

Status of Oral Health in Georgia, 2007

Summary of Oral Health Data Collected in Georgia



Introduction

Oral health is an essential component of health throughout life. Poor oral health and untreated oral infections can have a significant impact on the overall health and quality of life of the individual, and can affect self-esteem.¹ Regular dental visits are important for diagnosing, preventing, and treating oral diseases, as well as assessing patient self-care practices.² Evidence-based studies indicate that preventive dental services are cost-effective and save children and adults from pain and lost days of school or work:

- The National Institutes of Dental and Craniofacial Research and the National Education Association cite research showing that American children miss 52 million hours of school each year and adults miss over 164 million hours of work due to oral health problems.³ In addition to lost days of work or school due to dental treatment and pain, dental problems distract children from learning and can affect an individual's ability to maintain a job or get promotions.³
- Oral health status can serve as an early warning system for patients suffering from or at risk for costly chronic diseases such as diabetes, cardiovascular disease, osteoporosis, and obesity.¹ Oral diseases can both complicate and be complicated by certain chronic diseases.¹
- Toothaches are the most common pain of the mouth or face reported by adults. Most patients with toothaches show signs of gum disease.⁴
- Dental sealants are a cost-effective means of preventing dental caries in at-risk groups; in the U.S. 80% of tooth decay in permanent teeth is experienced by only 25% of the children.⁵ Dental sealants cost approximately one-third (\$27) the cost of an average filling (\$73).⁶ Every dollar invested in dental prevention saves as much as \$147 in future expenses.⁷ *Pediatric Dentistry* reported a study on Medicaid dental expenditures indicating that hospital care is ten times more expensive (\$6,498) than preventive treatment (\$660).⁸
- The American Dental Association rates the quality of evidence for the efficacy of fluoride varnish as high for preventing and controlling dental caries in the primary teeth of high-risk children and strongly recommends its use.⁹ In fiscal year 2007 the Georgia Oral Health Prevention Program provided fluoride varnish treatments to over 12,700 babies and/or children.
- Oral cancer is most often diagnosed in those over the age of 40. Tobacco use in all its forms is the number one risk factor. At least 75% of those diagnosed are tobacco users. Those who both smoke and drink, have a 15 times greater risk of developing oral cancer.¹⁰

This summary report presents the most current information available on the oral disease burden in Georgia including data from the Georgia Head Start Oral Health Survey, the Georgia 3rd Grade Oral Health Survey, Georgia Behavioral Risk Factor Surveillance System (BRFSS), and the Georgia Comprehensive Cancer Registry (GCCR). This report also highlights groups in our state that are at highest risk of oral health problems and discusses strategies to prevent these conditions and provide access to dental care. Comparisons are made with national data whenever possible and with the Healthy People 2010 Objectives when appropriate. It is hoped that this information will help raise awareness of the need for monitoring the oral health status of Georgians, and guide efforts to prevent and treat oral diseases resulting in enhanced quality of life and readiness to learn for all Georgia residents.

Key Findings

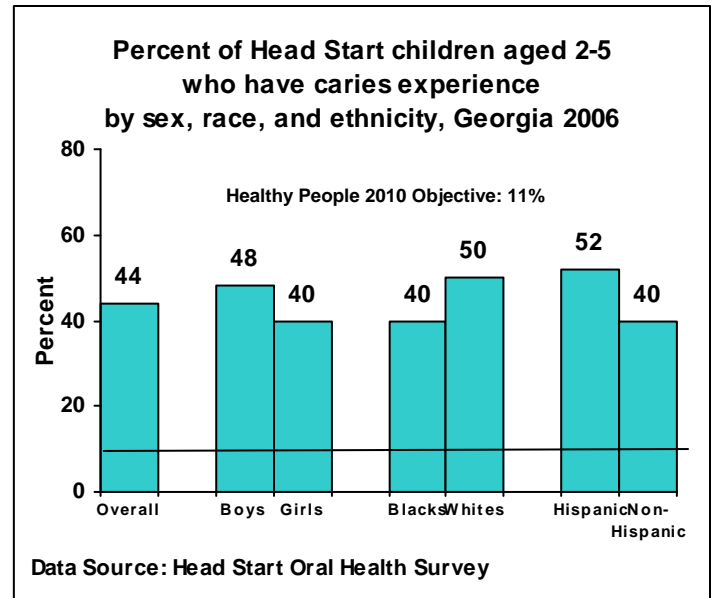
- 44% of 2 to 5 year old Georgia Head Start children surveyed have caries experience.
- 27% of 2 to 5 year old Georgia Head Start children surveyed have untreated dental decay.
- 30% of 2 to 5 year old Georgia Head Start children surveyed are in need of dental care.
- 20% of 2 to 5 year old Georgia Head Start children surveyed have white spot lesions.
- 23% of 2 to 5 year old Georgia Head Start children surveyed have early childhood caries.
- 56% of 3rd grade children in Georgia have caries