in dentin		Endotrauma (has or needs endodontic treatment)		Restored fracture	
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
Age																
12–15 years	10.49	1.13	6.10	1.09	*	*	3.13	0.69	12.41	0.78	1.28	0.29	0.65	0.19	5.22	0.52
16–19 years	13.45	1.66	5.02	0.86	2.24	0.64	7.44	0.98	14.17	1.01	2.14	0.34	2.15	0.55	6.02	0.53
Sex																
Male	15.61	1.60	7.92	1.16	2.77	0.75	6.80	1.02	16.47	1.01	2.65	0.35	1.90	0.52	6.33	0.55
Female	8.36	1.16	3.19	0.64	*	*	3.74	0.65	10.00	0.96	0.77	0.20	0.89	0.22	4.89	0.51
Race and ethnicity																
White, non-Hispanic	13.20	1.32	5.39	0.93	*	*	6.46	0.93	13.11	1.05	1.68	0.34	1.30	0.31	6.51	0.65
Black, non-Hispanic	10.11	0.93	7.37	0.87	1.52	0.42	3.14	0.52	13.56	1.18	2.64	0.45	1.38	0.26	3.57	0.48
Mexican American	11.53	1.48	7.02	1.36	*	*	2.79	0.66	13.30	0.86	1.66	0.26	0.67	0.15	3.43	0.47
Poverty status																
Less than 100% FPL	12.82	1.94	10.17	1.62	*	*	3.42	0.99	16.18	1.88	1.20	0.29	1.85	0.51	5.10	0.88
100%–199% FPL	8.83	1.58	5.31	1.06	*	*	2.75	0.79	13.72	1.35	2.75	0.66	*	*	5.78	1.02
Greater than 200% FPL	12.96	1.44	3.65	0.78	2.15	0.57	7.15	1.13	12.46	1.09	1.51	0.32	*	*	5.72	0.55
Total	11.97	1.01	5.56	0.66	1.60	0.40	5.29	0.64	13.29	0.80	1.71	0.21	1.41	0.28	5.62	0.42

* CV is more than 30 percent.

NOTE: FPL is federal poverty threshold or level.

Table 35. Time since last dental visit among adolescents 12–19 years of age, by selected characteristics: United States, National Health and Nutrition Examination, 1988–1994 and 1999–2004

Characteristic	1988–1994											
	Never		1 year or less		1–2 years		2–3 years		3–5 years		More than 5 years	
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
Age												
12–15 years	4.96	0.76	77.94	1.76	8.42	0.93	3.43	0.68	2.97	0.62	2.29	0.57
16–19 years	4.54	0.80	70.00	2.12	11.25	1.22	4.67	1.00	5.80	0.92	3.75	0.74
Sex												
Male	4.66	0.52	72.53	1.75	9.88	1.02	4.83	0.98	4.41	0.91	3.69	0.77
Female	4.82	0.78	75.20	1.71	9.85	1.07	3.27	0.59	4.45	0.64	2.41	0.50
Race and ethnicity												
White, non-Hispanic	3.31	0.66	79.50	1.71	8.43	1.04	2.36	0.63	3.62	0.69	2.79	0.82
Black, non-Hispanic	6.42	0.77	65.37	2.43	13.25	1.26	5.27	0.60	5.53	0.93	4.16	0.79
Mexican American	14.67	1.23	52.26	2.39	11.91	1.07	8.97	1.81	5.73	0.58	6.46	0.90
Poverty status												
Less than 100% FPL	9.73	1.09	59.09	2.69	15.84	1.87	5.49	0.76	5.18	1.06	4.66	1.07
100%–199% FPL	5.60	1.19	66.81	2.58	13.19	1.50	3.52	1.00	6.59	1.57	4.29	1.12
Greater than 200% FPL	*	*	84.27	1.83	5.58	1.14	3.72	0.90	2.90	0.82	*	*
Total	4.74	0.51	73.95	1.41	9.84	0.85	4.05	0.61	4.39	0.52	3.02	0.53

Characteristic	1999–2004												
	Never		1 year or less		1–2 years		2–3 years		3–5 years		More than 5 years		Different (percent), last dental visit within the past year
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	
Age													
12–15 years	2.38	0.36	76.80	1.08	11.02	0.64	4.12	0.52	3.13	0.37	2.54	0.45	–1.14
16–19 years	2.69	0.35	68.50	1.43	13.14	0.80	6.37	0.49	4.35	0.37	4.96	0.59	–1.50
Sex													
Male	2.70	0.37	70.66	1.54	12.18	0.82	6.04	0.64	4.15	0.44	4.27	0.51	–1.88
Female	2.37	0.30	74.64	1.19	11.98	0.69	4.40	0.47	3.32	0.30	3.29	0.43	–0.56
Race and ethnicity													
White, non-Hispanic	0.88	0.26	78.73	1.73	11.27	0.91	4.24	0.62	2.32	0.42	2.55	0.47	–0.77
Black, non-Hispanic	3.27	0.60	65.29	1.54	14.07	0.90	6.41	0.63	5.96	0.55	5.01	0.64	–0.09
Mexican American	10.64	1.02	54.82	2.11	13.50	0.80	7.84	0.56	6.58	0.59	6.63	0.66	2.56
Poverty status													
Less than 100% FPL	4.08	0.73	61.78	2.17	15.91	1.17	6.95	0.77	5.54	0.68	5.74	0.98	2.69
100%–199% FPL	4.54	0.69	61.63	2.15	15.08	1.65	9.02	1.33	4.57	0.74	5.16	0.92	–5.18
Greater than 200% FPL	0.91	0.20	82.13	1.47	9.10	0.79	3.26	0.53	2.21	0.48	2.39	0.46	–2.14
Total	2.54	0.27	72.63	1.12	12.08	0.54	5.25	0.43	3.74	0.29	3.76	0.38	–1.32

* CV is more than 30 percent.

Table 36. Healthy People 2010 Objective 21–1c: Prevalence of dental caries in permanent teeth among adolescents 15 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994 Percent	1988–1994 Standard error	1999–2004 Percent	1999–2004 Standard error	Difference percent
Sex					
Male	59.73	6.85	52.74	3.34	–6.98
Female	62.53	5.81	60.11	3.30	–2.43
Race and ethnicity					
White, non-Hispanic	61.09	6.55	55.59	3.67	–5.51
Black, non-Hispanic	67.67	3.98	52.89	4.14	†–14.78
Mexican American	64.36	4.31	58.03	3.73	–6.33
Poverty status					
Less than 100% FPL	76.28	7.18	66.60	4.39	–9.68
100%–199% FPL	69.02	8.50	57.93	5.74	–11.09
Greater than 200% FPL	51.14	6.47	52.36	3.28	1.22
Total	61.20	4.58	56.11	3.30	–5.10

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 37. Healthy People 2010 Objective 21–2c: Prevalence of untreated tooth decay in permanent teeth among adolescents 15 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994 Percent	1988–1994 Standard error	1999–2004 Percent	1999–2004 Standard error	Difference percent
Sex					
Male	16.89	3.59	18.56	2.70	1.67
Female	22.35	4.12	17.77	2.70	–4.57
Race and ethnicity					
White, non-Hispanic	17.77	4.54	15.27	2.89	–2.50
Black, non-Hispanic	27.48	5.30	25.01	3.03	–2.47
Mexican American	36.48	3.36	21.03	2.96	†–15.45
Poverty status					
Less than 100% FPL	20.11	4.24	31.07	6.28	10.97
100%–199% FPL	28.09	6.23	24.17	5.52	–3.93
Greater than 200% FPL	15.68	4.52	11.80	1.88	–3.88
Total	19.76	3.16	18.20	2.05	–1.56

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 38. Healthy People 2010 Objective 21–8b: Prevalence of dental sealants on permanent first molars among adolescents 14 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference (percent)
	Percent	Standard error	Percent	Standard error	
Sex					
Male	16.10	5.04	23.78	3.20	7.68
Female	14.26	4.29	17.62	2.96	3.36
Race and ethnicity					
White, non-Hispanic	19.00	4.90	22.70	3.38	3.70
Black, non-Hispanic	*	*	10.08	1.88	**
Mexican American	*	*	18.36	3.34	**
Poverty status					
Less than 100% FPL	*	*	12.98	4.11	**
100%–199% FPL	*	*	16.31	4.00	**
Greater than 200% FPL	25.72	6.22	24.78	3.28	–0.94
Total	15.17	3.39	20.54	2.56	5.37

* CV is more than 30 percent.

** Difference could not be estimated because CV of one or more estimates is greater than 30 percent.

† *P*-value < 0.05.

NOTES: Both 1st and 2nd molars present with at least one sealed. FPL is federal poverty threshold or level.

Table 39. Perceived condition of teeth and mouth among adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination, 1988–1994 and 1999–2004

Characteristic	1988–1994								1999–2004								Difference (percent) excellent or very good
	Excellent or very good		Good		Fair		Poor		Excellent or very good		Good		Fair		Poor		
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	
Age																	
20–34 years	34.68	1.26	34.37	0.87	21.85	0.96	9.10	0.65	26.01	0.90	37.60	1.02	26.27	0.75	10.12	0.75	†–8.67
35–49 years	29.87	1.53	37.40	1.33	21.90	1.02	10.83	0.77	26.35	1.38	35.06	1.20	24.06	1.20	14.53	0.81	–3.52
50–64 years	22.64	1.37	37.96	1.91	23.02	1.29	16.38	1.08	23.73	1.11	33.74	1.34	26.09	1.28	16.45	0.99	1.08
Sex																	
Male	29.53	0.99	36.36	1.30	22.82	0.99	11.29	0.77	23.08	0.95	36.33	1.05	26.67	0.99	13.92	0.75	†–6.44
Female	29.88	1.18	36.61	0.90	21.54	0.90	11.97	0.69	28.00	1.05	34.87	0.78	24.03	0.81	13.10	0.57	–1.88
Race and ethnicity																	
White, non-Hispanic	33.57	1.08	37.08	1.07	19.09	0.95	10.26	0.68	29.63	1.12	36.45	0.92	22.02	0.91	11.90	0.74	†–3.94
Black, non-Hispanic	19.29	0.69	32.31	0.85	31.19	1.03	17.20	0.85	17.43	1.10	32.29	1.26	31.97	1.24	18.31	1.34	–1.86
Mexican American	15.02	0.90	29.66	1.18	36.05	1.27	19.27	0.69	11.44	0.84	30.83	1.27	38.11	1.35	19.62	1.33	†–3.58
Poverty status																	
Less than 100% FPL	14.96	1.44	29.29	1.59	31.47	2.02	24.28	2.03	13.84	0.85	26.24	1.65	31.42	1.40	28.50	1.43	–1.12
100%–199% FPL	17.56	1.40	33.94	1.53	29.46	1.55	19.03	1.16	13.62	1.14	28.63	1.47	33.07	1.29	24.68	1.36	†–3.94
Greater than 200% FPL	36.03	1.00	37.75	1.06	18.06	0.92	8.17	0.62	30.64	1.08	39.05	0.90	21.72	0.86	8.59	0.52	†–5.39
Education																	
Less than high school	12.58	0.99	31.38	1.30	31.93	1.27	24.11	1.22	11.99	0.99	25.70	0.98	33.98	0.98	28.33	1.46	–0.59
High school	24.67	1.34	37.58	1.27	24.71	1.35	13.04	0.83	17.05	0.96	35.10	1.27	30.14	1.27	17.71	1.06	†–7.62
More than high school	40.35	1.33	37.89	1.32	16.33	0.83	5.43	0.47	33.13	1.03	38.65	0.91	20.71	0.89	7.51	0.42	†–7.22
Smoking history																	
Current smoker	19.26	1.04	32.40	1.52	27.19	1.29	21.15	1.31	14.03	0.93	30.53	1.08	30.03	1.17	25.41	1.05	†–5.23
Former smoker	33.62	1.74	38.69	1.75	19.35	1.11	8.34	0.76	26.25	1.59	38.32	1.53	24.36	1.62	11.08	1.06	†–7.38
Never smoked	34.27	1.21	37.90	1.10	20.26	0.92	7.57	0.59	30.93	1.05	37.26	0.91	23.20	0.76	8.60	0.55	†–3.34
Total	29.68	0.91	36.50	0.88	22.17	0.79	11.65	0.57	25.56	0.80	35.60	0.71	25.34	0.76	13.50	0.56	†–4.12

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 40. Prevalence of caries in permanent teeth (DMFT) among dentate adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference (percent)
	Percent	Standard error	Percent	Standard error	
Age					
20–34 years	92.09	0.66	85.58	0.77	†–6.51
35–49 years	95.96	0.43	94.30	0.52	†–1.66
50–64 years	95.85	0.57	95.62	0.38	–0.24
Sex					
Male	93.52	0.51	90.57	0.59	†–2.95
Female	95.62	0.26	92.66	0.47	†–2.96
Race and ethnicity					
White, non-Hispanic	96.42	0.30	93.49	0.38	†–2.93
Black, non-Hispanic	89.75	0.53	87.51	0.73	†–2.24
Mexican American	87.00	0.72	82.97	1.59	†–4.04
Poverty status					
Less than 100% FPL	88.05	1.09	88.69	1.01	0.64
100%–199% FPL	92.57	0.86	88.91	0.93	†–3.67
Greater than 200% FPL	96.28	0.33	93.05	0.48	†–3.23
Education					
Less than high school	89.35	0.65	85.93	0.90	†–3.43
High school	96.01	0.44	92.38	0.75	†–3.63
More than high school	95.83	0.39	92.91	0.41	†–2.92
Smoking history					
Current smoker	93.84	0.59	91.48	0.65	†–2.36
Former smoker	95.29	0.72	92.83	0.86	†–2.46
Never smoked	94.63	0.46	91.19	0.47	†–3.44
Total	94.60	0.29	91.63	0.38	†–2.96

† *P*-value < 0.05.

NOTES: FPL is federal poverty threshold or level. DMFT is the number of decayed, missing, and filled permanent teeth.

Table 41. Prevalence of untreated tooth decay in permanent teeth among dentate adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference (percent)
	Percent	Standard error	Percent	Standard error	
Age					
20–34 years	31.19	1.25	27.88	1.44	–3.31
35–49 years	26.26	1.28	25.56	1.27	–0.70
50–64 years	25.90	1.68	22.14	1.29	–3.75
Sex					
Male	30.98	1.16	28.10	1.29	–2.88
Female	24.94	1.27	22.96	0.93	–1.99
Race and ethnicity					
White, non-Hispanic	23.58	1.26	20.84	1.44	–2.74
Black, non-Hispanic	47.91	1.48	40.45	1.74	†–7.45
Mexican American	39.66	1.11	38.35	2.48	–1.31
Poverty status					
Less than 100% FPL	48.74	2.31	43.88	1.96	–4.86
100%–199% FPL	43.40	1.86	39.31	1.53	–4.10
Greater than 200% FPL	19.61	1.04	17.97	0.89	–1.65
Education					
Less than high school	48.96	1.49	45.20	1.87	–3.76
High school	32.89	1.73	33.03	1.59	0.14
More than high school	15.58	1.01	16.48	0.75	0.90
Smoking history					
Current smoker	40.05	1.66	39.26	1.63	–0.78
Former smoker	21.47	1.51	19.67	1.64	–1.80
Never smoked	23.24	1.46	20.56	0.90	–2.68
Total	27.86	1.10	25.49	1.02	–2.38

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 42. Mean number of decayed, missing, filled, decayed and filled teeth, and decayed, missing, and filled teeth in permanent teeth of dentate adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994 DMFT Mean	DMFT Standard error	DFT Mean	DFT Standard error	DT Mean	DT Standard error	MT Mean	MT Standard error	FT Mean	FT Standard error
Age										
20–34 years	8.08	0.18	7.04	0.16	0.94	0.05	1.04	0.07	6.10	0.17
35–49 years	13.46	0.19	9.99	0.20	0.72	0.05	3.47	0.17	9.27	0.22
50–64 years	17.12	0.19	9.82	0.20	0.65	0.05	7.30	0.22	9.18	0.23
Sex										
Male	12.00	0.16	8.52	0.16	0.89	0.05	3.49	0.11	7.62	0.17
Female	13.05	0.16	9.32	0.16	0.67	0.04	3.72	0.14	8.65	0.19
Race and ethnicity										
White, non-Hispanic	13.04	0.17	9.79	0.16	0.66	0.04	3.25	0.14	9.13	0.18
Black, non-Hispanic	11.61	0.12	5.88	0.11	1.46	0.06	5.72	0.14	4.42	0.15
Mexican American	9.03	0.16	6.11	0.13	1.14	0.04	2.92	0.08	4.98	0.13
Poverty status										
Less than 100% FPL	11.67	0.21	6.52	0.28	1.76	0.18	5.15	0.26	4.76	0.28
100%–199% FPL	12.30	0.24	7.26	0.20	1.32	0.07	5.04	0.18	5.95	0.21
Greater than 200% FPL	12.75	0.17	9.74	0.15	0.47	0.03	3.02	0.12	9.26	0.15
Education										
Less than high school	12.27	0.27	6.26	0.19	1.65	0.10	6.01	0.22	4.61	0.19
High school	13.10	0.21	8.85	0.17	0.89	0.06	4.24	0.14	7.97	0.20
More than high school	12.24	0.16	10.12	0.15	0.34	0.03	2.12	0.11	9.78	0.15
Smoking history										
Current smoker	13.41	0.20	8.28	0.18	1.26	0.07	5.13	0.19	7.02	0.20
Former smoker	12.92	0.21	9.51	0.23	0.50	0.03	3.41	0.19	9.01	0.23
Never smoked	11.83	0.19	9.04	0.19	0.60	0.05	2.80	0.10	8.44	0.21
Total	12.54	0.15	8.93	0.14	0.78	0.04	3.61	0.11	8.15	0.16

Characteristic	1999–2004 DMFT Mean	DMFT Standard error	DFT Mean	DFT Standard error	DT Mean	DT Standard error	MT Mean	MT Standard error	FT Mean	FT Standard error	Difference between surveys DMFT	Difference between surveys DFT
Age												
20–34 years	6.16	0.16	5.54	0.13	0.93	0.08	0.62	0.05	4.61	0.13	†–1.92	†–1.50
35–49 years	10.91	0.14	8.53	0.13	0.75	0.05	2.39	0.11	7.78	0.15	†–2.54	†–1.46
50–64 years	15.05	0.21	9.75	0.17	0.55	0.04	5.30	0.22	9.20	0.19	†–2.07	†–1.12
Sex												
Male	9.95	0.16	7.46	0.12	0.87	0.07	2.49	0.13	6.59	0.12	†–2.05	†–1.05
Female	10.70	0.13	8.14	0.11	0.65	0.04	2.56	0.08	7.49	0.13	†–2.34	†–1.18
Race and ethnicity												
White, non-Hispanic	10.67	0.16	8.49	0.12	0.68	0.07	2.17	0.13	7.82	0.15	†–2.37	†–1.30
Black, non-Hispanic	9.78	0.16	5.67	0.13	1.12	0.08	4.11	0.13	4.55	0.14	†–1.83	–0.21
Mexican American	8.07	0.20	5.66	0.20	0.99	0.11	2.42	0.08	4.67	0.23	†–0.96	–0.45
Poverty status												
Less than 100% FPL	10.22	0.24	6.07	0.20	1.51	0.11	4.15	0.19	4.56	0.20	†–1.45	–0.45
100%–199% FPL	10.55	0.25	6.57	0.16	1.24	0.10	3.98	0.19	5.32	0.16	†–1.75	†–0.69
Greater than 200% FPL	10.30	0.13	8.35	0.12	0.48	0.04	1.95	0.08	7.87	0.13	†–2.45	†–1.38
Education												
Less than high school	10.43	0.22	5.80	0.17	1.58	0.12	4.63	0.18	4.22	0.18	†–1.84	–0.46
High school	10.82	0.26	7.58	0.21	1.00	0.09	3.24	0.16	6.58	0.20	†–2.28	†–1.27
More than high school	10.10	0.10	8.45	0.10	0.41	0.03	1.65	0.07	8.04	0.11	†–2.13	†–1.67
Smoking history												
Current smoker	11.44	0.21	7.33	0.14	1.42	0.11	4.12	0.14	5.90	0.15	†–1.97	†–0.95
Former smoker	10.55	0.20	8.26	0.17	0.53	0.07	2.30	0.13	7.73	0.16	†–2.36	†–1.25
Never smoked	9.65	0.11	7.82	0.11	0.51	0.03	1.83	0.09	7.31	0.12	†–2.18	†–1.22
Total	10.33	0.13	7.81	0.10	0.76	0.05	2.52	0.09	7.05	0.11	†–2.21	†–1.12

† *P*-value < 0.05.

NOTES: DMFT is number of decayed, missing, and filled permanent teeth, DT is number of decayed permanent teeth, MT is number of permanent teeth missing due to disease, and FT is number of filled permanent teeth. FPL is federal poverty threshold or level.

Table 43. Mean number of decayed, missing, filled, decayed and filled, and decayed, missing, and filled surfaces in permanent teeth of dentate adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994									
	DMFS		DFS		DS		MS		FS	
	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error
Age										
20–34 years	18.94	0.53	13.87	0.41	1.91	0.13	5.07	0.32	11.96	0.42
35–49 years	41.94	0.81	25.21	0.72	1.73	0.16	16.74	0.78	23.48	0.76
50–64 years	64.23	0.91	29.37	0.81	1.54	0.13	34.85	1.03	27.84	0.83
Sex										
Male	38.02	0.61	21.26	0.51	2.05	0.14	16.76	0.53	19.21	0.52
Female	41.29	0.66	23.40	0.59	1.46	0.10	17.89	0.68	21.95	0.65
Race and ethnicity										
White, non-Hispanic	40.47	0.66	24.87	0.58	1.42	0.10	15.60	0.67	23.45	0.62
Black, non-Hispanic	40.82	0.63	13.32	0.26	3.53	0.20	27.50	0.67	9.78	0.32
Mexican American	28.39	0.54	14.26	0.34	2.63	0.11	14.13	0.38	11.63	0.36
Poverty status										
Less than 100% FPL	39.70	0.90	15.11	0.89	4.35	0.60	24.59	1.22	10.76	0.81
100%–199% FPL	41.34	1.01	17.15	0.62	2.99	0.20	24.19	0.85	14.17	0.64
Greater than 200% FPL	39.20	0.66	24.68	0.55	1.00	0.09	14.51	0.58	23.68	0.56
Education										
Less than high school	43.49	1.15	14.78	0.58	3.92	0.35	28.71	1.03	10.86	0.51
High school	42.43	0.87	22.02	0.65	1.92	0.14	20.41	0.66	20.09	0.68
More than high school	36.20	0.66	25.96	0.53	0.73	0.07	10.25	0.53	25.23	0.54
Smoking history										
Current smoker	45.31	0.82	20.77	0.64	2.99	0.24	24.55	0.90	17.78	0.67
Former smoker	40.77	0.80	24.37	0.75	0.98	0.07	16.40	0.87	23.39	0.74
Never smoked	35.72	0.70	22.22	0.65	1.31	0.11	13.50	0.50	20.91	0.70
Total	39.72	0.56	22.37	0.51	1.74	0.09	17.35	0.52	20.62	0.54

Characteristic	1999–2004										Difference between surveys	
	DMFS		DFS		DS		MS		FS			
	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	DS	FS
Age												
20–34 years	13.39	0.46	10.36	0.30	1.73	0.18	3.04	0.26	8.62	0.28	–0.18	†–3.33
35–49 years	31.46	0.61	19.94	0.44	1.55	0.12	11.52	0.51	18.38	0.47	–0.18	†–5.10
50–64 years	53.87	0.94	28.56	0.66	1.22	0.11	25.31	1.04	27.35	0.70	–0.32	–0.49
Sex												
Male	29.77	0.63	17.86	0.42	1.81	0.14	11.91	0.61	16.06	0.41	–0.25	†–3.15
Female	32.12	0.47	19.78	0.38	1.26	0.10	12.34	0.41	18.52	0.40	–0.20	†–3.43
Race and ethnicity												
White, non-Hispanic	31.38	0.63	20.94	0.45	1.36	0.15	10.44	0.60	19.58	0.50	–0.07	†–3.87
Black, non-Hispanic	31.89	0.70	12.14	0.37	2.46	0.19	19.76	0.61	9.68	0.40	†–1.08	–0.10
Mexican American	24.14	0.54	12.52	0.53	1.83	0.17	11.63	0.38	10.68	0.61	†–0.80	–0.94
Poverty status												
Less than 100% FPL	33.38	0.97	13.50	0.60	3.28	0.30	19.88	0.91	10.22	0.60	–1.07	–0.54
100%–199% FPL	33.59	1.01	14.50	0.45	2.56	0.24	19.09	0.91	11.94	0.45	–0.43	†–2.23
Greater than 200% FPL	29.83	0.47	20.44	0.38	0.94	0.07	9.39	0.40	19.50	0.40	–0.06	†–4.18
Education												
Less than high school	35.00	0.89	12.88	0.45	3.50	0.30	22.12	0.83	9.38	0.46	–0.42	†–1.48
High school	33.53	0.94	17.97	0.60	1.94	0.19	15.56	0.74	16.04	0.59	0.02	†–4.06
More than high school	28.78	0.39	20.81	0.31	0.78	0.06	7.97	0.36	20.04	0.32	0.05	†–5.19
Smoking history												
Current smoker	37.23	0.82	17.57	0.44	3.10	0.28	19.66	0.68	14.47	0.43	0.12	†–3.31
Former smoker	31.67	0.69	20.62	0.51	0.98	0.13	11.06	0.62	19.64	0.51	0.00	†–3.74
Never smoked	27.24	0.43	18.40	0.37	0.93	0.06	8.84	0.42	17.47	0.39	†–0.38	†–3.44
Total	30.96	0.49	18.84	0.33	1.53	0.10	12.12	0.45	17.31	0.35	–0.21	†–3.31

† *P*-value < 0.05.

NOTES: DS is number of decayed surfaces in permanent teeth, MS is number of surfaces that are missing because permanent teeth were extracted due to disease, FS is number of filled surfaces in permanent teeth, DFS is number of decayed, filled surfaces in permanent teeth, and DMFS is number of decayed, missing, and filled surfaces in permanent teeth. FPL is federal poverty threshold or level.

Table 44. Contribution of decayed or filled surfaces on the mean number of decayed and filled surfaces among dentate adults 20–64 years of age with at least one decayed or filled permanent surface, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994				1999–2004				Difference (percent) DS/DFS
	Percent DS/DFS		Percent FS/DFS		Percent DS/DFS		Percent FS/DFS		
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	
Age									
20–34 years	16.85	0.85	83.16	0.85	17.63	0.99	82.38	0.99	0.78
35–49 years	11.26	0.75	88.75	0.75	11.90	0.73	88.10	0.73	0.64
50–64 years	11.86	0.88	88.15	0.87	9.32	0.77	90.68	0.77	†–2.53
Sex									
Male	15.54	0.71	84.47	0.71	15.46	0.83	84.55	0.83	–0.08
Female	11.30	0.71	88.71	0.71	11.09	0.59	88.92	0.59	–0.21
Race and ethnicity									
White, non-Hispanic	9.08	0.61	90.92	0.61	9.46	0.94	90.55	0.94	0.38
Black, non-Hispanic	33.80	1.54	66.21	1.54	27.01	1.58	73.01	1.58	†–6.80
Mexican American	28.94	0.93	71.07	0.93	27.29	2.23	72.72	2.22	–1.65
Poverty status									
Less than 100% FPL	34.77	1.99	65.24	1.99	29.32	1.49	70.70	1.49	†–5.45
100%–199% FPL	24.11	1.26	75.91	1.26	22.70	1.26	77.31	1.26	–1.40
Greater than 200% FPL	6.90	0.46	93.11	0.46	7.46	0.43	92.55	0.43	0.56
Education									
Less than high school	33.36	1.23	66.66	1.23	32.65	1.60	67.37	1.60	–0.71
High school	14.09	0.89	85.93	0.89	17.30	0.94	82.71	0.94	†3.21
More than high school	4.91	0.40	95.10	0.40	6.14	0.42	93.86	0.42	†1.23
Smoking history									
Current smoker	20.48	1.01	79.54	1.01	22.30	1.22	77.71	1.22	1.82
Former smoker	8.30	0.51	91.71	0.51	8.69	0.85	91.31	0.85	0.40
Never smoked	11.15	0.71	88.86	0.71	10.35	0.53	89.66	0.53	–0.80
Total	13.34	0.60	86.67	0.60	13.21	0.65	86.79	0.65	–0.12

† *P*-value < 0.05.

NOTES: DS is number of decayed surfaces in permanent teeth, MS is number of surfaces that are missing because permanent teeth were extracted due to disease, FS is number of filled surfaces in permanent teeth, and DFS is number of decayed filled surfaces in permanent teeth. FPL is federal poverty threshold or level.

Table 45. Prevalence of root caries among dentate adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994						1999–2004						Difference (percent) decayed or restored root caries
	Decayed or restored		Decayed		Restored		Decayed or restored		Decayed		Restored		
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	
Age													
20–34 years	10.43	0.84	8.92	0.67	2.06	0.47	8.07	0.68	7.06	0.57	1.13	0.29	†–2.37
35–49 years	18.01	1.20	12.14	0.80	7.57	0.95	14.83	0.92	11.22	0.76	4.82	0.56	†–3.19
50–64 years	30.81	1.94	14.94	1.23	19.39	2.04	21.60	1.40	11.04	0.89	12.59	1.17	†–9.20
Sex													
Male	20.82	1.17	14.31	0.79	8.73	0.97	15.79	0.91	11.10	0.74	5.87	0.56	†–5.02
Female	16.60	1.20	9.29	0.61	8.65	1.10	12.69	0.79	8.39	0.51	5.21	0.58	†–3.91
Race and ethnicity													
White, non-Hispanic	17.96	1.17	10.03	0.66	10.04	1.18	12.86	0.91	8.09	0.63	5.85	0.59	†–5.10
Black, non-Hispanic	22.51	1.67	20.41	1.45	2.93	0.52	21.27	1.50	18.52	1.56	3.83	0.52	–1.24
Mexican American	19.42	1.31	16.94	1.04	3.81	0.80	14.00	1.03	11.32	0.89	3.03	0.62	†–5.41
Poverty status													
Less than 100% FPL	26.69	2.35	24.06	2.23	4.15	0.98	23.75	2.03	21.39	1.86	3.78	0.88	–2.93
100%–199% FPL	25.37	1.72	20.31	1.38	8.06	1.72	19.71	1.21	15.47	1.28	5.59	0.74	†–5.66
Greater than 200% FPL	15.24	1.09	7.80	0.70	9.02	0.94	11.18	0.73	6.42	0.46	5.68	0.56	†–4.06
Education													
Less than high school	26.53	1.70	22.97	1.48	6.06	0.96	24.00	1.57	19.61	1.51	5.15	0.85	–2.53
High school	21.35	1.63	13.78	1.02	10.32	1.57	16.96	1.05	12.48	0.97	5.90	0.65	†–4.39
More than high school	13.51	1.12	5.52	0.54	8.69	1.05	10.34	0.79	5.79	0.39	5.49	0.62	†–3.17
Smoking history													
Current smoker	27.71	1.66	20.38	1.25	10.18	1.42	23.89	1.44	18.87	1.34	6.97	0.92	–3.83
Former smoker	16.77	1.22	8.86	0.59	9.83	1.12	11.83	1.25	6.55	0.81	6.24	0.84	†–4.94
Never smoked	13.92	1.20	7.62	0.74	7.12	0.98	10.33	0.58	6.55	0.44	4.36	0.44	†–3.58
Total	18.67	1.04	11.75	0.59	8.69	0.97	14.23	0.74	9.74	0.53	5.54	0.47	†–4.44

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 46. Mean number of permanent teeth among dentate adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference in mean teeth
	Mean	Standard error	Mean	Standard error	
Age					
20–34 years	26.44	0.07	26.90	0.05	†0.45
35–49 years	24.14	0.16	25.05	0.11	†0.91
50–64 years	20.39	0.22	22.30	0.22	†1.92
Sex					
Male	24.10	0.11	25.06	0.13	†0.96
Female	23.86	0.14	24.90	0.08	†1.05
Race and ethnicity					
White, non-Hispanic	24.28	0.14	25.23	0.13	†0.95
Black, non-Hispanic	22.03	0.14	23.68	0.13	†1.65
Mexican American	24.81	0.09	25.32	0.08	†0.51
Poverty status					
Less than 100% FPL	22.49	0.27	23.52	0.18	†1.03
100%–199% FPL	22.60	0.19	23.64	0.18	†1.04
Greater than 200% FPL	24.54	0.13	25.48	0.09	†0.95
Education					
Less than high school	21.73	0.22	23.10	0.19	†1.37
High school	23.37	0.14	24.35	0.17	†0.97
More than high school	25.38	0.11	25.76	0.07	†0.38
Smoking history					
Current smoker	22.50	0.19	23.47	0.15	†0.97
Former smoker	24.15	0.18	25.12	0.13	†0.97
Never smoked	24.78	0.11	25.67	0.08	†0.89
Total	23.97	0.11	24.98	0.09	†1.01

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 47. Prevalence of edentulism among adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference (percent)
	Percent	Standard error	Percent	Standard error	
Age					
20–34 years	0.49	0.12	*	*	**
35–49 years	3.69	0.54	2.63	0.37	–1.05
50–64 years	17.49	1.11	10.13	0.82	†–7.36
Sex					
Male	6.08	0.43	3.79	0.41	†–2.28
Female	6.14	0.53	3.72	0.40	†–2.42
Race and ethnicity					
White, non-Hispanic	6.61	0.52	3.96	0.40	†–2.65
Black, non-Hispanic	6.08	0.51	4.14	0.49	†–1.94
Mexican American	1.98	0.31	1.51	0.39	–0.47
Poverty status					
Less than 100% FPL	11.37	1.26	9.28	1.12	–2.08
100%–199% FPL	9.31	0.72	6.48	0.77	†–2.83
Greater than 200% FPL	4.62	0.40	2.35	0.20	†–2.27
Education					
Less than high school	12.10	1.28	8.07	0.76	†–4.03
High school	6.37	0.54	5.41	0.44	–0.96
More than high school	2.17	0.36	1.66	0.20	–0.51
Smoking history					
Current smoker	10.16	0.83	7.79	0.62	†–2.38
Former smoker	5.89	0.42	3.57	0.51	†–2.33
Never smoked	3.51	0.45	1.55	0.25	†–1.97
Total	6.11	0.42	3.76	0.32	†–2.36

* CV is more than 30 percent.

** Difference could not be estimated because CV of one or more estimates is greater than 30 percent.

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 48. Time since last dental visit among adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination, 1988–1994 and 1999–2004

Characteristic	1988–1994											
	Never		1 year or less		1–2 years		2–3 years		3–5 years		More than 5 years	
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
Age												
20–34 years	3.29	0.38	63.52	1.21	14.30	0.96	5.14	0.52	6.26	0.62	7.49	0.55
35–49 years	1.38	0.31	68.95	1.41	12.39	0.80	4.89	0.60	5.30	0.56	7.09	0.60
50–64 years	1.70	0.39	63.73	1.40	10.64	0.68	4.56	0.54	6.35	0.77	13.02	0.67
Sex												
Male	2.80	0.35	61.06	1.26	14.08	0.82	4.97	0.53	6.91	0.64	10.18	0.55
Female	1.46	0.24	70.27	0.95	11.20	0.61	4.78	0.42	4.93	0.38	7.36	0.43
Race and ethnicity												
White, non-Hispanic	1.12	0.21	68.18	1.12	12.75	0.67	4.58	0.45	5.42	0.47	7.94	0.39
Black, non-Hispanic	1.78	0.22	56.52	1.27	13.45	0.71	5.98	0.48	8.68	0.49	13.60	0.82
Mexican American	8.45	0.50	51.32	1.27	13.02	0.59	6.78	0.48	8.06	0.48	12.37	0.62
Poverty status												
Less than 100% FPL	5.89	0.84	45.47	1.82	13.06	1.32	5.91	0.66	11.25	1.32	18.42	1.26
100%–199% FPL	2.90	0.54	54.67	1.79	14.97	1.00	6.40	0.81	7.42	0.85	13.65	1.08
Greater than 200% FPL	0.89	0.20	72.53	1.13	12.18	0.75	4.02	0.49	4.64	0.37	5.75	0.41
Education												
Less than high school	5.98	0.75	48.51	1.61	13.86	0.87	5.69	0.53	9.67	0.91	16.29	1.07
High school	1.39	0.24	63.16	1.35	14.06	0.98	5.70	0.62	5.99	0.65	9.70	0.61
More than high school	0.93	0.25	76.46	1.23	10.98	0.76	3.71	0.52	4.01	0.41	3.92	0.45
Smoking history												
Current smoker	2.39	0.40	56.63	1.60	14.86	0.84	6.01	0.57	8.19	0.83	11.92	0.84
Former smoker	1.31	0.30	68.12	1.52	12.09	0.81	4.84	0.73	5.56	0.63	8.08	0.78
Never smoked	2.38	0.32	70.73	1.10	11.45	0.74	4.25	0.46	4.45	0.38	6.73	0.40
Total	2.12	0.21	65.75	0.90	12.60	0.53	4.89	0.34	5.90	0.41	8.74	0.37

Characteristic	1988–1994												Different (percent) last dental visit within the past year
	Never		1 year or less		1–2 years		2–3 years		3–5 years		More than 5 years		
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	
Age													
20–34 years	2.64	0.34	54.59	0.97	15.95	0.67	8.33	0.47	7.52	0.47	10.98	0.78	†–8.93
35–49 years	1.07	0.15	62.54	1.14	12.76	0.71	6.56	0.50	6.50	0.50	10.57	0.63	†–6.41
50–64 years	0.40	0.11	62.80	1.62	10.27	0.72	6.77	0.59	5.69	0.53	14.08	1.29	–0.93
Sex													
Male	2.01	0.26	55.30	1.03	13.29	0.52	7.98	0.48	7.51	0.38	13.90	0.86	†–5.76
Female	0.88	0.12	64.27	0.82	13.14	0.54	6.49	0.39	5.80	0.39	9.42	0.64	†–6.00
Race and ethnicity													
White, non-Hispanic	*	*	64.30	1.15	12.28	0.47	6.54	0.44	6.27	0.38	10.44	0.87	†–3.88
Black, non-Hispanic	1.27	0.20	50.09	1.37	16.85	0.78	9.44	0.57	8.41	0.60	13.95	0.88	†–6.43
Mexican American	10.19	1.15	42.90	2.17	14.99	0.78	8.58	0.69	8.80	0.62	14.54	1.11	†–8.41
Poverty status													
Less than 100% FPL	4.22	0.70	44.00	1.74	14.35	1.01	8.75	0.83	8.05	0.86	20.64	1.49	–1.48
100%–199% FPL	2.13	0.27	43.31	1.49	14.68	0.95	9.49	0.78	9.65	0.90	20.73	1.48	†–11.35
Greater than 200% FPL	0.39	0.09	66.94	0.98	12.90	0.57	6.23	0.40	5.71	0.40	7.83	0.49	†–5.59
Education													
Less than high school	5.43	0.58	38.41	1.58	15.41	0.84	9.43	0.75	9.19	0.73	22.12	1.35	†–10.10
High school	1.04	0.27	52.79	1.29	13.91	0.73	8.11	0.68	8.36	0.61	15.80	1.03	†–10.37
More than high school	0.30	0.08	70.16	0.98	12.24	0.54	6.16	0.40	5.01	0.41	6.13	0.48	†–6.29
Smoking history													
Current smoker	1.60	0.30	48.18	1.29	14.62	0.87	9.22	0.59	8.88	0.73	17.50	0.86	†–8.45
Former smoker	1.43	0.31	63.65	1.46	11.95	0.94	6.23	0.65	5.96	0.61	10.78	0.95	†–4.47
Never smoked	1.41	0.16	64.41	0.83	12.93	0.52	6.57	0.48	5.56	0.45	9.12	0.58	†–6.32
Total	1.44	0.16	59.87	0.82	13.22	0.38	7.22	0.35	6.64	0.30	11.61	0.62	†–5.88

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 49. Mean recession among dentate adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference in mean recession
	Mean (mm)	Standard error	Mean (mm)	Standard error	
Age					
20–34 years	0.04	0.00	0.05	0.00	0.01
35–49 years	0.20	0.01	0.41	0.04	†0.21
50–64 years	0.52	0.02	1.00	0.10	†0.48
Sex					
Male	0.28	0.01	0.56	0.05	†0.28
Female	0.17	0.01	0.33	0.03	†0.15
Race and ethnicity					
White, non-Hispanic	0.21	0.01	0.42	0.04	†0.20
Black, non-Hispanic	0.28	0.01	0.53	0.08	†0.24
Mexican American	0.22	0.01	0.41	0.07	†0.19
Poverty status					
Less than 100% FPL	0.34	0.02	0.73	0.12	†0.39
100%–199% FPL	0.29	0.03	0.78	0.09	†0.49
Greater than 200% FPL	0.20	0.01	0.35	0.04	†0.15
Education					
Less than high school	0.38	0.03	0.75	0.09	†0.37
High school	0.23	0.01	0.48	0.05	†0.25
More than high school	0.16	0.01	0.34	0.04	†0.18
Smoking history					
Current smoker	0.38	0.02	0.95	0.10	†0.56
Former smoker	0.24	0.02	0.42	0.06	†0.19
Never smoked	0.13	0.01	0.21	0.01	†0.08
Total	0.23	0.01	0.44	0.03	†0.21

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 50. Mean pocket depth among dentate adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference in mean pocket depth
	Mean (mm)	Standard error	Mean (mm)	Standard error	
Age					
20–34 years	1.45	0.02	0.96	0.02	†–0.50
35–49 years	1.47	0.03	1.04	0.02	†–0.43
50–64 years	1.50	0.03	1.08	0.03	†–0.42
Sex					
Male	1.56	0.02	1.09	0.02	†–0.46
Female	1.39	0.02	0.95	0.02	†–0.44
Race and ethnicity					
White, non-Hispanic	1.43	0.03	0.96	0.02	†–0.47
Black, non-Hispanic	1.69	0.03	1.19	0.03	†–0.50
Mexican American	1.57	0.02	1.16	0.04	†–0.41
Poverty status					
Less than 100% FPL	1.70	0.03	1.16	0.03	†–0.54
100%–199% FPL	1.57	0.03	1.14	0.03	†–0.43
Greater than 200% FPL	1.42	0.02	0.96	0.02	†–0.46
Education					
Less than high school	1.65	0.03	1.25	0.03	†–0.40
High school	1.51	0.02	1.04	0.03	†–0.47
More than high school	1.38	0.03	0.95	0.02	†–0.43
Smoking history					
Current smoker	1.63	0.03	1.14	0.03	†–0.49
Former smoker	1.45	0.03	1.00	0.03	†–0.45
Never smoked	1.39	0.02	0.97	0.02	†–0.42
Total	1.47	0.02	1.02	0.02	†–0.45

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 51. Mean loss of attachment among dentate adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference in mean loss of attachment
	Mean (mm)	Standard error	Mean (mm)	Standard error	
Age					
20–34 years	0.63	0.04	0.40	0.02	†–0.23
35–49 years	1.07	0.04	0.73	0.02	†–0.34
50–64 years	1.64	0.05	1.14	0.04	†–0.50
Sex					
Male	1.20	0.04	0.83	0.03	†–0.37
Female	0.93	0.04	0.62	0.02	†–0.32
Race and ethnicity					
White, non-Hispanic	1.02	0.04	0.67	0.02	†–0.35
Black, non-Hispanic	1.28	0.04	0.84	0.04	†–0.44
Mexican American	1.09	0.05	0.81	0.05	†–0.28
Poverty status					
Less than 100% FPL	1.39	0.07	0.97	0.04	†–0.41
100%–199% FPL	1.21	0.05	0.97	0.04	†–0.25
Greater than 200% FPL	0.99	0.03	0.64	0.02	†–0.35
Education					
Less than high school	1.42	0.05	1.05	0.04	†–0.38
High school	1.11	0.04	0.77	0.03	†–0.34
More than high school	0.89	0.03	0.62	0.02	†–0.27
Smoking history					
Current smoker	1.45	0.06	1.03	0.03	†–0.42
Former smoker	1.07	0.04	0.70	0.03	†–0.37
Never smoked	0.83	0.03	0.58	0.02	†–0.25
Total	1.07	0.03	0.72	0.02	†–0.34

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 52. Prevalence of the level of recession among dentate adults 20–64 years of age, by age and selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Recession	20–64 years				20–34 years				35–49 years				50–64 years			
	1988–1994		1999–2004		1988–1994		1999–2004		1988–1994		1999–2004		1988–1994		1999–2004	
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
All persons																
1 millimeter	47.95	0.73	37.99	1.32	24.26	1.09	19.02	1.18	51.91	1.33	43.07	1.76	73.67	1.29	55.60	1.97
2 millimeters	32.03	0.89	20.60	0.65	12.69	1.13	7.27	0.69	33.06	1.47	22.36	0.92	56.49	1.75	35.80	1.37
3 millimeters	16.68	0.77	7.43	0.40	4.71	0.65	1.45	0.27	16.30	1.17	7.92	0.59	33.38	1.52	14.71	0.96
4 millimeters	8.79	0.52	3.01	0.30	1.74	0.30	*	*	7.83	0.81	2.74	0.41	19.78	1.24	6.75	0.76
Male																
1 millimeter	51.40	0.97	42.96	1.57	28.32	1.69	21.57	1.56	55.17	1.90	48.87	1.96	76.58	1.83	62.55	2.55
2 millimeters	35.96	0.99	25.13	1.02	15.44	1.56	9.32	0.98	37.76	1.66	27.70	1.58	60.79	2.27	42.43	1.91
3 millimeters	21.10	1.08	9.90	0.63	6.09	1.07	1.96	0.41	21.45	1.59	10.56	0.96	40.78	2.35	19.56	1.43
4 millimeters	11.39	0.76	3.77	0.42	1.94	0.44	*	*	10.74	1.37	3.65	0.58	25.11	2.01	8.21	1.18
Female																
1 millimeter	44.59	1.03	33.13	1.51	20.19	1.48	16.45	1.20	48.75	1.99	37.20	2.20	70.96	1.79	49.23	2.24
2 millimeters	28.24	1.12	16.16	0.84	9.94	1.28	5.20	0.69	28.51	1.87	16.94	1.40	52.48	2.51	29.71	1.49
3 millimeters	12.44	0.75	5.04	0.39	3.33	0.62	*	*	11.32	1.26	5.24	0.71	26.48	1.75	10.26	1.01
4 millimeters	6.32	0.46	2.28	0.32	1.54	0.37	*	*	5.02	0.74	1.81	0.48	14.80	1.34	5.42	0.88
Mexican American																
1 millimeter	43.20	1.53	35.01	1.87	18.83	1.27	15.29	1.28	44.38	2.15	34.57	2.82	74.18	3.45	62.26	3.49
2 millimeters	30.09	1.15	18.35	1.31	8.38	1.11	5.36	0.73	28.22	1.48	16.78	1.72	62.26	3.01	38.30	3.44
3 millimeters	16.60	1.27	7.27	0.82	2.80	0.60	1.06	0.29	12.31	1.26	5.81	1.32	41.91	3.58	17.90	2.41
4 millimeters	8.28	0.71	2.58	0.33	*	*	*	*	5.65	0.89	2.56	0.70	22.56	2.11	5.67	1.08
Black, non-Hispanic																
1 millimeter	47.47	0.91	30.19	1.67	20.48	0.85	9.57	1.24	51.49	1.34	37.71	2.77	77.52	2.40	46.18	2.53
2 millimeters	35.79	0.99	18.73	1.32	11.95	0.99	3.67	0.86	39.25	1.73	21.60	1.97	62.50	2.17	34.54	2.70
3 millimeters	19.51	0.91	8.03	0.66	4.99	0.72	*	*	20.35	1.15	9.79	1.32	37.77	2.33	13.90	1.83
4 millimeters	11.99	0.74	3.80	0.45	2.34	0.54	*	*	11.97	0.92	3.59	0.77	25.01	2.05	7.91	1.37
White, non-Hispanic																
1 millimeter	47.62	0.85	39.19	1.51	24.45	1.46	21.17	1.46	51.27	1.61	44.15	2.09	73.14	1.43	55.72	2.37
2 millimeters	30.72	1.13	20.90	0.76	12.34	1.44	8.02	0.89	31.32	1.63	22.81	1.23	54.54	2.11	35.27	1.55
3 millimeters	15.53	0.91	7.02	0.48	4.45	0.78	1.31	0.34	15.33	1.33	7.36	0.79	30.76	1.78	14.18	1.15
4 millimeters	7.90	0.58	2.92	0.36	1.58	0.37	*	*	7.02	0.81	2.53	0.51	17.81	1.47	6.78	0.90
Less than high school																
1 millimeter	54.29	1.59	37.99	1.43	30.46	2.33	19.30	2.18	59.87	2.96	44.31	2.72	77.65	2.64	53.29	2.62
2 millimeters	39.95	1.55	22.90	1.20	16.21	1.88	7.72	1.16	45.30	3.22	26.51	2.27	63.56	2.53	37.73	3.17
3 millimeters	24.38	1.28	10.16	0.85	6.89	1.46	1.80	0.43	26.40	2.64	11.83	1.23	44.77	2.59	18.81	2.79
4 millimeters	15.53	1.24	4.45	0.71	3.88	0.99	*	*	16.86	2.19	4.42	0.96	29.14	2.60	9.81	2.20
High school																
1 millimeter	49.14	1.35	36.94	1.98	22.30	1.72	19.82	2.29	55.64	2.27	42.49	2.49	75.14	1.76	51.29	3.30
2 millimeters	33.43	1.44	20.28	1.34	11.25	1.50	8.06	1.36	36.62	2.11	22.07	1.41	58.33	2.51	33.95	3.27
3 millimeters	16.42	1.08	7.25	0.80	3.14	0.64	*	*	18.65	1.90	7.78	1.32	30.84	2.56	14.64	2.18
4 millimeters	8.73	0.67	3.57	0.48	1.10	0.33	*	*	9.25	1.36	3.51	0.87	18.18	1.72	7.82	1.47

See footnotes at end of table.

Table 52. Prevalence of the level of recession among dentate adults 20–64 years of age, by age and selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004—Con.

Recession	20–64 years				20–34 years				35–49 years				50–64 years			
	1988–1994		1999–2004		1988–1994		1999–2004		1988–1994		1999–2004		1988–1994		1999–2004	
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
More than high school																
1 millimeter	44.61	1.22	38.39	1.49	23.14	1.35	18.62	1.33	47.11	1.95	43.06	2.03	69.61	2.24	57.72	2.47
2 millimeters	27.93	1.33	20.11	0.68	12.34	1.38	6.77	0.83	27.16	2.18	21.50	1.26	50.11	2.82	35.92	1.33
3 millimeters	13.75	1.00	6.80	0.46	5.03	0.85	1.46	0.42	11.76	1.39	7.04	0.93	28.63	2.35	13.61	1.12
4 millimeters	6.16	0.59	2.42	0.30	1.32	0.38	*	*	4.27	0.72	2.00	0.48	15.64	1.72	5.53	0.81
Less than 100% FPL																
1 millimeter	53.64	1.77	35.00	1.83	25.83	2.00	14.36	2.19	63.68	3.33	43.00	2.83	75.38	3.69	50.30	3.72
2 millimeters	41.91	1.95	22.53	1.27	14.27	2.20	5.62	1.18	51.99	4.20	26.75	2.40	63.36	4.26	38.69	3.26
3 millimeters	25.71	1.94	10.14	1.16	5.98	1.67	*	*	27.09	4.17	13.22	1.91	50.13	4.91	17.09	3.31
4 millimeters	13.81	1.03	4.32	0.81	3.67	1.08	*	*	15.02	2.00	5.33	1.36	25.58	3.20	7.31	2.00
100%–199% FPL																
1 millimeter	50.68	1.92	39.20	2.14	22.60	2.18	19.72	2.24	57.67	3.70	45.26	2.69	77.57	3.45	55.97	4.32
2 millimeters	36.63	2.41	25.40	1.54	12.91	1.52	8.37	1.47	40.01	3.66	29.33	2.17	63.31	5.12	42.19	3.78
3 millimeters	21.98	1.77	10.41	1.08	5.14	0.88	1.47	0.40	24.10	3.16	10.27	1.62	41.36	4.68	22.67	3.12
4 millimeters	11.19	1.19	4.19	0.79	1.46	0.36	0.57	0.15	12.26	1.95	*	*	22.62	3.76	9.83	2.38
At or greater than 200% FPL																
1 millimeter	46.78	0.83	38.38	1.47	24.83	1.47	20.90	1.31	49.19	1.53	42.38	2.08	72.56	1.42	55.68	2.31
2 millimeters	29.63	0.97	19.39	0.71	12.47	1.51	7.70	0.79	28.86	1.43	20.12	1.07	53.97	1.86	33.99	1.70
3 millimeters	14.27	0.79	6.50	0.44	4.45	0.82	1.50	0.40	12.87	1.01	6.34	0.69	29.69	1.52	13.47	1.11
4 millimeters	7.32	0.58	2.53	0.35	1.40	0.41	*	*	5.83	0.81	1.97	0.46	17.65	1.42	6.21	0.88
Current smoker																
1 millimeter	59.09	1.11	42.71	1.86	28.87	1.93	21.98	2.20	66.52	2.07	50.91	2.78	88.17	1.80	57.81	2.70
2 millimeters	43.15	1.30	26.14	1.34	14.88	1.63	8.81	1.29	48.55	2.45	30.27	1.74	72.79	2.50	43.01	3.57
3 millimeters	26.35	1.33	11.06	0.93	4.85	1.08	1.69	0.41	29.10	2.44	12.81	1.50	51.02	2.75	20.96	2.44
4 millimeters	15.51	1.04	4.94	0.67	2.16	0.61	0.57	0.14	15.26	1.69	5.63	1.08	33.86	3.46	9.75	1.86
Former smoker																
1 millimeter	50.10	1.54	39.14	1.58	27.45	2.76	17.96	2.19	52.43	2.07	45.35	2.51	76.98	2.14	57.97	2.71
2 millimeters	33.46	1.76	21.48	1.13	15.92	2.56	7.88	1.63	31.32	2.51	22.09	2.19	60.44	2.48	38.85	2.24
3 millimeters	17.37	1.39	7.97	0.85	8.22	1.82	*	*	13.63	1.85	8.61	1.54	35.55	2.38	16.37	1.38
4 millimeters	8.98	1.01	2.77	0.36	*	*	*	*	5.94	1.38	1.91	0.55	20.49	1.99	7.56	1.14
Never smoked																
1 millimeter	40.03	1.10	34.83	1.42	20.43	1.36	17.71	1.24	42.07	2.42	38.09	2.19	63.25	2.43	52.77	2.19
2 millimeters	24.58	1.08	17.36	0.72	10.46	1.17	6.34	0.68	23.96	2.09	18.45	1.50	44.56	2.79	30.52	1.62
3 millimeters	10.82	0.81	5.30	0.39	3.77	0.65	1.42	0.39	9.51	1.19	5.12	0.76	22.36	2.25	10.81	1.21
4 millimeters	4.99	0.46	2.12	0.30	0.92	0.20	*	*	4.09	0.79	1.62	0.39	11.90	1.32	4.91	0.84

* CV is more than 30 percent.

NOTE: FPL is federal poverty threshold or level.

Table 53. Prevalence of the level of pocket depth among dentate adults 20–64 years of age, by age and selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

	20–64 years				20–34 years				35–49 years				50–64 years			
	1988–1994		1999–2004		1988–1994		1999–2004		1988–1994		1999–2004		1988–1994		1999–2004	
Pocket depth	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
All persons																
2 millimeters	96.28	0.60	80.77	1.59	96.99	0.66	78.38	1.86	96.78	0.70	82.79	1.70	94.56	0.96	80.82	1.97
3 millimeters	64.90	1.94	34.20	1.92	66.94	2.36	28.84	1.74	65.43	1.98	36.10	2.25	61.34	2.71	38.45	2.58
4 millimeters	22.60	1.59	10.43	0.75	20.88	1.63	6.66	0.68	22.24	1.71	11.91	0.89	25.49	2.37	13.21	1.16
5 millimeters	7.70	0.58	3.05	0.26	4.60	0.47	1.11	0.18	8.62	0.85	3.58	0.29	10.45	1.19	4.85	0.67
6 millimeters	3.26	0.33	0.97	0.14	1.80	0.28	0.33	0.09	3.36	0.44	0.76	0.17	5.07	0.72	2.14	0.39
7 millimeters	1.73	0.17	0.44	0.09	0.72	0.15	*	*	1.86	0.28	*	*	2.88	0.46	1.12	0.26
Male																
2 millimeters	97.43	0.61	84.20	1.43	98.41	0.64	82.87	1.91	97.19	0.87	86.09	1.71	96.51	1.08	83.03	2.18
3 millimeters	69.10	1.86	38.60	2.19	71.63	2.31	33.05	2.12	69.77	2.16	41.09	2.51	64.64	2.74	42.17	3.13
4 millimeters	26.66	1.70	13.01	0.99	24.23	1.97	8.59	1.00	27.59	2.26	15.27	1.27	28.46	2.44	15.43	1.77
5 millimeters	9.79	0.78	4.31	0.44	5.24	0.65	1.41	0.28	11.64	1.31	5.29	0.54	13.03	1.57	6.69	1.14
6 millimeters	4.41	0.50	1.30	0.22	2.42	0.45	*	*	4.90	0.76	1.09	0.26	6.33	0.91	2.83	0.62
7 millimeters	2.50	0.29	0.58	0.14	0.98	0.21	*	*	2.68	0.56	*	*	4.26	0.73	*	*
Female																
2 millimeters	95.17	0.71	77.34	1.89	95.56	0.87	73.86	2.15	96.38	0.78	79.44	2.08	92.75	1.22	78.74	2.31
3 millimeters	60.82	2.33	29.81	1.80	62.24	2.84	24.60	1.72	61.23	2.64	31.03	2.24	58.26	3.36	34.92	2.52
4 millimeters	18.67	1.67	7.86	0.66	17.53	1.79	4.72	0.65	17.08	1.70	8.49	0.87	22.72	2.70	11.10	1.24
5 millimeters	5.69	0.57	1.81	0.23	3.95	0.56	*	*	5.69	0.69	1.83	0.36	8.04	1.32	3.12	0.55
6 millimeters	2.15	0.29	0.64	0.14	1.19	0.28	*	*	1.87	0.35	*	*	3.90	0.88	1.49	0.43
7 millimeters	0.99	0.19	*	*	*	*	*	*	1.07	0.27	0.05	0.01	*	*	*	*
Mexican American																
2 millimeters	97.92	0.42	88.83	1.92	99.09	0.23	88.56	1.95	98.29	0.37	90.19	2.09	95.76	1.40	87.05	2.72
3 millimeters	76.10	1.46	45.30	3.12	77.08	1.77	42.71	2.83	77.75	1.80	47.67	4.12	72.19	3.06	45.06	4.56
4 millimeters	30.76	1.45	17.44	1.76	25.49	1.51	14.55	2.24	32.85	1.94	19.83	2.28	34.59	2.14	17.60	2.79
5 millimeters	10.96	0.78	5.16	0.76	6.76	0.67	2.23	0.51	12.04	1.02	6.55	1.27	14.93	1.77	6.93	1.42
6 millimeters	4.39	0.54	1.90	0.41	1.55	0.31	*	*	5.01	0.64	*	*	7.25	1.39	4.26	1.13
7 millimeters	2.33	0.35	0.73	0.19	*	*	*	*	2.37	0.42	*	*	4.74	1.02	*	*
Black, non-Hispanic																
2 millimeters	96.37	1.11	87.90	1.27	97.44	0.96	88.77	2.13	96.18	1.21	89.22	1.64	95.23	1.58	84.66	1.95
3 millimeters	77.08	1.83	47.81	1.98	78.66	2.11	45.24	2.88	77.36	1.94	51.36	2.77	74.51	2.96	45.70	2.54
4 millimeters	38.70	2.07	20.91	1.19	36.60	2.33	15.15	1.91	38.18	2.37	25.10	2.01	42.34	3.37	22.11	2.20
5 millimeters	16.34	1.06	6.95	0.65	10.72	0.95	2.94	0.66	17.70	1.30	8.98	1.24	21.78	2.49	9.16	1.89
6 millimeters	8.11	0.70	2.42	0.44	3.69	0.57	*	*	9.07	0.95	3.30	0.75	12.55	1.72	*	*
7 millimeters	4.62	0.53	0.95	0.22	2.03	0.40	*	*	5.56	0.70	0.85	0.22	6.65	1.25	*	*
White, non-Hispanic																
2 millimeters	96.20	0.68	77.58	1.92	96.70	0.74	73.65	2.45	96.51	0.80	80.39	2.00	95.03	1.12	78.48	2.34
3 millimeters	62.08	2.36	28.83	2.08	62.94	2.99	21.90	1.78	62.91	2.35	30.85	2.60	59.63	3.16	35.01	2.81
4 millimeters	19.38	1.88	7.01	0.68	17.44	2.10	3.44	0.64	18.64	1.93	8.05	0.97	23.18	2.73	10.18	1.10
5 millimeters	5.84	0.66	1.99	0.25	3.04	0.56	*	*	6.57	0.93	2.02	0.31	8.45	1.34	3.71	0.64
6 millimeters	2.41	0.39	0.56	0.12	1.30	0.31	*	*	2.27	0.52	*	*	4.14	0.80	1.68	0.41
7 millimeters	1.13	0.20	*	*	*	*	–	–	*	*	*	*	2.23	0.49	*	*

See footnotes at end of table.

Table 53. Prevalence of the level of pocket depth among dentate adults 20–64 years of age, by age and selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004—Con.

Pocket depth	20–64 years				20–34 years				35–49 years				50–64 years			
	1988–1994		1999–2004		1988–1994		1999–2004		1988–1994		1999–2004		1988–1994		1999–2004	
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
Less than high school																
2 millimeters	96.14	0.81	89.42	1.41	98.44	0.53	91.21	1.36	95.67	1.33	91.53	1.83	93.78	1.47	83.71	2.67
3 millimeters	73.01	1.64	50.43	2.29	79.61	1.82	48.10	2.46	74.71	2.67	53.98	3.29	61.46	4.34	48.02	3.40
4 millimeters	32.96	2.03	20.40	1.70	32.39	2.31	14.27	1.68	35.90	3.04	24.20	2.34	29.14	3.63	22.70	2.53
5 millimeters	14.70	1.30	6.34	0.68	8.88	1.32	2.54	0.61	19.08	2.63	7.43	1.13	15.68	2.17	9.76	1.41
6 millimeters	7.25	0.86	2.25	0.42	3.60	0.94	*	*	9.59	1.58	1.85	0.43	8.50	1.55	5.13	1.22
7 millimeters	3.65	0.55	1.28	0.28	*	*	*	*	5.03	1.13	1.00	0.19	4.41	1.06	*	*
High school																
2 millimeters	96.63	0.73	82.36	1.71	96.46	1.07	82.53	1.89	97.90	0.48	83.02	1.85	94.87	1.52	81.10	3.09
3 millimeters	66.61	2.14	35.74	2.40	69.17	2.93	33.34	2.81	67.66	1.96	35.16	3.37	61.53	3.64	39.89	3.31
4 millimeters	25.08	1.97	11.58	1.08	23.35	2.44	8.01	1.16	25.24	2.51	13.49	1.58	27.16	2.63	13.39	2.02
5 millimeters	9.05	0.79	3.05	0.37	5.27	0.77	*	*	10.70	1.45	3.87	0.73	11.54	1.67	3.92	0.76
6 millimeters	3.54	0.48	*	*	2.19	0.47	*	*	3.87	0.69	*	*	4.83	0.90	*	*
7 millimeters	1.90	0.30	*	*	*	*	*	*	2.26	0.51	*	*	2.71	0.77	*	*
More than high school																
2 millimeters	96.09	0.77	77.48	1.96	96.74	0.90	72.12	2.56	96.39	1.15	80.52	2.11	94.74	1.23	79.94	2.16
3 millimeters	60.54	2.36	28.88	1.95	59.42	3.25	20.27	1.69	61.18	2.67	32.11	2.27	61.06	2.82	35.41	3.29
4 millimeters	16.73	1.60	7.21	0.66	13.79	1.58	3.51	0.58	16.26	1.78	8.19	0.93	21.41	2.88	10.65	1.34
5 millimeters	4.03	0.47	2.16	0.27	2.14	0.49	*	*	4.18	0.65	2.50	0.36	6.36	1.22	3.92	0.81
6 millimeters	1.53	0.29	0.76	0.15	*	*	*	*	1.15	0.29	*	*	3.21	0.91	1.73	0.48
7 millimeters	0.90	0.23	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Less than 100% FPL																
2 millimeters	97.07	0.86	85.56	1.77	95.19	2.01	85.04	1.97	98.53	0.74	85.43	2.79	97.31	1.43	86.45	3.64
3 millimeters	73.64	2.30	41.21	2.62	68.71	3.86	37.18	3.16	84.13	2.60	42.04	3.37	63.86	5.51	45.34	4.78
4 millimeters	35.93	2.52	16.06	1.94	26.35	2.52	8.79	1.66	43.92	3.84	20.10	2.48	36.32	4.81	19.54	3.81
5 millimeters	17.08	1.74	4.85	0.81	6.55	1.06	*	*	25.42	4.01	5.62	1.22	18.21	2.95	7.82	1.67
6 millimeters	8.08	1.32	1.33	0.34	2.87	0.71	*	*	10.72	2.35	*	*	10.99	2.55	*	*
7 millimeters	4.82	1.09	*	*	1.29	0.24	*	*	7.90	2.30	*	*	4.77	1.34	*	*
100%–199% FPL																
2 millimeters	95.90	1.00	83.85	1.62	97.79	0.81	78.90	2.93	96.96	0.92	88.73	1.97	91.71	2.79	82.88	3.39
3 millimeters	71.27	2.77	41.12	2.33	75.30	3.24	32.67	2.51	73.12	3.22	45.14	3.17	62.93	4.74	46.21	5.14
4 millimeters	29.25	2.50	17.14	1.32	27.22	2.29	9.05	1.15	29.53	3.68	20.11	1.93	31.56	4.22	23.41	3.18
5 millimeters	10.12	1.14	6.75	0.71	6.27	0.94	1.50	0.42	10.48	1.48	7.98	1.18	14.73	3.41	11.90	1.93
6 millimeters	4.52	0.69	2.27	0.47	2.57	0.59	*	*	5.08	1.29	*	*	6.27	1.28	5.43	1.32
7 millimeters	2.25	0.40	0.98	0.28	*	*	*	*	2.31	0.68	*	*	4.13	1.02	*	*
At or greater than 200% FPL																
2 millimeters	96.41	0.72	78.57	1.94	97.08	0.80	75.05	2.59	96.70	0.89	81.02	1.98	95.04	0.93	79.48	2.30
3 millimeters	62.04	2.06	30.51	2.07	62.60	2.80	24.07	2.02	62.14	2.30	32.40	2.46	61.14	2.76	36.24	2.97
4 millimeters	18.79	1.63	7.80	0.69	16.61	1.74	4.69	0.64	17.89	1.78	8.37	0.90	23.13	2.48	11.10	1.31
5 millimeters	6.06	0.68	2.00	0.27	3.42	0.61	0.81	0.21	6.41	0.87	2.02	0.31	9.09	1.34	3.55	0.70
6 millimeters	2.48	0.34	0.64	0.13	1.25	0.33	*	*	2.20	0.41	*	*	4.55	0.88	1.64	0.40
7 millimeters	1.31	0.20	0.32	0.08	*	*	*	*	1.07	0.26	*	*	2.70	0.58	*	*

See footnotes at end of table.

Table 53. Prevalence of the level of pocket depth among dentate adults 20–64 years of age, by age and selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004—Con.

Pocket depth	20–64 years				20–34 years				35–49 years				50–64 years			
	1988–1994		1999–2004		1988–1994		1999–2004		1988–1994		1999–2004		1988–1994		1999–2004	
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
Current smoker																
2 millimeters	96.97	0.77	84.05	1.71	97.37	0.79	79.16	2.56	97.77	0.87	87.14	1.82	95.15	1.55	85.82	3.14
3 millimeters	72.57	2.15	42.46	2.34	73.86	2.23	32.76	2.67	73.43	3.16	45.80	3.16	69.51	3.48	50.31	4.16
4 millimeters	33.60	2.38	17.04	1.47	26.55	2.63	8.25	1.11	35.41	3.12	21.68	1.85	40.26	3.52	21.63	2.91
5 millimeters	13.62	1.14	5.28	0.56	6.94	1.00	*	*	15.18	1.74	7.12	0.80	20.21	2.42	7.33	1.58
6 millimeters	6.41	0.77	1.65	0.37	2.81	0.52	*	*	6.75	1.37	1.71	0.38	10.71	1.77	*	*
7 millimeters	3.61	0.44	*	*	1.24	0.34	*	*	3.56	0.92	*	*	6.87	1.32	*	*
Former smoker																
2 millimeters	96.16	0.80	79.77	2.20	98.07	0.86	77.52	2.93	95.82	1.41	81.89	2.53	94.12	1.23	79.48	2.68
3 millimeters	63.24	2.65	32.46	2.51	64.95	4.42	26.59	3.50	63.65	2.65	34.15	2.86	60.30	3.52	37.71	3.35
4 millimeters	22.18	1.94	9.00	0.98	24.70	3.44	6.16	1.29	17.43	2.18	9.54	1.37	26.21	2.92	11.97	1.76
5 millimeters	6.50	0.81	2.83	0.42	3.79	1.05	*	*	5.55	1.18	2.77	0.62	11.62	1.70	5.62	1.04
6 millimeters	2.71	0.51	0.95	0.21	*	*	*	*	*	*	*	*	5.52	1.13	2.61	0.60
7 millimeters	1.30	0.24	0.48	0.13	*	*	–	–	*	*	*	*	3.23	0.71	*	*
Never smoked																
2 millimeters	96.09	0.56	79.63	1.68	96.47	0.78	78.12	2.00	96.68	0.63	80.93	2.02	94.66	1.20	79.63	2.20
3 millimeters	60.99	2.16	30.74	2.00	62.83	2.55	27.22	1.82	61.25	2.54	31.88	2.54	58.08	3.24	33.69	2.70
4 millimeters	16.58	1.37	7.84	0.69	16.20	1.24	5.94	0.79	16.47	1.71	7.84	0.91	17.27	2.44	10.41	1.24
5 millimeters	4.69	0.49	1.94	0.25	3.25	0.45	0.89	0.17	6.12	1.04	2.10	0.34	4.38	0.81	3.09	0.65
6 millimeters	1.65	0.22	0.61	0.11	1.22	0.30	*	*	1.95	0.39	*	*	1.77	0.42	1.28	0.33
7 millimeters	0.79	0.15	0.27	0.07	*	*	*	*	1.21	0.32	*	*	*	*	0.77	0.23

* CV is more than 30 percent.

– Quantity zero.

NOTE: FPL is federal poverty threshold or level.

Table 54. Prevalence of the level of loss of attachment among dentate adults 20–64 years of age, by age and selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Attachment loss	20–64 years				20–34 years				35–49 years				50–64 years			
	1988–1994		1999–2004		1988–1994		1999–2004		1988–1994		1999–2004		1988–1994		1999–2004	
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
All persons																
2 millimeters	72.41	1.38	64.22	1.39	54.23	1.98	43.73	2.10	77.90	1.59	70.19	1.59	88.28	1.33	82.50	1.42
3 millimeters	43.56	0.95	32.70	1.03	21.82	1.32	13.34	0.87	46.31	1.58	36.13	1.53	68.56	1.54	53.41	1.68
4 millimeters	25.40	0.90	16.85	0.73	9.36	0.85	4.29	0.45	25.38	1.17	17.78	0.82	47.04	2.04	32.31	1.55
5 millimeters	14.90	0.76	9.15	0.49	3.95	0.49	1.68	0.25	14.62	1.16	8.77	0.62	30.10	1.64	19.81	1.28
6 millimeters	8.43	0.53	5.30	0.36	1.80	0.27	0.80	0.15	8.39	0.89	4.47	0.44	17.40	1.23	12.65	0.94
7 millimeters	5.19	0.40	2.78	0.26	1.09	0.20	*	*	5.08	0.75	2.13	0.32	10.89	1.01	7.03	0.73
Male																
2 millimeters	75.90	1.42	69.46	1.49	59.31	2.05	49.92	2.57	81.41	1.92	75.14	1.68	89.63	1.77	86.92	1.67
3 millimeters	48.47	1.02	38.35	1.37	25.96	1.78	17.72	1.34	52.56	1.80	41.98	2.13	72.41	1.81	60.44	2.15
4 millimeters	30.62	1.04	20.54	1.07	11.10	1.29	5.33	0.77	32.74	1.47	22.45	1.28	53.62	2.56	38.06	2.17
5 millimeters	18.61	1.01	11.10	0.73	4.48	0.67	2.11	0.54	19.59	1.78	10.56	0.85	36.13	2.26	24.07	1.76
6 millimeters	11.43	0.75	6.90	0.54	2.54	0.49	*	*	11.62	1.42	5.87	0.68	23.11	1.63	16.47	1.40
7 millimeters	7.00	0.63	3.80	0.45	1.43	0.30	*	*	6.77	1.21	2.75	0.49	14.84	1.54	9.75	1.26
Female																
2 millimeters	68.98	1.60	59.00	1.53	49.14	2.58	37.49	2.05	74.51	1.91	65.16	2.14	87.03	1.50	78.32	1.67
3 millimeters	38.80	1.31	27.09	0.96	17.67	1.63	8.92	0.80	40.27	2.17	30.18	1.75	64.97	2.31	46.75	1.72
4 millimeters	20.39	1.02	13.19	0.73	7.62	0.85	3.25	0.48	18.26	1.48	13.03	1.23	40.91	2.51	26.86	1.67
5 millimeters	11.36	0.75	7.23	0.57	3.42	0.59	1.24	0.33	9.81	1.01	6.94	1.02	24.48	1.93	15.77	1.53
6 millimeters	5.57	0.53	3.74	0.35	1.07	0.23	*	*	5.28	0.77	3.05	0.59	12.08	1.47	9.03	1.10
7 millimeters	3.48	0.39	1.80	0.22	*	*	*	*	3.44	0.56	1.49	0.38	7.22	1.15	4.44	0.68
Mexican American																
2 millimeters	75.63	1.62	71.34	2.23	54.38	3.16	54.28	3.26	81.71	1.74	75.04	3.06	94.73	1.34	88.56	1.85
3 millimeters	45.68	0.97	37.29	2.37	19.74	1.41	16.38	2.11	48.53	1.96	37.33	3.56	76.19	1.67	65.42	3.45
4 millimeters	28.30	0.85	20.25	1.38	7.10	0.59	4.96	0.95	29.13	1.59	18.81	2.30	55.59	2.66	43.11	3.24
5 millimeters	16.60	0.92	10.20	0.93	2.57	0.43	*	*	15.04	1.22	8.22	1.52	37.95	2.52	25.18	2.45
6 millimeters	10.22	0.62	5.37	0.74	*	*	*	*	8.23	1.00	3.69	0.85	25.52	1.59	14.43	2.36
7 millimeters	5.55	0.50	3.01	0.51	*	*	*	*	4.23	0.59	*	*	14.34	1.70	8.49	1.73
Black, non-Hispanic																
2 millimeters	77.10	1.15	66.70	2.28	57.98	2.14	45.75	3.71	84.85	1.58	72.83	2.76	90.74	1.70	85.35	1.50
3 millimeters	52.66	0.88	38.39	1.55	26.52	1.08	15.88	1.73	58.33	1.18	44.76	2.67	78.99	2.20	58.76	3.04
4 millimeters	34.10	1.14	22.19	0.90	12.11	0.95	5.23	1.01	36.35	1.64	25.97	1.56	60.19	3.16	39.15	2.67
5 millimeters	22.44	0.96	14.17	0.81	6.00	0.73	2.71	0.73	23.94	1.44	16.36	1.33	42.23	2.25	26.18	2.56
6 millimeters	14.77	0.79	8.01	0.67	3.72	0.52	*	*	14.64	1.06	8.98	1.43	29.84	2.12	14.87	1.84
7 millimeters	9.37	0.63	3.89	0.48	2.13	0.42	*	*	9.35	0.82	4.55	0.90	19.14	1.82	6.93	1.20
White, non-Hispanic																
2 millimeters	70.52	1.66	61.46	1.54	51.88	2.55	39.33	2.47	75.56	1.88	68.27	1.79	87.74	1.60	80.63	1.73
3 millimeters	41.21	1.16	30.16	0.91	19.76	1.71	11.84	0.95	43.69	1.86	33.55	1.57	66.23	1.83	49.53	1.73
4 millimeters	23.29	1.06	14.84	0.70	8.51	1.08	3.90	0.45	23.04	1.23	15.58	0.77	43.58	2.51	28.43	1.58
5 millimeters	13.10	0.88	7.89	0.53	3.37	0.64	1.65	0.32	12.79	1.21	7.13	0.64	26.70	1.92	17.47	1.46
6 millimeters	7.19	0.64	4.71	0.44	1.39	0.36	*	*	7.07	0.90	3.82	0.51	15.20	1.46	11.39	1.07
7 millimeters	4.35	0.48	2.55	0.34	0.87	0.25	*	*	4.30	0.78	2.04	0.44	9.12	1.14	6.31	0.87

See footnotes at end of table.

Table 54. Prevalence of the level of loss of attachment among dentate adults 20–64 years of age, by age and selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004—Con.

Attachment loss	20–64 years				20–34 years				35–49 years				50–64 years			
	1988–1994		1999–2004		1988–1994		1999–2004		1988–1994		1999–2004		1988–1994		1999–2004	
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
Less than high school																
2 millimeters	81.40	1.68	75.52	1.42	68.38	3.21	60.84	2.31	87.63	1.82	81.13	2.15	89.19	2.35	86.53	2.24
3 millimeters	55.91	1.58	45.57	1.35	32.95	2.99	19.93	1.86	63.52	2.92	54.59	2.43	74.93	2.71	65.99	2.95
4 millimeters	36.87	1.32	29.39	1.36	15.83	2.34	7.48	1.34	39.84	2.59	35.54	2.38	60.58	2.96	49.29	2.73
5 millimeters	25.02	1.19	18.09	1.17	8.14	1.66	3.33	0.94	28.38	2.52	19.06	2.17	42.49	2.67	36.44	2.76
6 millimeters	15.55	1.06	11.58	0.88	4.56	1.18	*	*	18.30	2.05	11.44	1.49	26.05	2.71	24.83	2.22
7 millimeters	9.22	0.99	6.58	0.72	*	*	*	*	10.71	1.94	6.11	1.28	15.61	2.04	15.45	1.75
High school																
2 millimeters	74.36	1.45	67.71	1.82	53.73	2.12	46.25	2.80	82.21	1.91	74.76	2.45	89.87	1.75	85.61	2.01
3 millimeters	46.47	1.41	34.91	1.41	20.76	1.49	15.82	1.54	52.28	2.59	37.82	2.21	72.00	1.97	56.08	2.54
4 millimeters	27.45	1.37	19.13	1.18	8.81	0.85	5.94	1.11	32.69	2.27	19.96	1.63	44.37	2.87	35.62	3.27
5 millimeters	15.80	1.11	10.15	0.86	3.45	0.61	*	*	18.60	1.86	9.45	1.20	28.07	2.36	22.09	2.45
6 millimeters	8.56	0.70	6.03	0.71	1.48	0.38	*	*	9.29	1.30	4.51	0.82	16.96	1.51	14.85	2.01
7 millimeters	5.74	0.48	3.12	0.59	1.02	0.30	*	*	6.30	1.05	*	*	11.23	1.34	7.71	1.53
More than high school																
2 millimeters	67.60	1.71	59.42	1.57	48.41	2.31	36.82	2.37	72.29	2.10	65.57	1.85	86.13	2.13	80.25	1.83
3 millimeters	36.75	1.24	28.33	1.22	17.78	1.28	10.03	1.07	37.51	2.11	30.86	1.90	61.10	2.73	49.04	1.80
4 millimeters	19.35	1.05	12.61	0.85	6.96	0.91	2.49	0.50	16.41	1.38	12.45	1.08	40.65	2.66	26.51	1.74
5 millimeters	10.28	0.77	6.41	0.55	2.48	0.58	*	*	8.07	1.02	5.93	0.75	24.26	2.26	14.55	1.29
6 millimeters	5.47	0.54	3.37	0.38	*	*	*	*	4.88	0.79	2.74	0.56	12.64	1.92	8.59	0.95
7 millimeters	3.19	0.50	1.67	0.28	*	*	*	*	2.65	0.59	*	*	7.80	1.82	4.55	0.71
Less than 100% FPL																
2 millimeters	77.69	1.74	69.10	1.98	56.87	3.03	48.14	3.39	87.89	2.34	75.97	2.76	89.76	3.01	86.59	4.11
3 millimeters	55.53	1.88	41.59	1.53	25.83	2.26	13.67	1.34	68.76	3.57	47.34	2.56	74.85	3.87	70.19	4.84
4 millimeters	39.11	1.84	27.52	1.74	14.01	2.28	6.58	0.81	45.68	4.12	30.60	2.78	62.64	4.50	50.89	4.66
5 millimeters	25.16	1.65	17.39	1.44	6.61	1.65	2.74	0.56	31.37	3.33	16.74	2.20	40.41	4.34	38.15	4.26
6 millimeters	16.75	1.25	10.03	1.29	4.19	1.07	*	*	19.49	2.04	8.98	1.70	29.37	3.81	23.26	3.31
7 millimeters	10.87	0.98	4.34	0.74	*	*	*	*	12.92	2.56	4.13	1.19	19.06	2.47	10.26	2.22
100%–199% FPL																
2 millimeters	76.31	1.98	70.64	1.93	60.74	3.07	48.22	3.10	80.77	2.67	79.66	2.46	90.32	2.28	86.74	3.05
3 millimeters	49.89	2.46	42.99	1.80	23.85	2.14	17.64	2.22	55.60	4.29	49.46	2.88	76.03	4.06	67.01	3.11
4 millimeters	32.02	1.69	26.84	1.36	10.98	1.49	5.95	1.29	35.30	2.77	30.88	2.17	55.23	4.47	48.66	3.28
5 millimeters	19.99	1.38	15.54	1.19	3.92	0.69	3.07	0.64	21.34	2.45	16.13	2.01	39.54	4.53	31.41	2.95
6 millimeters	10.95	1.14	9.22	0.91	1.49	0.39	*	*	11.33	1.79	7.52	1.56	23.11	3.66	22.48	2.24
7 millimeters	7.28	0.92	5.86	0.80	*	*	*	*	7.52	1.40	*	*	15.16	3.17	16.05	2.42
At or greater than 200% FPL																
2 millimeters	70.53	1.54	61.43	1.50	51.08	2.26	40.83	2.30	75.84	1.95	66.45	1.91	88.42	1.42	81.32	1.55
3 millimeters	40.39	1.06	28.90	1.21	20.17	1.68	11.79	1.12	41.32	1.65	30.85	1.84	66.20	1.66	48.88	2.06
4 millimeters	21.81	0.95	12.95	0.83	7.61	1.03	2.89	0.53	20.42	1.12	12.52	0.97	43.13	2.06	27.16	1.89
5 millimeters	12.35	0.84	6.68	0.51	3.30	0.65	*	*	10.89	1.12	5.79	0.65	26.83	1.77	16.08	1.46
6 millimeters	6.72	0.60	4.00	0.38	1.33	0.36	*	*	6.28	0.97	3.09	0.46	14.69	1.25	10.44	1.06
7 millimeters	3.99	0.48	2.03	0.31	*	*	*	*	3.54	0.78	1.41	0.36	9.10	1.03	5.63	0.95

See footnotes at end of table.

Table 54. Prevalence of the level of loss of attachment among dentate adults 20–64 years of age, by age and selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004—Con.

Attachment loss	20–64 years				20–34 years				35–49 years				50–64 years			
	1988–1994		1999–2004		1988–1994		1999–2004		1988–1994		1999–2004		1988–1994		1999–2004	
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
Current smoker																
2 millimeters	81.90	1.39	73.94	1.48	64.44	2.71	49.92	2.53	88.17	1.77	85.21	1.79	95.60	1.61	88.66	2.00
3 millimeters	59.48	1.33	44.44	1.62	29.81	2.28	15.96	1.42	68.27	2.00	52.49	2.26	85.68	2.32	70.21	3.38
4 millimeters	39.64	1.43	27.95	1.26	13.12	1.51	6.33	0.90	45.62	2.20	32.03	1.64	66.02	2.88	50.68	3.26
5 millimeters	26.37	1.34	17.75	0.96	6.06	0.95	2.45	0.55	28.24	2.33	19.14	1.48	50.80	3.03	36.17	3.00
6 millimeters	16.33	1.27	10.74	0.76	2.54	0.54	*	*	17.10	2.08	10.87	1.06	33.70	3.69	23.38	2.45
7 millimeters	11.22	1.14	5.93	0.69	1.79	0.47	*	*	10.28	1.88	5.97	1.00	25.39	3.52	13.37	2.12
Former smoker																
2 millimeters	73.92	2.02	64.35	1.67	54.80	3.09	44.98	3.32	79.52	2.17	67.68	2.43	90.93	1.99	85.25	2.20
3 millimeters	43.98	1.54	31.15	1.24	21.02	2.74	11.72	1.82	45.65	2.05	32.75	2.26	72.31	2.44	54.82	2.42
4 millimeters	25.04	1.57	15.75	0.99	11.69	2.08	3.86	0.87	21.10	1.93	16.08	1.61	49.19	2.95	31.26	2.17
5 millimeters	14.01	1.20	7.59	0.70	5.19	1.48	*	*	10.81	1.67	6.20	1.03	30.89	2.60	18.03	1.58
6 millimeters	7.49	0.72	4.56	0.69	*	*	*	*	5.47	0.86	2.86	0.82	17.11	1.93	11.81	1.42
7 millimeters	3.83	0.48	2.51	0.53	*	*	*	*	3.28	0.65	*	*	9.07	1.30	7.05	1.34
Never smoked																
2 millimeters	65.41	1.54	59.12	1.71	47.35	1.97	40.31	2.39	70.27	2.06	63.48	2.31	82.14	2.04	77.64	1.79
3 millimeters	33.12	1.04	27.41	1.25	16.72	1.07	12.31	1.18	32.38	2.20	29.15	2.15	56.39	2.44	45.03	2.30
4 millimeters	17.08	0.84	12.01	0.67	6.31	0.70	3.31	0.54	14.67	1.44	11.15	1.05	35.36	2.38	25.08	1.72
5 millimeters	8.75	0.55	5.84	0.54	2.25	0.44	*	*	7.96	1.05	4.52	0.61	18.76	1.70	13.99	1.39
6 millimeters	4.53	0.47	3.11	0.34	1.10	0.19	*	*	4.42	0.83	1.87	0.41	9.30	1.30	8.55	1.04
7 millimeters	2.66	0.40	1.45	0.18	0.75	0.18	*	*	2.74	0.72	*	*	5.10	1.04	4.27	0.66

* CV is more than 30 percent.

NOTE: FPL is federal poverty threshold or level.

Table 55. Prevalence of periodontal disease among dentate adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994 Percent	1988–1994 Standard error	1999–2004 Percent	1999–2004 Standard error	Difference (percent)
Age					
20–34 years	8.48	0.79	3.84	0.45	†–4.64
35–49 years	15.73	1.26	10.41	0.81	†–5.32
50–64 years	21.87	2.20	11.88	1.13	†–10.00
Sex					
Male	18.04	1.24	10.65	0.86	†–7.39
Female	11.68	1.06	6.40	0.57	†–5.29
Race and ethnicity					
White, non-Hispanic	12.60	1.26	5.82	0.58	†–6.78
Black, non-Hispanic	26.17	1.35	16.81	0.95	†–9.36
Mexican American	19.72	0.94	13.76	1.53	†–5.96
Poverty status					
Less than 100% FPL	27.82	2.34	13.95	1.85	†–13.87
100%–199% FPL	18.71	1.54	15.34	1.22	–3.36
Greater than 200% FPL	12.14	1.15	5.96	0.56	†–6.19
Education					
Less than high school	23.84	1.74	17.33	1.65	†–6.51
High school	17.06	1.31	9.34	0.98	†–7.71
More than high school	9.58	1.00	5.78	0.52	†–3.80
Smoking history					
Current smoker	25.28	1.90	14.74	1.36	†–10.54
Former smoker	13.56	1.39	7.61	0.77	†–5.95
Never smoked	9.21	0.79	5.94	0.59	†–3.27
Total	14.81	1.06	8.52	0.65	†–6.28

† *P*-value < 0.05.

NOTES: At least one periodontal site with 3 millimeters or more of loss of attachment and 4 millimeters or more of pocket depth. FPL is federal poverty threshold or level.

Table 56. Prevalence of moderate or severe periodontitis among dentate adults 20–64 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference (percent)
	Percent	Standard error	Percent	Standard error	
Age					
20–34 years	2.82	0.36	*	*	**
35–49 years	9.04	0.73	5.00	0.51	†–4.04
50–64 years	19.72	1.41	10.73	0.86	†–8.99
Sex					
Male	12.77	0.78	6.74	0.56	†–6.03
Female	6.64	0.62	3.46	0.39	†–3.18
Race and ethnicity					
White, non-Hispanic	8.15	0.72	4.15	0.36	†–4.00
Black, non-Hispanic	17.14	0.89	8.30	0.60	†–8.84
Mexican American	12.22	0.65	6.43	0.99	†–5.79
Poverty status					
Less than 100% FPL	19.06	1.52	9.92	1.03	†–9.14
100%–199% FPL	13.23	1.03	9.42	0.96	†–3.81
Greater than 200% FPL	7.62	0.62	3.50	0.34	†–4.12
Education					
Less than high school	17.54	1.26	11.64	1.14	†–5.90
High school	10.41	0.83	5.65	0.58	†–4.76
More than high school	5.89	0.56	3.11	0.27	†–2.78
Smoking history					
Current smoker	19.45	1.29	11.14	0.83	†–8.31
Former smoker	8.30	0.94	4.62	0.58	†–3.68
Never smoked	4.51	0.42	2.34	0.29	†–2.17
Total	9.63	0.57	5.08	0.34	†–4.55

† *P*-value < 0.05.

* CV is more than 30 percent.

** Difference could not be estimated because CV of one or more estimates is greater than 30 percent.

NOTES: CDC-AAP moderate and severe periodontitis definition. FPL is federal poverty threshold or level.

Table 57. Healthy People 2010 Objective 21–2d: Prevalence of untreated tooth decay in permanent teeth among adults 35–44 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference (percent)
	Percent	Standard error	Percent	Standard error	
Sex					
Male	29.37	1.84	30.08	2.07	0.71
Female	24.61	1.99	25.40	1.60	0.79
Race and ethnicity					
White, non-Hispanic	22.61	1.66	23.08	2.03	0.46
Black, non-Hispanic	47.02	2.36	39.96	2.68	†–7.06
Mexican American	33.59	1.82	40.16	2.84	6.57
Poverty status					
Less than 100% FPL	53.36	2.84	49.36	3.20	–4.00
100%–199% FPL	44.42	3.42	44.93	2.95	0.51
Greater than 200% FPL	19.14	1.62	19.17	1.63	0.03
Education					
Less than high school	51.13	3.31	50.35	2.25	–0.78
High school	34.44	2.30	35.04	2.97	0.60
More than high school	15.63	1.30	18.32	1.44	2.69
Smoking history					
Current smoker	40.29	1.98	46.10	2.86	5.81
Former smoker	22.47	2.44	20.23	2.77	–2.25
Never smoked	20.71	2.18	21.29	1.66	0.58
Total	26.85	1.37	27.75	1.57	0.90

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 58. Healthy People 2010 Objective 21–3: No permanent tooth loss due to caries or periodontal disease among adults 35–44 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference (percent)
	Percent	Standard error	Percent	Standard error	
Sex					
Male	28.85	2.16	42.56	2.01	†13.77
Female	31.22	1.98	34.26	2.02	3.26
Race and ethnicity					
White, non-Hispanic	34.43	2.14	41.77	1.72	†7.44
Black, non-Hispanic	11.62	1.59	27.47	2.18	†15.95
Mexican American	30.22	1.32	37.61	1.91	†7.57
Poverty status					
Less than 100% FPL	15.94	3.08	23.15	2.85	7.39
100%–199% FPL	17.29	2.54	23.00	1.92	6.09
Greater than 200% FPL	35.36	2.16	45.46	1.59	†10.09
Education					
Less than high school	14.12	2.55	21.67	2.28	†7.70
High school	20.56	1.99	29.32	2.42	†9.06
More than high school	40.23	2.23	47.19	1.71	†7.01
Smoking history					
Current smoker	20.09	1.98	24.35	1.97	4.25
Former smoker	32.66	3.87	37.33	3.08	4.67
Never smoked	35.37	2.35	46.07	1.80	†10.70
Total	30.10	1.61	38.42	1.41	†8.32

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 59. Healthy People 2010 Objective 21–5b: Prevalence of destructive periodontal disease# among adults 35–44 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference (percent)
	Percent	Standard error	Percent	Standard error	
Sex					
Male	29.41	2.00	20.18	1.39	†–9.23
Female	15.37	1.63	11.89	1.32	–3.48
Race and ethnicity					
White, non-Hispanic	19.66	1.47	13.79	0.76	†–5.86
Black, non-Hispanic	33.26	1.95	23.46	2.07	†–9.81
Mexican American	25.13	1.56	16.01	2.55	†–9.12
Poverty status					
Less than 100% FPL	41.85	4.42	27.73	3.33	†–14.12
100%–199% FPL	30.87	2.96	27.64	2.24	–3.23
Greater than 200% FPL	17.43	1.26	10.98	0.94	†–6.45
Education					
Less than high school	35.46	3.35	33.53	3.02	–1.93
High school	28.32	2.38	17.81	1.94	†–10.51
More than high school	14.67	1.50	10.80	1.09	†–3.87
Smoking history					
Current smoker	42.73	2.45	27.54	1.84	†–15.20
Former smoker	16.16	2.29	15.07	2.28	–1.09
Never smoked	12.50	1.50	10.71	1.10	–1.78
Total	22.11	1.36	16.15	0.85	†–5.96

† *P*-value < 0.05.

Attachment loss is greater than 4 millimeters at one or more periodontal sites.

Table 60. Perceived condition of teeth and mouth among seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination, 1988–1994 and 1999–2004

Characteristic	1988–1994								1999–2004								Difference (percent) excellent or very good
	Excellent or very good		Good		Fair		Poor		Excellent or very good		Good		Fair		Poor		
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	
Age																	
65–74 years	22.58	1.63	34.38	1.57	25.51	1.32	17.53	1.27	23.26	1.33	38.31	1.64	24.31	1.60	14.12	1.22	0.68
75 years or more	19.97	1.78	33.67	2.10	26.10	1.77	20.27	1.83	24.99	1.96	36.71	1.36	20.78	1.36	17.52	1.18	5.02
Sex																	
Male	22.32	2.35	31.04	2.20	27.94	1.81	18.70	1.91	22.58	1.68	37.35	1.61	23.79	1.48	16.28	1.07	0.26
Female	20.66	1.53	36.13	1.74	24.30	1.44	18.91	1.34	25.35	1.58	37.75	1.50	21.70	1.42	15.21	1.16	†4.69
Race and ethnicity																	
White, non-Hispanic	22.99	1.15	35.20	1.47	25.20	1.08	16.61	1.02	25.66	1.43	39.65	1.34	21.48	1.37	13.21	1.01	2.67
Black, non-Hispanic	8.62	1.75	28.35	2.83	29.34	2.77	33.69	2.93	13.40	1.50	25.36	2.39	28.29	2.89	32.95	2.54	†4.78
Mexican American	9.19	2.34	24.12	1.83	32.19	2.81	34.50	2.61	9.20	1.34	23.85	2.29	34.45	2.87	32.50	2.63	0.01
Poverty status																	
Less than 100% FPL	13.20	2.97	26.22	3.64	23.90	3.37	36.68	2.87	8.18	2.18	23.97	3.36	29.43	3.14	38.42	3.74	–5.01
100%–199% FPL	15.53	1.96	30.94	3.11	28.34	2.07	25.18	2.17	20.92	2.30	30.07	2.65	28.63	2.38	20.39	1.96	5.39
Greater than 200% FPL	25.87	1.29	36.22	1.55	24.30	1.51	13.61	1.19	26.91	1.54	42.73	1.38	19.25	1.29	11.11	0.96	1.04
Education																	
Less than high school	15.73	1.65	32.08	1.73	26.20	1.19	26.00	1.90	15.62	1.42	28.84	2.33	29.37	1.80	26.17	2.09	†–0.11
High school	19.61	1.60	37.86	2.35	27.10	2.23	15.42	1.13	22.51	1.74	41.14	1.94	22.68	1.85	13.67	1.73	2.89
More than high school	28.57	2.21	33.52	2.27	24.17	2.37	13.74	1.86	29.67	1.77	39.95	1.62	19.15	1.42	11.23	1.18	1.10
Smoking history																	
Current smoker	*	*	34.32	6.00	28.50	4.66	29.28	5.65	21.69	4.52	24.96	4.85	23.65	4.80	29.70	4.29	**
Former smoker	21.94	1.92	30.70	1.86	27.43	1.82	19.93	1.57	22.23	1.81	35.73	1.86	24.83	1.89	17.21	1.29	0.29
Never smoked	23.40	1.55	36.75	1.99	23.76	1.37	16.08	1.48	26.00	1.49	40.35	1.58	20.90	1.35	12.75	1.06	2.59
Total	21.40	1.12	34.06	1.34	25.78	1.07	18.77	1.03	24.05	1.23	37.58	1.19	22.71	1.16	15.66	0.83	2.65

* CV is more than 30 percent.

† *P*-value < 0.05.

** Difference could not be estimated because CV of one or more estimates is greater than 30 percent.

NOTE: FPL is federal poverty threshold or level.

Table 61. Prevalence of dental caries in permanent teeth (DMFT) among dentate seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		
	Percent	Standard error	Percent	Standard error	Different (percent)
Age					
65–74 years	95.22	0.64	93.25	0.80	–1.97
75 years or more	93.71	1.03	92.70	0.91	–1.01
Sex					
Male	94.85	0.78	93.64	0.90	–1.20
Female	94.29	0.89	92.49	0.83	–1.80
Race and ethnicity					
White, non-Hispanic	95.89	0.59	94.86	0.72	–1.02
Black, non-Hispanic	82.65	2.79	80.20	2.93	–2.44
Mexican American	87.37	1.95	83.82	1.67	–3.55
Poverty status					
Less than 100% FPL	84.10	2.85	83.47	2.52	–0.63
100%–199% FPL	93.36	1.39	90.92	1.39	–2.44
Greater than 200% FPL	96.63	0.49	95.53	0.72	–1.11
Education					
Less than high school	90.47	1.26	83.73	1.61	†–6.74
High school	95.92	0.96	94.27	1.24	–1.66
More than high school	97.80	0.62	97.04	0.67	–0.76
Smoking history					
Current smoker	92.48	1.85	89.28	2.58	–3.20
Former smoker	94.94	0.69	93.48	0.95	–1.46
Never smoked	94.57	0.92	93.01	0.90	–1.56
Total	94.54	0.62	93.00	0.64	–1.54

† *P*-value < 0.05.

NOTES: DMFT is the number of decayed, missing, and filled permanent teeth. FPL is federal poverty threshold or level.

Table 62. Prevalence of untreated tooth decay in permanent teeth among dentate seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		
	Percent	Standard error	Percent	Standard error	Different (percent)
Age					
65–74 years	25.42	1.76	17.07	1.39	†–8.35
75 years or more	30.32	1.77	19.52	1.27	†–10.80
Sex					
Male	31.91	1.57	20.42	1.32	†–11.49
Female	24.50	1.80	16.43	1.18	†–8.07
Race and ethnicity					
White, non-Hispanic	25.04	1.53	15.92	1.27	†–9.12
Black, non-Hispanic	53.90	3.75	36.78	3.22	†–17.12
Mexican American	49.11	3.78	41.19	2.94	–7.92
Poverty status					
Less than 100% FPL	46.58	3.85	33.22	3.31	†–13.36
100%–199% FPL	37.10	2.49	23.82	1.72	†–13.29
Greater than 200% FPL	21.14	1.66	14.22	1.21	†–6.92
Education					
Less than high school	36.45	2.38	26.16	2.31	†–10.30
High school	24.41	2.23	17.68	1.39	†–6.73
More than high school	20.66	1.77	14.30	1.31	†–6.36
Smoking history					
Current smoker	38.75	4.35	27.28	3.70	†–11.47
Former smoker	27.44	2.04	18.74	1.33	†–8.70
Never smoked	25.61	1.81	16.58	1.31	†–9.04
Total	27.64	1.49	18.18	1.02	†–9.46

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 63. Mean number of decayed, missing, filled, decayed and filled teeth, and decayed, missing, and filled teeth in permanent teeth of dentate seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994									
	DMFT		DFT		DT		MT		FT	
	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error
Age										
65–74 years	18.49	0.29	9.82	0.31	0.62	0.06	8.67	0.29	9.21	0.33
75 years or more	19.86	0.27	8.42	0.38	0.69	0.07	11.44	0.35	7.73	0.42
Sex										
Male	18.95	0.27	9.15	0.40	0.81	0.07	9.80	0.39	8.34	0.44
Female	19.28	0.29	9.18	0.29	0.54	0.06	10.09	0.28	8.64	0.31
Race and ethnicity										
White, non-Hispanic	19.47	0.26	9.88	0.32	0.54	0.05	9.59	0.26	9.35	0.35
Black, non-Hispanic	16.74	0.33	4.20	0.18	1.71	0.23	12.55	0.37	2.48	0.21
Mexican American	15.69	0.30	5.43	0.36	1.64	0.19	10.26	0.44	3.80	0.33
Poverty status										
Less than 100% FPL	18.49	0.63	5.94	0.52	1.62	0.23	12.55	0.81	4.33	0.57
100%–199% FPL	18.72	0.42	7.03	0.34	0.97	0.08	11.69	0.37	6.06	0.36
Greater than 200% FPL	19.32	0.22	10.53	0.31	0.38	0.04	8.79	0.27	10.15	0.33
Education										
Less than high school	18.60	0.35	6.84	0.34	1.05	0.10	11.76	0.37	5.80	0.37
High school	19.24	0.41	9.20	0.35	0.47	0.05	10.04	0.36	8.73	0.37
More than high school	19.53	0.23	11.68	0.25	0.39	0.05	7.85	0.28	11.30	0.27
Smoking history										
Current smoker	19.58	0.59	7.44	0.60	0.95	0.12	12.14	0.71	6.49	0.62
Former smoker	19.66	0.20	9.37	0.42	0.61	0.07	10.29	0.41	8.76	0.45
Never smoked	18.56	0.33	9.39	0.30	0.61	0.06	9.17	0.31	8.77	0.33
Total	19.11	0.24	9.19	0.30	0.65	0.05	9.92	0.26	8.54	0.34

Characteristic	1999–2004										Difference between surveys	
	DMFT		DFT		DT		MT		FT			
	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	DMFT	DFT
Age												
65–74 years	17.68	0.20	9.35	0.23	0.39	0.05	8.32	0.28	8.96	0.26	†–0.82	–0.47
75 years or more	18.30	0.29	8.89	0.26	0.47	0.05	9.41	0.30	8.42	0.28	†–1.56	0.47
Sex												
Male	17.57	0.28	8.90	0.22	0.53	0.05	8.67	0.29	8.37	0.25	†–1.38	–0.25
Female	18.30	0.25	9.35	0.27	0.35	0.04	8.96	0.28	8.99	0.29	†–0.97	0.16
Race and ethnicity												
White, non-Hispanic	18.23	0.24	9.93	0.21	0.36	0.04	8.30	0.25	9.57	0.24	†–1.25	0.04
Black, non-Hispanic	16.90	0.36	4.29	0.31	1.04	0.14	12.61	0.48	3.25	0.31	0.16	0.09
Mexican American	15.11	0.41	5.37	0.45	1.10	0.08	9.74	0.38	4.26	0.47	–0.59	–0.07
Poverty status												
Less than 100% FPL	17.30	0.55	5.10	0.38	1.01	0.15	12.19	0.75	4.10	0.35	–1.19	–0.84
100%–199% FPL	18.21	0.48	7.42	0.39	0.58	0.07	10.79	0.52	6.84	0.41	–0.51	0.39
Greater than 200% FPL	18.15	0.21	10.53	0.16	0.29	0.04	7.61	0.22	10.24	0.17	†–1.17	0.00
Education												
Less than high school	17.68	0.38	5.69	0.31	0.77	0.11	11.99	0.39	4.92	0.37	–0.93	–1.15
High school	18.35	0.34	8.77	0.30	0.38	0.06	9.58	0.36	8.39	0.30	–0.89	–0.43
More than high school	17.90	0.22	11.19	0.21	0.28	0.04	6.71	0.24	10.91	0.22	†–1.63	–0.49
Smoking history												
Current smoker	18.95	0.54	6.50	0.60	0.82	0.14	12.45	0.74	5.68	0.62	–0.63	–0.94
Former smoker	18.40	0.24	8.83	0.23	0.42	0.05	9.58	0.29	8.41	0.24	†–1.26	–0.54
Never smoked	17.46	0.31	9.70	0.29	0.39	0.05	7.76	0.34	9.31	0.31	†–1.10	0.31
Total	17.96	0.23	9.14	0.20	0.43	0.04	8.81	0.23	8.71	0.22	†–1.16	–0.05

† *P*-value < 0.05.

NOTES: DMFT is number of decayed, missing (due to disease), and filled permanent teeth, dft is number of decayed and filled primary teeth,DT is number of decayed permanent teeth, MT is number of permanenet teeth missing due to disease, FT is number of filled permanent teeth. FPL is federal poverty threshold or level.

Table 64. Mean number of decayed, missing, filled, decayed and filled, and decayed, missing, and filled surfaces in permanent teeth of dentate seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994									
	DMFS		DFS		DS		MS		FS	
	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error
Age										
65–74 years	72.04	1.20	30.79	1.10	1.69	0.20	41.26	1.30	29.10	1.20
75 years or more	80.64	1.29	26.59	1.58	1.89	0.21	54.04	1.60	24.70	1.71
Sex										
Male	75.53	1.24	29.17	1.47	2.25	0.24	46.36	1.81	26.92	1.61
Female	76.57	1.33	28.66	1.14	1.46	0.18	47.92	1.29	27.20	1.21
Race and ethnicity										
White, non-Hispanic	76.75	1.10	31.24	1.25	1.40	0.15	45.51	1.21	29.84	1.33
Black, non-Hispanic	70.51	1.63	11.48	0.73	5.13	0.82	59.03	1.67	6.35	0.58
Mexican American	64.48	1.31	16.06	1.37	4.90	0.59	48.42	1.99	11.16	1.35
Poverty status										
Less than 100% FPL	77.03	3.01	17.97	1.88	5.08	0.86	59.07	3.70	12.88	1.92
100%–199% FPL	75.61	1.84	20.32	1.21	2.73	0.30	55.29	1.67	17.59	1.30
Greater than 200% FPL	75.84	1.06	34.01	1.23	0.92	0.13	41.83	1.29	33.08	1.28
Education										
Less than high school	75.67	1.51	20.10	1.15	3.08	0.35	55.57	1.68	17.02	1.25
High school	76.21	1.80	28.53	1.32	1.21	0.19	47.68	1.64	27.32	1.37
More than high school	75.88	1.32	38.53	1.18	0.87	0.12	37.35	1.33	37.66	1.22
Smoking history										
Current smoker	80.53	2.82	23.18	2.11	2.42	0.35	57.35	3.22	20.76	2.12
Former smoker	78.82	1.05	30.12	1.58	1.65	0.23	48.69	1.88	28.47	1.69
Never smoked	72.62	1.49	29.02	1.16	1.72	0.21	43.60	1.44	27.30	1.25
Total	75.93	1.01	28.89	1.18	1.78	0.17	47.04	1.19	27.11	1.29

Characteristic	1999–2004										Difference between surveys	
	DMFS		DFS		DS		MS		FS			
	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	DS	FS
Age												
65–74 years	69.88	1.00	30.29	0.90	0.92	0.12	39.59	1.30	29.36	0.90	†–0.76	0.26
75 years or more	74.08	1.39	29.39	1.01	1.37	0.16	44.69	1.38	28.03	1.07	†–0.53	3.33
Sex												
Male	70.02	1.30	28.89	0.91	1.40	0.16	41.13	1.36	27.49	0.97	†–0.85	0.57
Female	73.36	1.13	30.72	1.10	0.92	0.14	42.64	1.31	29.80	1.14	†–0.54	2.60
Race and ethnicity												
White, non-Hispanic	72.36	1.09	32.83	0.90	0.95	0.12	39.53	1.18	31.88	0.97	†–0.45	2.04
Black, non-Hispanic	70.89	1.82	11.40	0.85	2.64	0.46	59.49	2.18	8.76	0.92	†–2.49	†2.41
Mexican American	62.19	1.70	16.07	1.69	3.08	0.40	46.12	1.79	12.99	1.60	†–1.82	1.83
Poverty status												
Less than 100% FPL	72.54	2.75	15.06	1.58	2.85	0.50	57.48	3.48	12.21	1.46	†–2.23	–0.68
100%–199% FPL	73.94	2.30	22.80	1.51	1.42	0.21	51.14	2.43	21.37	1.58	†–1.31	3.78
Greater than 200% FPL	71.61	0.93	35.29	0.63	0.72	0.11	36.32	1.02	34.57	0.66	–0.20	1.49
Education												
Less than high school	73.46	1.71	16.91	1.23	2.15	0.35	56.54	1.78	14.76	1.42	–0.93	–2.26
High school	73.39	1.61	27.73	1.18	0.98	0.18	45.66	1.69	26.76	1.20	–0.23	–0.57
More than high school	70.04	1.04	37.98	0.75	0.66	0.11	32.06	1.14	37.32	0.78	–0.21	–0.34
Smoking history												
Current smoker	79.87	2.57	21.32	2.09	2.36	0.47	58.55	3.44	18.96	2.11	–0.06	–1.80
Former smoker	74.82	1.16	29.34	0.95	1.01	0.12	45.48	1.37	28.33	0.96	†–0.64	–0.15
Never smoked	68.25	1.42	31.24	1.14	1.06	0.18	37.01	1.56	30.18	1.21	†–0.66	2.88
Total	71.78	1.03	29.88	0.82	1.12	0.10	41.90	1.07	28.76	0.87	†–0.66	1.65

† *P*-value < 0.05.

NOTES: DS is number of decayed surfaces in permanent teeth, MS is number of surfaces that are missing because permanent teeth were extracted due to disease, FS is number of filled surfaces in permanent teeth, and DFS is number ofdecayed and filled surfaces in permanent teeth. FPL is federal poverty threshold or level.

Table 65. Contribution of decayed or filled surfaces on the mean number of decayed and filled surfaces among dentate seniors 65 years of age and older with at least one decayed or filled permanent surface, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994				1999–2004				Difference (percent) DS/DFS
	Percent DS/DFS		Percent FS/DFS		Percent DS/DFS		Percent FS/DFS		
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	
Age									
65–74 years	11.26	1.17	88.74	1.17	7.79	0.77	92.22	0.70	†–3.47
75 years or more	14.51	1.44	85.50	1.43	8.70	0.83	91.31	0.83	†–5.81
Sex									
Male	15.38	1.46	84.63	1.46	10.16	0.85	89.85	0.85	†–5.22
Female	10.95	1.12	89.06	1.12	6.63	0.71	93.37	0.71	†–4.32
Race and ethnicity									
White, non-Hispanic	9.35	0.92	90.66	0.92	6.03	0.71	93.98	0.71	†–3.32
Black, non-Hispanic	47.78	3.64	52.24	3.64	30.08	3.49	69.93	3.49	†–17.70
Mexican American	37.28	3.48	62.73	3.48	29.86	3.20	70.15	3.20	–7.43
Poverty status									
Less than 100% FPL	37.71	3.94	62.29	3.94	24.66	3.05	75.35	3.05	†–13.05
100%–199% FPL	21.28	1.98	78.74	1.98	12.38	1.24	87.62	1.24	†–8.89
Greater than 200% FPL	6.44	0.86	93.57	0.86	4.26	0.46	95.75	0.46	†–2.18
Education									
Less than high school	23.76	1.97	76.25	1.97	18.53	2.06	81.47	2.06	–5.22
High school	7.90	0.88	92.11	0.88	6.99	0.79	93.02	0.79	–0.91
More than high school	5.44	0.87	94.57	0.87	4.24	0.54	95.77	0.54	–1.20
Smoking history									
Current smoker	21.47	3.73	78.54	3.73	16.32	2.85	83.68	2.86	–5.15
Former smoker	12.02	1.68	87.99	1.68	7.83	0.81	92.18	0.81	†–4.19
Never smoked	11.72	1.28	88.29	1.28	7.49	0.79	92.51	0.79	†–4.23
Total	12.73	1.10	87.28	1.10	8.20	0.62	91.80	0.62	†–4.53

† *P*-value < 0.05.

NOTES: DS is number of decayed surfaces in permanent teeth, MS is number of surfaces that are missing because permanent teeth were extracted due to disease, FS is number of filled surfaces in permanent teeth, and DFS is number of decayed and filled surfaces in primary teeth. FPL is federal poverty threshold or level.

Table 66. Prevalence of root caries among dentate seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994						1999–2004						Difference (percent) decayed or restored root caries
	Decayed or restored		Decayed		Restored		Decayed or restored		Decayed		Restored		
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	
Age													
65–74 years	42.60	2.80	19.18	1.30	29.83	3.27	31.70	2.08	12.42	1.10	22.67	2.08	†–10.91
75 years or more	49.71	3.65	26.02	1.90	33.09	4.66	42.31	2.49	16.61	1.70	31.70	2.31	–7.40
Sex													
Male	48.37	2.81	26.95	1.85	30.72	3.68	40.86	2.11	17.93	1.64	28.11	2.12	†7.51
Female	43.83	3.51	18.88	1.55	31.67	3.97	32.95	2.06	11.40	1.30	25.62	1.93	†–10.88
Race and ethnicity													
White, non-Hispanic	46.29	3.02	20.24	1.25	34.60	3.75	35.96	1.96	12.20	1.22	28.51	1.97	†–10.33
Black, non-Hispanic	47.97	4.13	42.32	4.09	9.09	2.07	39.00	3.81	31.24	3.65	10.20	2.05	–8.97
Mexican American	52.75	4.37	40.39	3.05	16.52	3.88	41.17	2.52	30.49	2.33	16.82	2.63	†–11.58
Poverty status													
Less than 100% FPL	52.74	4.61	38.13	4.02	20.15	4.93	37.24	4.90	24.43	3.46	16.63	3.81	†–15.50
100%–199% FPL	51.13	3.12	32.45	2.97	28.16	4.10	38.97	2.12	18.26	2.02	24.70	2.63	†–12.16
Greater than 200% FPL	43.06	3.55	15.73	1.25	34.00	3.95	35.26	2.17	11.15	1.49	29.03	2.00	–7.80
Education													
Less than high school	50.33	2.71	29.59	2.30	27.65	3.38	39.69	2.68	23.64	2.25	21.68	3.12	†–10.64
High school	42.70	4.27	18.17	1.62	33.57	4.64	40.80	2.68	14.70	1.59	31.42	2.76	–1.90
More than high school	42.48	3.87	17.62	1.78	32.73	4.96	32.17	2.15	8.91	1.25	26.62	1.95	†–10.31
Smoking history													
Current smoker	54.66	5.15	30.05	3.87	31.01	5.29	45.22	6.01	27.87	4.74	25.94	4.88	–9.43
Former smoker	48.67	3.67	23.64	2.04	35.18	4.32	40.98	2.14	15.90	1.65	30.30	2.45	–7.69
Never smoked	41.23	2.70	19.37	1.49	27.95	3.53	32.22	2.00	11.54	1.15	24.31	2.00	†–9.00
Total	45.82	2.78	22.27	1.20	31.31	3.56	36.50	1.75	14.32	1.11	26.76	1.80	†–9.32

* CV is more than 30 percent.

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 67. Mean number of permanent teeth among dentate seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference in mean teeth
	Mean	Standard error	Mean	Standard error	
Age					
65–74 years	19.12	0.30	19.34	0.20	0.23
75 years or more	16.43	0.35	18.36	0.29	†1.93
Sex					
Male	17.97	0.40	19.03	0.29	†1.05
Female	17.76	0.27	18.77	0.27	†1.00
Race and ethnicity					
White, non-Hispanic	18.22	0.26	19.39	0.24	†1.16
Black, non-Hispanic	15.29	0.37	15.19	0.47	–0.10
Mexican American	17.54	0.45	18.15	0.40	0.61
Poverty status					
Less than 100% FPL	15.35	0.80	15.58	0.79	0.24
100%–199% FPL	16.11	0.36	16.99	0.50	0.88
Greater than 200% FPL	19.01	0.28	20.08	0.21	†1.07
Education					
Less than high school	16.12	0.36	15.86	0.39	–0.25
High school	17.79	0.34	18.10	0.35	0.32
More than high school	19.91	0.29	20.96	0.24	†1.05
Smoking history					
Current smoker	15.46	0.72	15.39	0.76	–0.07
Former smoker	17.49	0.42	18.16	0.30	0.67
Never smoked	18.72	0.30	19.91	0.33	†1.20
Total	17.90	0.26	18.90	0.22	†1.00

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 68. Prevalence of edentulism among seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference (percent)
	Percent	Standard error	Percent	Standard error	
Age					
65–74 years	28.63	1.94	23.93	1.53	–4.69
75 years or more	40.28	2.31	31.30	1.81	†–8.99
Sex					
Male	34.55	1.80	24.42	1.57	†–10.13
Female	33.66	1.94	29.30	1.59	–4.36
Race and ethnicity					
White, non-Hispanic	33.62	1.93	26.12	1.64	†–7.50
Black, non-Hispanic	38.11	2.31	32.81	2.40	–5.30
Mexican American	27.12	2.57	23.90	2.53	–3.22
Poverty status					
Less than 100% FPL	46.03	3.09	44.19	3.63	–1.84
100%–199% FPL	45.12	1.97	36.61	2.07	†–8.50
Greater than 200% FPL	24.39	1.90	17.25	1.27	†–7.13
Education					
Less than high school	45.51	1.96	43.32	2.56	–2.19
High school	31.07	2.39	28.28	2.37	–2.78
More than high school	17.26	1.64	13.65	1.10	–3.61
Smoking history					
Current smoker	51.59	3.32	49.69	3.18	–1.90
Former smoker	35.07	2.41	28.69	1.96	†–6.38
Never smoked	27.99	1.91	21.72	1.68	†–6.27
Total	33.90	1.73	27.27	1.43	†–6.64

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 69. Time since last dental visit among seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination, 1988–1994 and 1999–2004

Characteristic	1988–1994											
	Never		1 year or less		1–2 years		2–3 years		3–5 years		More than 5 years	
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
Age												
65–74 years	2.48	0.62	56.75	2.02	9.93	0.95	4.61	0.68	5.11	0.65	21.12	1.72
75 years or more	4.52	0.98	50.45	2.49	7.49	1.05	3.71	0.48	6.87	0.75	26.97	1.89
Sex												
Male	3.27	0.81	53.22	2.21	8.90	0.96	4.86	0.63	5.89	0.75	23.86	1.48
Female	3.59	0.90	54.44	2.13	8.79	0.92	3.70	0.60	5.82	0.57	23.66	1.90
Race and ethnicity												
White, non-Hispanic	3.33	0.75	56.54	2.09	8.72	0.86	3.39	0.38	5.25	0.39	22.77	1.77
Black, non-Hispanic	2.42	0.61	36.55	1.89	9.82	1.09	7.29	1.52	9.24	1.46	34.69	2.24
Mexican American	6.13	1.51	41.80	2.31	10.02	1.72	7.34	1.29	8.89	1.26	25.83	2.10
Poverty status												
Less than 100% FPL	5.74	1.33	35.45	2.47	9.48	2.38	4.69	0.87	9.75	1.96	34.89	3.60
100%–199% FPL	5.45	1.52	39.61	2.12	10.05	0.95	4.87	0.89	7.81	0.79	32.22	2.20
Greater than 200% FPL	*	*	65.83	2.23	8.39	1.03	3.29	0.53	4.21	0.56	16.67	1.53
Education												
Less than high school	4.47	1.02	38.67	1.93	8.90	0.90	5.22	0.67	7.33	0.73	35.41	2.14
High school	*	*	57.63	2.32	10.91	1.60	4.21	0.81	5.89	0.82	18.41	1.65
More than high school	*	*	76.26	1.96	6.59	0.87	*	*	3.35	0.64	9.83	1.42
Smoking history												
Current smoker	5.04	1.47	36.71	3.21	9.44	2.35	4.60	1.05	7.46	1.72	36.75	3.66
Former smoker	3.41	0.87	54.97	2.71	8.95	0.82	3.86	0.69	7.01	0.69	21.80	2.17
Never smoked	3.26	0.90	57.52	2.07	8.28	0.96	4.28	0.61	4.79	0.60	21.87	1.36
Total	3.40	0.69	53.90	1.94	8.82	0.73	4.20	0.42	5.91	0.46	23.76	1.59

Characteristic	1999–2004												Different (percent) last dental visit within the past year
	Never		1 year or less		1–2 years		2–3 years		3–5 years		More than 5 years		
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	
Age													
65–74 years	*	*	56.90	1.98	8.78	0.84	6.04	0.82	6.67	0.84	21.23	1.73	0.16
75 years or more	*	*	51.64	2.25	9.28	0.82	6.01	0.57	7.37	0.74	25.52	1.61	1.19
Sex													
Male	*	*	56.15	1.71	8.40	0.84	5.71	0.68	6.37	0.65	23.04	1.37	2.93
Female	*	*	53.56	2.21	9.33	0.98	6.21	0.59	7.41	0.72	23.24	1.56	–0.88
Race and ethnicity													
White, non-Hispanic	*	*	57.96	2.20	8.35	0.74	5.63	0.57	6.10	0.59	21.85	1.62	1.42
Black, non-Hispanic	*	*	37.99	2.29	13.45	1.39	5.59	0.93	11.28	1.34	30.59	1.99	1.44
Mexican American	4.12	0.73	38.31	2.90	9.92	0.76	9.25	1.32	9.32	1.62	29.08	2.32	–3.49
Poverty status													
Less than 100% FPL	*	*	30.23	3.29	9.39	1.06	7.48	1.73	13.14	1.91	38.82	3.60	–5.22
100%–199% FPL	*	*	42.19	2.47	9.56	1.19	6.88	0.85	7.59	1.18	33.51	2.27	2.59
Greater than 200% FPL	*	*	67.08	2.01	8.86	0.88	4.94	0.59	4.85	0.63	14.22	1.31	1.25
Education													
Less than high school	*	*	35.28	1.87	10.61	0.92	6.90	0.95	9.99	0.95	36.43	1.82	–3.40
High school	*	*	53.63	2.62	7.79	0.91	6.44	1.09	7.25	0.98	24.82	2.59	–4.00
More than high school	*	*	71.47	1.78	8.68	1.04	4.96	0.77	4.07	0.57	10.77	1.01	–4.79
Smoking history													
Current smoker	*	*	33.91	3.86	8.86	1.65	4.17	1.27	13.15	2.17	39.00	3.66	–2.80
Former smoker	*	*	54.91	2.34	8.46	0.91	6.81	0.68	6.20	0.69	23.42	1.88	–0.06
Never smoked	*	*	57.75	2.17	9.70	1.02	5.72	0.66	6.56	0.68	19.97	1.51	0.24
Total	*	*	54.52	1.82	9.01	0.61	6.03	0.52	6.99	0.56	23.18	1.36	0.62

* CV is more than 30 percent.

NOTE: FPL is federal poverty threshold or level.

Table 70. Mean recession among dentate seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference in mean recession
	Mean (millimeter)	Standard error	Mean (millimeter)	Standard error	
Age					
65–74 years	0.73	0.04	1.85	0.20	†1.12
75 years or more	0.93	0.07	2.83	0.48	†1.90
Sex					
Male	0.95	0.06	2.40	0.25	†1.45
Female	0.73	0.05	2.19	0.38	†1.46
Race and ethnicity					
White, non-Hispanic	0.79	0.05	2.22	0.30	†1.44
Black, non-Hispanic	1.22	0.09	2.48	0.30	†1.27
Mexican American	1.03	0.10	2.80	0.52	†1.77
Poverty status					
Less than 100% FPL	1.26	0.10	3.81	1.01	†2.55
100%–199% FPL	0.93	0.06	2.70	0.58	†1.77
Greater than 200% FPL	0.71	0.05	1.98	0.31	†1.27
Education					
Less than high school	1.02	0.06	3.74	0.89	†2.72
High school	0.78	0.07	2.15	0.31	†1.37
More than high school	0.65	0.06	1.61	0.16	†0.96
Smoking history					
Current smoker	1.43	0.12	3.97	0.84	†2.54
Former smoker	0.86	0.07	2.48	0.28	†1.63
Never smoked	0.69	0.05	2.00	0.38	†1.32
Total	0.82	0.05	2.30	0.27	†1.47

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 71. Mean pocket depth among dentate seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference in mean pocket depth
	Mean (millimeter)	Standard error	Mean (millimeter)	Standard error	
Age					
65–74 years	1.48	0.03	1.07	0.03	†–0.41
75 years or more	1.46	0.03	1.08	0.04	†–0.38
Sex					
Male	1.57	0.03	1.18	0.03	†–0.40
Female	1.40	0.03	0.99	0.03	†–0.41
Race and ethnicity					
White, non-Hispanic	1.44	0.03	1.04	0.03	†–0.40
Black, non-Hispanic	1.79	0.05	1.26	0.07	†–0.53
Mexican American	1.67	0.04	1.17	0.06	†–0.50
Poverty status					
Less than 100% FPL	1.63	0.05	1.27	0.06	†–0.36
100%–199% FPL	1.52	0.05	1.10	0.04	†–0.42
Greater than 200% FPL	1.43	0.03	1.03	0.03	†–0.40
Education					
Less than high school	1.58	0.04	1.23	0.04	†–0.34
High school	1.41	0.04	0.98	0.04	†–0.43
More than high school	1.42	0.03	1.06	0.03	†–0.36
Smoking history					
Current smoker	1.54	0.06	1.22	0.08	†–0.32
Former smoker	1.53	0.03	1.06	0.03	†–0.47
Never smoked	1.42	0.03	1.06	0.03	†–0.35
Total	1.47	0.03	1.07	0.03	†–0.40

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 72. Mean loss of attachment among dentate adults seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference in mean loss of attachment
	Mean (millimeter)	Standard error	Mean (millimeter)	Standard error	
Age					
65–74 years	1.94	0.07	1.44	0.05	†–0.49
75 years or more	2.16	0.09	1.68	0.06	†–0.48
Sex					
Male	2.26	0.08	1.73	0.05	†–0.53
Female	1.87	0.08	1.41	0.05	†–0.46
Race and ethnicity					
White, non-Hispanic	1.97	0.07	1.47	0.05	†–0.50
Black, non-Hispanic	2.74	0.13	1.93	0.12	†–0.82
Mexican American	2.46	0.12	1.90	0.11	†–0.56
Poverty status					
Less than 100% FPL	2.64	0.15	2.30	0.24	–0.34
100%–199% FPL	2.20	0.10	1.65	0.08	†–0.55
Greater than 200% FPL	1.87	0.07	1.39	0.05	†–0.47
Education					
Less than high school	2.35	0.08	2.10	0.09	†–0.25
High school	1.94	0.11	1.41	0.06	†–0.53
More than high school	1.78	0.09	1.36	0.05	†–0.42
Smoking history					
Current smoker	2.79	0.13	2.41	0.19	–0.38
Former smoker	2.13	0.09	1.67	0.06	†–0.46
Never smoked	1.81	0.08	1.36	0.05	†–0.45
Total	2.04	0.07	1.55	0.04	†–0.49

† *P*-value < 0.05.

NOTE: FPL is federal poverty threshold or level.

Table 73. Prevalence of the level of recession among dentate seniors 65 years of age and older, by age and selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Recession	65 years and older				65–74 years				75 years and older			
	1988–1994		1999–2004		1988–1994		1999–2004		1988–1994		1999–2004	
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
All persons												
1 millimeter	86.31	1.14	65.15	1.38	84.15	1.57	61.88	2.14	88.92	1.13	69.10	1.98
2 millimeters	72.69	1.87	47.71	1.82	69.12	2.09	45.39	2.20	77.02	2.74	50.50	2.59
3 millimeters	47.37	2.19	22.37	1.52	44.04	2.34	20.80	1.89	51.41	3.18	24.27	2.02
4 millimeters	29.97	1.80	11.69	0.77	27.11	1.83	10.83	1.12	33.44	2.62	12.75	1.33
Male												
1 millimeter	87.02	1.47	72.66	2.05	85.98	2.01	71.96	2.95	88.29	3.00	73.51	2.49
2 millimeters	76.64	2.50	54.48	2.72	73.68	2.24	52.70	3.19	80.21	4.40	56.63	3.44
3 millimeters	52.58	2.86	28.82	2.41	48.93	2.92	28.06	2.99	56.99	4.28	29.74	2.92
4 millimeters	37.65	2.81	16.28	1.52	33.06	2.80	16.07	1.80	43.20	4.22	16.53	2.20
Female												
1 millimeter	85.58	1.73	58.97	1.88	82.52	2.33	53.20	2.80	89.28	1.79	65.95	3.25
2 millimeters	69.64	2.29	42.28	1.91	65.06	3.04	39.10	2.72	75.19	2.86	46.14	3.34
3 millimeters	43.54	2.39	17.18	1.46	39.69	3.29	14.54	1.82	48.20	3.24	20.38	2.65
4 millimeters	24.54	2.05	8.00	0.91	21.81	2.68	10.05	1.91	27.83	2.62	10.05	1.91
Mexican Americans												
1 millimeter	86.73	2.70	65.09	3.67	84.26	3.48	60.51	3.29	89.72	4.37	70.64	6.36
2 millimeters	74.54	3.20	49.05	3.85	72.54	3.41	44.63	2.63	76.96	5.44	54.39	6.51
3 millimeters	54.55	3.31	24.48	2.78	52.55	3.62	20.18	1.94	56.96	6.20	29.68	5.47
4 millimeters	35.27	4.09	16.12	3.07	33.02	3.19	12.03	2.13	37.99	7.30	21.07	6.22
Black, non-Hispanic												
1 millimeter	87.28	2.12	56.47	4.03	84.83	3.39	53.83	4.94	90.25	2.61	59.66	5.96
2 millimeters	76.82	2.40	43.94	3.43	69.86	3.01	43.11	3.79	85.23	3.02	44.95	6.05
3 millimeters	58.13	2.63	21.56	2.85	47.94	2.77	22.96	3.61	70.46	4.63	19.86	5.32
4 millimeters	43.90	2.22	10.00	2.12	33.68	2.95	10.58	2.69	56.26	3.62	*	*
White, non-Hispanic												
1 millimeter	85.95	1.32	66.82	1.48	83.80	1.82	63.65	2.27	88.56	1.18	70.67	2.22
2 millimeters	72.07	2.07	48.34	2.03	68.75	2.40	45.70	2.64	76.10	2.91	51.53	2.78
3 millimeters	46.43	2.29	22.10	1.77	43.50	2.42	20.27	2.34	49.97	3.37	24.30	2.18
4 millimeters	29.11	1.97	11.48	0.91	26.53	2.02	10.54	1.41	32.23	2.74	12.61	1.49
Less than high school												
1 millimeter	88.59	1.35	58.97	2.65	87.69	1.92	53.03	3.94	89.68	1.87	66.16	3.83
2 millimeters	76.32	2.27	46.56	2.98	73.31	2.78	42.92	3.45	79.97	3.12	50.95	4.62
3 millimeters	50.98	2.43	26.67	2.69	47.13	3.49	24.56	3.11	55.63	2.60	29.22	4.49
4 millimeters	34.80	2.07	16.31	1.95	30.85	3.11	13.38	1.96	39.59	2.61	19.85	3.38
High school												
1 millimeter	85.18	2.48	59.96	2.67	81.25	3.32	52.69	3.51	89.93	2.32	68.75	3.56
2 millimeters	72.60	3.28	45.44	2.90	67.20	4.08	40.50	3.66	79.15	4.10	51.40	3.92
3 millimeters	46.52	3.71	21.31	2.33	42.94	4.18	18.96	2.64	50.86	5.25	24.15	3.68
4 millimeters	29.71	3.26	10.96	1.46	27.50	3.35	9.79	2.12	32.39	4.75	12.38	2.33
More than high school												
1 millimeter	85.22	2.22	70.94	2.05	83.53	2.24	70.92	3.19	87.26	3.18	70.97	2.86
2 millimeters	68.88	4.80	49.44	2.75	66.93	3.68	49.29	3.35	71.23	7.94	49.62	3.49
3 millimeters	43.87	3.84	20.85	2.04	42.26	3.31	20.38	2.72	45.82	6.84	21.43	2.14
4 millimeters	24.60	2.84	9.67	1.26	23.14	2.42	10.51	1.91	26.36	5.32	8.66	1.55
Less than 100% FPL												
1 millimeter	90.56	2.03	54.30	5.17	88.11	2.73	46.52	6.24	93.53	3.23	63.70	8.48
2 millimeters	77.47	3.44	38.98	5.97	73.49	5.72	39.26	5.49	82.28	5.34	38.65	9.12
3 millimeters	60.32	3.66	22.18	3.79	59.14	6.44	21.58	5.63	61.75	5.97	22.89	5.95
4 millimeters	44.44	3.13	*	*	40.92	5.40	*	*	48.70	5.42	*	*

See footnotes at end of table.

Table 73. Prevalence of the level of recession among dentate seniors 65 years of age and older, by age and selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004—Con.

Recession	65 years and older				65–74 years				75 years and older			
	1988–1994		1999–2004		1988–1994		1999–2004		1988–1994		1999–2004	
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
100%–199% FPL												
1 millimeter	86.69	2.05	59.58	3.71	84.66	2.46	54.90	4.84	89.14	2.65	65.25	5.26
2 millimeters	74.30	2.95	43.09	3.30	71.46	3.32	37.72	3.96	77.73	4.19	49.58	6.28
3 millimeters	50.90	3.15	21.18	3.13	47.68	4.21	18.87	3.04	54.79	4.34	23.97	5.41
4 millimeters	31.78	2.29	10.24	2.17	31.73	2.78	9.84	2.43	31.84	3.84	*	*
At or greater than 200% FPL												
1 millimeter	85.72	1.35	68.09	1.53	83.84	1.97	65.93	2.37	87.99	1.85	70.71	2.63
2 millimeters	71.59	1.84	49.40	2.40	68.82	2.19	48.50	3.10	74.93	3.35	50.49	2.70
3 millimeters	43.92	2.80	22.22	1.83	41.82	3.17	21.44	2.39	46.45	4.07	23.16	2.31
4 millimeters	27.04	2.28	11.73	0.93	25.30	2.44	11.20	1.43	29.15	3.75	12.36	1.70
Current smoker												
1 millimeter	96.58	1.39	61.88	5.26	93.75	2.55	56.06	7.84	100.00	0.00	68.92	8.21
2 millimeters	88.56	2.48	51.57	5.85	83.03	3.96	50.05	7.84	95.26	2.59	53.41	8.91
3 millimeters	68.25	4.09	24.19	5.38	66.00	5.02	26.74	6.87	70.97	8.07	*	*
4 millimeters	52.64	4.95	14.64	4.27	49.56	5.51	*	*	56.37	9.55	*	*
Former smoker												
1 millimeter	85.83	2.07	66.80	2.28	84.50	2.27	64.70	3.09	87.44	2.97	69.34	3.08
2 millimeters	74.42	3.20	50.12	2.24	72.62	2.94	48.51	3.21	76.60	4.94	52.07	3.00
3 millimeters	49.69	3.10	24.10	1.96	44.72	2.96	22.96	2.74	55.70	5.37	25.47	2.72
4 millimeters	32.74	3.15	14.02	1.50	29.82	3.17	13.28	2.26	36.27	4.42	14.91	2.22
Never smoked												
1 millimeter	84.69	2.05	64.36	1.81	81.42	2.61	60.52	2.56	88.64	1.83	69.01	3.00
2 millimeters	68.29	2.14	45.54	2.27	62.46	3.06	42.42	2.94	75.35	2.42	49.31	3.72
3 millimeters	41.91	2.61	20.87	1.72	37.93	3.47	18.41	1.82	46.73	2.93	23.85	2.80
4 millimeters	23.68	1.77	9.81	0.85	19.04	1.69	8.63	1.26	29.30	2.96	11.23	1.82

* CV is more than 30 percent.

NOTE: FPL is federal poverty threshold or level.

Table 74. Prevalence of the level of pocket depth among dentate seniors 65 years of age and older, by age and selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Pocket depth	65 years and older				65–74 years				75 years and older			
	1988–1994		1999–2004		1988–1994		1999–2004		1988–1994		1999–2004	
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
All persons												
2 millimeters	93.14	0.91	77.38	1.86	94.61	1.05	77.12	2.16	91.37	1.34	77.70	2.43
3 millimeters	56.90	1.97	35.45	1.90	59.72	2.18	36.88	2.56	53.50	2.69	33.72	2.30
4 millimeters	22.35	2.07	11.70	0.96	22.08	2.47	11.35	1.03	22.67	2.57	12.13	1.36
5 millimeters	10.34	1.14	4.46	0.56	11.25	1.17	4.37	0.66	9.23	1.64	4.56	0.87
6 millimeters	4.80	0.77	2.16	0.42	5.35	0.81	2.13	0.56	4.15	1.09	2.19	0.56
7 millimeters	2.19	0.48	*	*	2.37	0.54	*	*	*	*	*	*
Male												
2 millimeters	94.55	1.00	80.57	2.06	95.37	1.19	81.39	2.23	93.55	1.65	79.57	3.51
3 millimeters	63.60	2.72	40.33	2.66	65.80	2.67	42.69	3.22	60.95	4.18	37.48	3.60
4 millimeters	28.20	2.36	13.91	1.36	27.84	2.98	14.31	1.48	28.63	4.03	13.43	1.95
5 millimeters	13.70	1.58	5.45	0.81	15.82	1.71	6.67	1.15	11.15	2.35	3.99	0.98
6 millimeters	6.09	1.09	2.50	0.63	7.44	1.34	3.56	1.01	*	*	*	*
7 millimeters	3.01	0.69	*	*	3.98	1.04	*	*	*	*	*	*
Female												
2 millimeters	92.21	1.23	74.72	2.57	93.93	1.50	77.70	2.43	90.11	1.67	76.30	2.58
3 millimeters	52.00	2.22	31.42	2.17	54.32	2.99	31.84	3.12	49.21	2.84	30.91	2.63
4 millimeters	17.99	2.56	9.85	1.20	16.95	2.84	8.77	1.54	19.24	3.22	11.16	1.71
5 millimeters	7.61	1.15	3.56	0.75	7.19	1.37	2.37	0.77	8.12	1.68	4.99	1.34
6 millimeters	3.70	0.85	1.81	0.41	3.48	0.90	*	*	*	*	2.92	0.79
7 millimeters	*	*	*	*	*	*	*	*	*	*	*	*
Mexican Americans												
2 millimeters	94.68	1.83	78.01	3.61	96.77	1.30	79.80	3.89	92.15	3.36	75.85	4.97
3 millimeters	68.64	4.53	42.60	4.96	73.09	3.52	42.89	4.23	63.27	8.62	42.24	7.71
4 millimeters	33.66	2.96	18.50	3.13	37.11	3.18	18.46	3.15	29.47	5.09	*	*
5 millimeters	16.16	1.94	6.94	1.71	21.30	3.57	8.29	2.10	*	*	*	*
6 millimeters	7.09	1.36	*	*	12.20	2.36	*	*	*	*	*	*
7 millimeters	5.44	1.49	*	*	9.46	2.65	*	*	*	*	*	*
Black, non-Hispanic												
2 millimeters	94.54	1.89	81.37	2.72	94.99	2.20	82.66	2.42	93.98	2.72	79.82	4.72
3 millimeters	72.67	2.76	46.00	4.70	73.50	3.05	48.16	4.19	71.67	4.84	43.38	7.23
4 millimeters	38.71	2.24	23.93	3.89	43.37	3.19	23.70	3.49	33.09	4.18	26.42	6.33
5 millimeters	22.63	2.10	9.57	2.25	26.01	2.81	8.69	1.78	18.55	3.85	*	*
6 millimeters	13.26	2.17	*	*	13.36	2.00	*	*	*	*	*	*
7 millimeters	6.05	1.10	*	*	*	*	*	*	*	*	*	*
White, non-Hispanic												
2 millimeters	92.83	1.03	77.00	2.17	94.43	1.23	76.32	2.60	90.90	1.46	77.82	2.84
3 millimeters	55.48	2.20	34.05	2.25	58.06	2.53	35.65	3.16	52.35	2.86	32.13	2.61
4 millimeters	20.93	2.29	10.03	0.95	20.03	2.73	9.32	1.14	22.02	2.81	10.90	1.39
5 millimeters	9.01	1.22	3.63	0.59	9.49	1.32	3.38	0.77	8.42	1.71	3.93	0.89
6 millimeters	3.89	0.77	1.87	0.49	4.27	0.90	*	*	*	*	*	*
7 millimeters	1.76	0.50	*	*	1.62	0.59	*	*	*	*	*	*
Less than high school												
2 millimeters	93.71	1.08	76.39	2.69	95.77	0.86	74.15	2.82	91.22	2.00	79.11	3.04
3 millimeters	62.06	2.77	42.87	3.24	65.65	3.02	45.15	3.90	57.71	3.86	40.10	3.82
4 millimeters	28.18	2.85	18.40	1.91	29.87	3.34	18.16	2.09	26.15	3.99	18.69	2.60
5 millimeters	15.19	1.84	9.22	1.36	16.79	2.47	7.78	1.21	13.25	2.55	10.95	2.35
6 millimeters	8.75	1.63	5.38	0.94	10.75	2.18	4.12	1.06	*	*	6.91	1.56
7 millimeters	3.56	0.98	*	*	*	*	*	*	*	*	*	*

See footnotes at end of table.

Table 74. Prevalence of the level of pocket depth among dentate seniors 65 years of age and older, by age and selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004—Con.

Pocket depth	65 years and older				65–74 years				75 years and older			
	1988–1994		1999–2004		1988–1994		1999–2004		1988–1994		1999–2004	
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
High school												
2 millimeters	91.74	1.60	72.62	3.10	92.25	2.35	72.90	4.60	91.11	1.97	72.28	3.95
3 millimeters	53.40	3.78	27.56	2.89	56.65	3.51	31.60	4.41	49.47	6.52	22.67	3.86
4 millimeters	16.31	2.81	9.35	1.47	17.51	3.04	8.11	1.95	14.86	3.60	10.85	2.42
5 millimeters	8.14	1.64	*	*	9.09	2.04	*	*	*	*	*	*
6 millimeters	*	*	*	*	*	*	*	*	*	*	*	*
7 millimeters	*	*	*	*	*	*	*	*	*	*	*	*
More than high school												
2 millimeters	93.76	1.20	77.70	2.44	95.68	1.27	81.04	2.38	91.43	2.38	80.48	3.17
3 millimeters	53.65	2.98	36.88	2.33	56.79	3.50	36.71	2.92	49.84	3.66	37.09	3.67
4 millimeters	21.04	2.39	9.74	1.58	18.90	3.22	10.47	1.49	23.62	3.22	8.85	2.27
5 millimeters	6.88	1.68	3.08	0.84	8.14	2.04	*	*	*	*	*	*
6 millimeters	*	*	*	*	*	*	*	*	*	*	*	*
7 millimeters	*	*	*	*	*	*	*	*	*	*	*	*
Less than 100% FPL												
2 millimeters	91.23	2.00	73.43	5.17	93.49	2.75	69.23	5.71	88.50	4.74	78.51	5.99
3 millimeters	65.89	4.42	36.89	4.87	72.66	6.35	34.90	6.55	57.71	6.14	39.28	6.40
4 millimeters	31.75	4.16	17.60	4.04	38.54	6.13	*	*	23.52	5.15	20.38	4.93
5 millimeters	18.12	3.02	*	*	24.20	4.54	*	*	*	*	*	*
6 millimeters	8.29	1.87	*	*	11.52	2.76	*	*	*	*	*	*
7 millimeters	*	*	*	*	*	*	*	*	*	*	*	*
100%–199% FPL												
2 millimeters	93.12	1.64	78.42	3.42	94.27	2.22	77.82	4.48	91.73	2.59	79.15	5.99
3 millimeters	54.80	3.74	36.40	3.56	58.73	4.30	40.26	5.18	50.06	4.90	31.74	4.12
4 millimeters	23.71	3.58	12.17	1.88	26.75	4.49	14.99	2.79	20.03	4.62	*	*
5 millimeters	13.28	2.19	5.70	1.29	15.42	3.24	7.16	1.47	10.69	2.94	*	*
6 millimeters	8.41	2.07	3.18	0.95	9.82	2.82	3.33	0.77	*	*	*	*
7 millimeters	*	*	*	*	*	*	*	*	*	*	*	*
At or greater than 200% FPL												
2 millimeters	93.28	1.17	77.75	1.97	94.55	1.23	78.73	2.28	91.74	2.11	76.56	3.07
3 millimeters	56.25	2.21	34.70	2.32	57.98	2.52	36.15	2.88	54.15	3.54	32.95	3.20
4 millimeters	20.09	2.03	10.10	1.14	18.34	2.66	9.12	1.14	22.20	2.58	11.28	2.04
5 millimeters	8.22	1.13	3.04	0.75	8.89	1.28	*	*	7.41	1.73	*	*
6 millimeters	3.14	0.63	*	*	3.70	0.89	*	*	*	*	*	*
7 millimeters	1.57	0.43	*	*	*	*	*	*	*	*	*	*
Current smoker												
2 millimeters	95.08	1.83	78.02	4.94	92.99	2.95	83.44	4.71	97.60	1.81	71.46	8.74
3 millimeters	58.27	5.00	42.19	5.93	65.79	5.67	48.28	5.92	49.17	9.85	34.83	8.83
4 millimeters	30.79	4.86	13.90	3.15	29.10	4.63	*	*	32.83	8.06	*	*
5 millimeters	17.96	3.81	8.32	2.26	17.90	4.16	*	*	*	*	*	*
6 millimeters	7.32	2.12	*	*	*	*	*	*	*	*	*	*
7 millimeters	*	*	*	*	*	*	*	*	*	*	*	*
Former smoker												
2 millimeters	93.16	1.36	75.98	2.31	94.71	1.59	76.94	2.98	91.29	2.35	74.81	3.57
3 millimeters	57.95	2.67	35.31	2.38	61.01	3.55	35.20	3.03	54.24	4.41	35.45	3.10
4 millimeters	23.97	2.43	10.85	1.54	22.93	3.29	10.42	1.55	25.22	3.38	11.37	2.24
5 millimeters	11.17	1.77	3.36	0.81	12.35	1.83	4.41	1.23	9.75	2.63	*	*
6 millimeters	5.21	0.98	*	*	5.50	1.04	*	*	*	*	*	*
7 millimeters	2.75	0.70	*	*	3.33	0.97	*	*	*	*	*	*

See footnotes at end of table.

Table 74. Prevalence of the level of pocket depth among dentate seniors 65 years of age and older, by age and selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004—Con.

Pocket depth	65 years and older				65–74 years				75 years and older			
	1988–1994		1999–2004		1988–1994		1999–2004		1988–1994		1999–2004	
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
Never smoked												
2 millimeters	93.04	1.03	77.99	2.09	94.92	0.94	76.34	2.82	90.76	1.69	79.99	2.55
3 millimeters	55.44	2.27	34.78	2.31	57.04	2.63	36.53	3.47	53.50	3.00	32.67	2.77
4 millimeters	19.78	2.64	12.04	1.20	19.55	3.31	11.59	1.49	20.05	2.97	12.60	1.72
5 millimeters	8.32	1.27	4.78	0.67	8.60	1.67	4.05	0.68	7.98	1.70	5.66	1.25
6 millimeters	3.74	0.95	2.30	0.50	*	*	*	*	*	*	3.29	0.84
7 millimeters	*	*	*	*	*	*	*	*	*	*	*	*

* CV is more than 30 percent.

NOTE: FPL is federal poverty threshold or level.

Table 75. Prevalence of the level of loss of attachment among dentate seniors 65 years of age and older, by age and selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Attachment loss	65 years and older				65–74 years				75 years and older			
	1988–1994		1999–2004		1988–1994		1999–2004		1988–1994		1999–2004	
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
All persons												
2 millimeters	95.02	0.95	92.15	0.81	94.49	1.32	90.50	1.30	95.66	0.92	94.14	0.94
3 millimeters	79.79	1.83	70.92	1.71	77.00	1.98	67.16	2.08	83.17	2.74	75.46	2.26
4 millimeters	59.28	2.04	49.84	1.41	54.85	2.05	46.56	1.85	64.65	2.95	53.80	2.03
5 millimeters	41.14	2.13	29.05	1.34	36.36	2.04	27.37	1.71	46.92	3.01	31.08	2.21
6 millimeters	26.17	1.80	16.85	0.94	23.44	1.96	14.94	1.30	29.46	2.45	19.16	1.53
7 millimeters	16.13	1.51	9.25	0.72	15.29	1.57	7.89	0.93	17.14	2.14	10.88	1.20
Male												
2 millimeters	97.17	0.56	94.14	1.04	97.23	0.80	93.88	1.70	97.09	0.84	94.46	1.27
3 millimeters	84.88	1.83	76.10	1.97	81.84	2.16	74.42	2.10	88.57	3.11	78.13	3.06
4 millimeters	65.89	2.84	56.48	2.07	62.65	2.76	54.23	2.66	69.80	4.56	59.21	2.43
5 millimeters	47.90	3.47	35.15	2.06	42.64	3.10	33.25	2.40	54.25	5.02	37.46	3.45
6 millimeters	32.24	2.70	22.56	1.54	29.85	2.55	20.05	1.78	35.13	3.71	25.59	2.76
7 millimeters	22.71	2.29	13.35	1.35	21.33	2.38	11.69	1.39	24.39	3.13	15.37	2.19
Female												
2 millimeters	93.31	1.34	90.43	1.16	92.05	1.98	87.56	1.77	94.84	1.34	93.90	1.63
3 millimeters	76.03	2.45	66.57	2.27	72.70	2.62	60.86	3.24	80.07	3.14	73.46	2.83
4 millimeters	54.14	2.37	44.36	1.74	47.90	2.75	39.90	2.22	61.68	3.01	49.74	3.27
5 millimeters	36.17	2.30	24.08	1.52	30.77	2.81	26.29	2.58	42.70	3.22	26.29	2.58
6 millimeters	21.57	1.93	12.23	1.24	17.74	2.32	10.49	1.64	26.20	2.80	14.33	1.86
7 millimeters	11.30	1.32	5.92	0.90	9.92	1.45	4.60	1.26	12.96	2.17	7.52	1.53
Mexican Americans												
2 millimeters	95.71	2.00	91.68	1.82	97.38	1.46	89.60	2.48	93.69	4.06	94.18	2.33
3 millimeters	85.32	2.48	76.56	2.77	84.17	3.14	70.16	3.02	86.70	5.15	84.30	3.90
4 millimeters	70.13	2.88	53.83	3.44	65.11	3.86	51.64	3.60	76.22	4.98	56.47	5.73
5 millimeters	52.13	4.19	39.83	3.36	51.47	3.54	35.11	3.31	52.93	7.94	45.53	5.78
6 millimeters	37.85	3.30	27.53	3.12	35.75	2.58	22.40	2.65	40.38	6.35	33.75	5.36
7 millimeters	26.19	2.84	15.67	2.50	27.84	3.12	13.94	1.94	24.19	5.01	17.76	3.96
Black, non-Hispanic												
2 millimeters	95.04	1.72	90.53	2.51	92.60	2.82	88.48	3.15	97.99	1.47	93.01	3.24
3 millimeters	89.30	2.37	77.56	3.88	84.62	2.91	74.94	3.43	94.95	2.62	80.73	6.44
4 millimeters	75.72	3.36	57.82	3.77	70.63	3.31	56.30	3.97	81.87	4.55	59.65	6.89
5 millimeters	60.51	2.99	42.37	3.31	53.90	3.51	40.98	3.37	68.50	4.08	44.05	6.55
6 millimeters	46.62	1.94	29.19	3.30	37.41	2.57	23.07	2.98	57.77	4.02	36.60	6.87
7 millimeters	34.19	2.02	14.01	2.11	27.80	2.38	10.78	1.96	41.92	4.19	17.92	3.92
White, non-Hispanic												
2 millimeters	95.05	1.05	92.30	0.85	94.67	1.47	90.96	1.37	95.50	1.01	93.92	1.10
3 millimeters	78.96	1.97	69.48	1.88	76.37	2.22	65.44	2.42	82.09	2.88	74.37	2.59
4 millimeters	57.52	2.03	48.30	1.58	52.91	2.08	44.25	2.20	63.09	3.06	53.21	2.23
5 millimeters	39.10	2.19	26.99	1.55	33.84	2.16	24.98	1.98	45.46	3.19	29.41	2.55
6 millimeters	24.42	1.82	14.78	1.11	21.69	2.17	12.87	1.57	27.73	2.44	17.09	1.67
7 millimeters	14.69	1.53	7.85	0.87	14.01	1.79	6.33	1.09	15.51	2.09	9.70	1.36
Less than high school												
2 millimeters	95.51	1.06	93.73	1.21	95.96	1.34	91.62	2.02	94.97	1.51	96.29	1.11
3 millimeters	83.86	1.98	78.79	2.40	80.17	2.61	76.31	3.17	88.32	2.31	81.77	3.37
4 millimeters	65.87	2.10	63.26	2.58	60.63	2.78	60.59	3.63	72.19	2.63	66.49	3.81
5 millimeters	47.43	2.32	43.02	2.18	42.08	3.27	40.67	3.39	53.91	3.69	45.87	3.46
6 millimeters	34.10	2.28	28.67	1.91	30.40	3.29	25.28	2.76	38.58	4.06	32.77	2.98
7 millimeters	22.18	1.85	18.48	2.08	20.42	2.54	15.58	2.66	24.30	3.18	21.99	2.92

See footnotes at end of table.

Table 75. Prevalence of the level of loss of attachment among dentate seniors 65 years of age and older, by age and selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004—Con.

Attachment loss	65 years and older				65–74 years				75 years and older			
	1988–1994		1999–2004		1988–1994		1999–2004		1988–1994		1999–2004	
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
High school												
2 millimeters	93.28	2.14	90.11	1.57	90.89	2.91	89.12	2.69	96.16	1.71	91.31	2.03
3 millimeters	79.22	3.47	70.04	2.77	76.42	3.97	65.93	4.19	82.59	4.90	75.00	3.78
4 millimeters	59.08	3.65	47.37	2.53	55.08	4.06	45.07	3.48	63.92	5.02	50.16	3.82
5 millimeters	40.09	3.45	27.53	2.08	36.29	3.67	27.90	3.01	44.69	5.45	27.09	3.70
6 millimeters	22.60	2.17	15.18	1.61	21.07	2.56	15.04	2.18	24.45	3.82	15.36	2.88
7 millimeters	12.15	1.69	7.09	1.14	12.80	2.51	7.06	1.49	11.36	2.53	7.12	1.91
More than high school												
2 millimeters	96.20	0.86	92.58	1.24	96.42	1.43	90.87	1.73	95.94	1.35	94.65	1.66
3 millimeters	75.69	4.13	67.37	2.50	74.51	3.25	63.95	2.66	77.12	6.68	71.51	3.56
4 millimeters	51.83	4.56	44.45	2.30	49.25	4.08	41.38	2.60	54.96	7.73	48.16	3.38
5 millimeters	34.67	4.17	22.53	2.10	31.07	3.10	21.18	2.24	39.02	7.23	24.15	2.98
6 millimeters	20.36	3.12	11.49	1.39	19.03	2.97	10.43	1.69	21.98	4.57	12.77	2.16
7 millimeters	12.45	2.27	5.54	1.00	12.62	2.43	5.12	1.16	12.24	3.34	6.04	1.54
Less than 100% FPL												
2 millimeters	96.18	1.62	90.74	3.26	96.43	1.43	86.11	5.87	95.87	3.02	96.35	2.09
3 millimeters	82.99	3.67	75.19	5.77	79.60	5.84	73.41	6.43	87.09	4.87	77.34	8.90
4 millimeters	70.49	3.99	64.38	6.21	68.21	6.29	62.46	8.05	73.24	6.15	66.71	6.03
5 millimeters	56.67	3.32	45.13	5.75	58.10	6.20	42.86	7.30	54.94	5.75	47.89	6.15
6 millimeters	45.44	3.68	36.02	4.72	46.69	6.03	33.33	5.90	43.92	6.43	39.27	5.70
7 millimeters	30.18	3.40	20.79	4.63	31.50	4.61	17.40	4.56	28.58	5.74	24.89	7.18
100%–199% FPL												
2 millimeters	94.31	1.80	90.56	2.08	94.41	1.97	90.35	2.21	94.19	2.05	90.82	3.40
3 millimeters	81.06	3.00	73.86	3.26	77.50	3.51	70.72	5.33	85.37	4.09	77.64	4.67
4 millimeters	63.28	2.93	50.19	2.46	60.20	3.35	49.32	4.10	67.01	4.52	52.84	4.66
5 millimeters	47.11	3.46	29.29	2.19	43.81	4.09	28.52	3.34	51.11	5.78	30.23	4.09
6 millimeters	32.47	2.28	18.66	1.80	31.94	3.26	18.86	3.05	33.11	4.25	18.42	2.66
7 millimeters	20.44	2.10	9.32	1.17	22.43	3.47	9.96	1.88	18.03	3.12	8.55	2.46
At or greater than 200% FPL												
2 millimeters	95.19	0.98	93.42	0.94	94.22	1.49	91.48	1.44	96.37	1.08	95.77	1.15
3 millimeters	78.75	1.64	68.82	2.08	77.26	2.28	64.86	2.61	80.56	3.03	73.62	3.05
4 millimeters	55.22	2.18	46.36	1.95	51.40	2.90	42.27	2.47	59.85	3.40	51.30	2.85
5 millimeters	36.92	2.51	25.83	1.90	32.78	3.06	24.36	1.84	41.93	3.44	27.61	3.21
6 millimeters	20.83	2.09	12.73	1.33	18.62	2.51	10.53	1.42	23.50	2.61	15.39	2.00
7 millimeters	12.30	1.59	7.11	0.91	11.81	1.82	5.42	0.94	12.90	2.07	9.15	1.56
Current smoker												
2 millimeters	97.95	1.24	98.63	1.08	96.26	2.27	97.50	1.97	100.00	0.00	100.00	0.00
3 millimeters	92.94	2.13	89.44	4.23	87.94	3.82	87.87	4.25	98.98	1.02	91.33	5.24
4 millimeters	79.16	3.88	70.89	4.76	76.08	4.11	67.53	5.70	82.89	7.77	74.95	7.46
5 millimeters	62.47	5.00	52.54	4.79	63.16	5.44	48.32	5.86	61.65	9.17	57.65	7.97
6 millimeters	41.49	3.44	33.90	4.65	41.48	4.27	30.6	5.37	41.51	7.93	37.89	8.06
7 millimeters	32.24	3.25	15.98	3.14	31.78	4.37	13.69	3.73	32.79	7.26	*	*
Former smoker												
2 millimeters	95.99	0.95	93.34	1.17	95.95	1.61	92.07	1.85	96.05	1.44	94.88	1.36
3 millimeters	80.98	2.90	74.95	1.96	78.78	2.74	70.24	2.32	83.63	4.70	80.64	2.55
4 millimeters	63.14	2.84	54.18	1.87	58.42	2.75	50.44	3.00	68.84	4.55	58.71	2.76
5 millimeters	42.78	3.25	32.19	1.85	39.40	3.44	30.97	2.65	46.88	4.41	33.65	3.04
6 millimeters	28.41	2.85	18.75	1.47	26.36	3.37	17.74	2.09	30.88	3.50	19.97	1.97
7 millimeters	17.63	2.87	10.28	1.12	16.79	2.76	8.92	1.51	18.66	3.98	11.92	1.76

See footnotes at end of table.

Table 75. Prevalence of the level of loss of attachment among dentate seniors 65 years of age and older, by age and selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004—Con.

Attachment loss	65 years and older				65–74 years				75 years and older			
	1988–1994		1999–2004		1988–1994		1999–2004		1988–1994		1999–2004	
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
Never smoked												
2 millimeters	93.74	1.70	90.45	1.19	92.72	2.11	88.23	1.72	94.97	1.51	93.14	1.68
3 millimeters	76.53	2.16	65.76	2.28	72.65	2.85	61.71	3.01	81.22	2.56	70.67	2.97
4 millimeters	52.57	2.68	44.23	1.80	46.29	3.16	40.42	2.08	60.17	3.34	48.84	2.97
5 millimeters	35.27	2.35	24.05	1.64	26.90	2.41	21.44	1.83	45.39	3.65	27.21	2.85
6 millimeters	21.28	1.88	13.40	1.28	16.28	1.91	10.40	1.69	27.32	2.97	17.03	2.24
7 millimeters	11.96	1.29	7.71	0.91	9.81	1.46	6.24	1.29	14.56	2.03	9.49	1.50

* CV is more than 30 percent.

NOTE: FPL is federal poverty threshold or level.

Table 76. Prevalence of periodontal disease among dentate seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994 Percent	1988–1994 Standard error	1999–2004 Percent	1999–2004 Standard error	Difference (percent)
Age					
65–74 years	19.57	2.00	10.20	1.03	†–9.36
75 years or more	19.48	2.79	11.03	1.24	†–8.45
Sex					
Male	23.99	2.37	12.97	1.38	†–11.02
Female	16.16	2.34	8.56	1.12	†–7.61
Race and ethnicity					
White, non-Hispanic	17.90	2.16	8.99	0.94	†–8.91
Black, non-Hispanic	37.12	2.35	23.92	3.55	†–13.21
Mexican American	30.74	2.78	17.23	2.90	†–13.51
Poverty status					
Less than 100% FPL	29.96	4.09	17.49	4.05	†–12.47
100%–199% FPL	21.76	3.26	11.59	1.72	†–10.16
Greater than 200% FPL	16.63	2.09	8.62	1.11	†–8.01
Education					
Less than high school	26.29	2.53	16.56	1.98	†–9.73
High school	15.23	2.85	8.30	1.26	†–6.94
More than high school	15.61	2.77	8.90	1.41	†–6.71
Smoking history					
Current smoker	27.62	4.28	13.80	3.19	†–13.83
Former smoker	19.88	2.57	9.20	1.41	†–10.68
Never smoked	17.78	2.42	11.12	1.18	†–6.66
Total	19.53	1.99	10.58	0.94	†–8.95

† *P*-value < 0.05.

NOTES: Periodontal disease is at least one periodontal site with 3 millimeters or more of loss of attachment and 4 millimeters or more of pocket depth. FPL is federal poverty threshold or level.

Table 77. Prevalence of moderate or severe periodontitis among dentate seniors 65 years of age and older, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference (percent)
	Percent	Standard error	Percent	Standard error	
Age					
65–74 years	24.16	1.88	14.26	1.12	†–9.90
75 years or more	29.46	2.24	20.75	1.24	†–8.71
Sex					
Male	30.93	2.88	20.61	1.59	†–10.31
Female	23.23	1.89	14.40	1.41	†–8.83
Race and ethnicity					
White, non-Hispanic	24.66	1.85	15.47	1.26	†–9.19
Black, non-Hispanic	47.16	2.77	24.47	3.02	†–22.70
Mexican American	40.88	2.11	24.20	3.18	†–16.69
Poverty status					
Less than 100% FPL	42.57	2.89	31.96	4.50	†–10.62
100%–199% FPL	30.77	2.95	18.75	2.38	†–12.02
Greater than 200% FPL	22.66	2.19	13.91	1.44	†–8.75
Education					
Less than high school	34.19	2.13	28.24	2.54	–5.95
High school	23.82	2.75	15.51	1.79	†–8.30
More than high school	20.60	3.24	12.38	1.62	†–8.22
Smoking history					
Current smoker	46.26	5.14	32.01	5.64	–14.25
Former smoker	26.67	2.79	19.25	1.71	†–7.42
Never smoked	22.38	2.01	14.08	1.32	†–8.31
Total	26.56	1.74	17.20	1.12	†–9.36

† *P*-value < 0.05.

NOTES: CDC-AAP moderate and severe periodontitis definition. FPL is federal poverty threshold or level.

Table 78. Healthy People 2010 Objective 21–4: Prevalence of complete tooth loss among seniors 65–74 years of age, by selected characteristics: United States, National Health and Nutrition Examination Survey, 1988–1994 and 1999–2004

Characteristic	1988–1994		1999–2004		Difference (percent)
	Percent	Standard error	Percent	Standard error	
Sex					
Male	27.71	1.94	22.19	2.03	–5.52
Female	29.42	2.51	25.43	1.93	–3.99
Race and ethnicity					
White, non-Hispanic	29.23	2.21	23.33	1.80	†–5.92
Black, non-Hispanic	26.32	2.44	25.02	2.29	–1.31
Mexican American	15.97	2.63	18.32	2.39	2.35
Poverty status					
Less than 100% FPL	40.45	4.16	39.47	5.16	–0.98
100%–199% FPL	43.05	3.54	34.82	2.54	†–8.24
Greater than 200% FPL	21.31	1.84	16.73	1.55	–4.54
Education					
Less than high school	39.88	2.63	42.13	3.04	2.25
High school	28.40	2.86	25.62	2.72	–2.77
More than high school	14.17	2.25	10.62	1.34	–3.55
Smoking history					
Current smoker	47.87	4.25	48.91	3.78	1.04
Former smoker	29.57	2.85	24.32	2.87	–5.24
Never smoked	20.33	2.15	16.93	1.85	–3.40
Total	28.63	1.94	23.84	1.53	–4.69

† *P*-value < 0.05.

NOTES: FPL is federal poverty threshold or level.

Appendix

Glossary of Dental Terms

Dental Caries

- Coronal caries: dental decay located on part of the tooth that is on the "crown" of the tooth, usually above the gum line.
- Root caries: dental decay located on exposed tooth root.
- Caries experience: the presence of dental decay, dental fillings or other types of dental restorations, or missing teeth because of prior exposure to tooth decay.
- Measures of caries prevalence:
  - dft—number of decayed and filled primary teeth
  - dt—number of decayed primary teeth
  - ft—number of filled primary teeth
  - dfs—number of decayed and filled surfaces in primary teeth
  - ds—number of decayed surfaces in primary teeth
  - fs—number of filled surfaces in primary teeth.
  - DMFT—number of decayed, missing (due to disease), and filled permanent teeth.
  - DT—number of decayed permanent teeth.
  - MT—number of permanent teeth missing due to disease
  - FT—number of filled permanent teeth
  - DMFS—number of decayed, missing (due to disease), and filled surfaces in permanent teeth.
  - DS—number of decayed surfaces in permanent
  - FS—number of filled surfaces in permanent teeth
  - MS—number of surfaces that are missing because permanent teeth were extracted due to disease.

Periodontal Health

- Recession: the presence of exposed dental root, which is typically measured in millimeters from the free gingival margin (FGM) to the cemento-enamel junction (CEJ). The FGM is located along the top of the gum and the CEJ is the place on a tooth where the root and the "crown" meet.
- Pocket depth (PD): the amount of space between the tooth root and the supporting structures of the periodontium (that is, the gums and bone), which is typically measured in millimeters from the FGM to the base of the sulcus. The base of the sulcus is where connecting tissues attaches the tooth to the periodontium.
- Attachment loss (AL): the amount of connective tissue loss measured in millimeters (mm) from the CEJ to the sulcus base.
- Periodontal probing site: the place where periodontal measures for recession, PD, and AL are made. Typically, there are 4 interproximal sites (mesio-facial, disto-facial, mesio-lingual, and disto-lingual) and 2 mid-tooth sites (mid-facial and mid-lingual).

CDC-AAP Periodontitis Definitions

- Severe periodontitis: 2 or more teeth with AL ≥6 mm at interproximal sites AND 1 or more teeth with PD ≥5 mm at interproximal sites (PD measure can be on one of teeth that meets the AL criteria).
- Moderate periodontitis: 2 or more teeth with AL ≥4 mm at interproximal sites OR 2 or more teeth with PD ≥5 mm at interproximal sites (PD measure can be on one of teeth that meets the AL criteria).

Other Dental Terms

- Dental sealants: thin plastic-like coatings painted onto the pits and fissures of teeth to prevent tooth decay.
- Edentulism/Edentulous / Complete tooth loss: having no natural teeth in the mouth
- Dentate: having at least one natural tooth present in the mouth.
- Incisal trauma: a traumatic injury affecting either an upper or lower permanent incisor (front tooth).

Vital and Health Statistics series descriptions

SERIES 1. **Programs and Collection Procedures**—These reports describe the data collection programs of the National Center for Health Statistics. They include descriptions of the methods used to collect and process the data, definitions, and other material necessary for understanding the data.

SERIES 2. **Data Evaluation and Methods Research**—These reports are studies of new statistical methods and include analytical techniques, objective evaluations of reliability of collected data, and contributions to statistical theory. These studies also include experimental tests of new survey methods and comparisons of U.S. methodology with those of other countries.

SERIES 3. **Analytical and Epidemiological Studies**—These reports present analytical or interpretive studies based on vital and health statistics. These reports carry the analyses further than the expository types of reports in the other series.

SERIES 4. **Documents and Committee Reports**—These are final reports of major committees concerned with vital and health statistics and documents such as recommended model vital registration laws and revised birth and death certificates.

SERIES 5. **International Vital and Health Statistics Reports**—These reports are analytical or descriptive reports that compare U.S. vital and health statistics with those of other countries or present other international data of relevance to the health statistics system of the United States.

SERIES 6. **Cognition and Survey Measurement**—These reports are from the National Laboratory for Collaborative Research in Cognition and Survey Measurement. They use methods of cognitive science to design, evaluate, and test survey instruments.

SERIES 10. **Data From the National Health Interview Survey**—These reports contain statistics on illness; unintentional injuries; disability; use of hospital, medical, and other health services; and a wide range of special current health topics covering many aspects of health behaviors, health status, and health care utilization. They are based on data collected in a continuing national household interview survey.

SERIES 11. **Data From the National Health Examination Survey, the National Health and Nutrition Examination Surveys, and the Hispanic Health and Nutrition Examination Survey**—Data from direct examination, testing, and measurement on representative samples of the civilian noninstitutionalized population provide the basis for (1) medically defined total prevalence of specific diseases or conditions in the United States and the distributions of the population with respect to physical, physiological, and psychological characteristics, and (2) analyses of trends and relationships among various measurements and between survey periods.

SERIES 12. **Data From the Institutionalized Population Surveys**—Discontinued in 1975. Reports from these surveys are included in Series 13.

SERIES 13. **Data From the National Health Care Survey**—These reports contain statistics on health resources and the public's use of health care resources including ambulatory, hospital, and long-term care services based on data collected directly from health care providers and provider records.

SERIES 14. **Data on Health Resources: Manpower and Facilities**—Discontinued in 1990. Reports on the numbers, geographic distribution, and characteristics of health resources are now included in Series 13.

SERIES 15. **Data From Special Surveys**—These reports contain statistics on health and health-related topics collected in special surveys that are not part of the continuing data systems of the National Center for Health Statistics.

SERIES 16. **Compilations of Advance Data From Vital and Health Statistics**—Advance Data Reports provide early release of information from the National Center for Health Statistics' health and demographic surveys. They are compiled in the order in which they are published. Some of these releases may be followed by detailed reports in Series 10–13.

SERIES 20. **Data on Mortality**—These reports contain statistics on mortality that are not included in regular, annual, or monthly reports. Special analyses by cause of death, age, other demographic variables, and geographic and trend analyses are included.

SERIES 21. **Data on Natality, Marriage, and Divorce**—These reports contain statistics on natality, marriage, and divorce that are not included in regular, annual, or monthly reports. Special analyses by health and demographic variables and geographic and trend analyses are included.

SERIES 22. **Data From the National Mortality and Natality Surveys**—Discontinued in 1975. Reports from these sample surveys, based on vital records, are now published in Series 20 or 21.

SERIES 23. **Data From the National Survey of Family Growth**—These reports contain statistics on factors that affect birth rates, including contraception, infertility, cohabitation, marriage, divorce, and remarriage; adoption; use of medical care for family planning and infertility; and related maternal and infant health topics. These statistics are based on national surveys of women of childbearing age.

SERIES 24. **Compilations of Data on Natality, Mortality, Marriage, and Divorce**—These include advance reports of births, deaths, marriages, and divorces based on final data from the National Vital Statistics System that were published as *National Vital Statistics Reports* (NVSR), formerly *Monthly Vital Statistics Report*. These reports provide highlights and summaries of detailed data subsequently published in *Vital Statistics of the United States*. Other special reports published here provide selected findings based on final data from the National Vital Statistics System and may be followed by detailed reports in Series 20 or 21.

For answers to questions about this report or for a list of reports published in these series, contact:

Data Dissemination Branch
National Center for Health Statistics
Centers for Disease Control and Prevention
3311 Toledo Road, Room 5412
Hyattsville, MD 20782

1-800-232-4636
E-mail: nchsquery@cdc.gov
Internet: www.cdc.gov/nchs

U.S. DEPARTMENT OF
HEALTH & HUMAN SERVICES

Centers for Disease Control and Prevention
National Center for Health Statistics
3311 Toledo Road
Hyattsville, MD 20782

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

MEDIA MAIL
POSTAGE & FEES PAID
CDC/NCHS
PERMIT NO. G-284

CS110283 (4/2007)
T????
DHHS Publication No. (PHS) 2007-1698, Series 11, No. 248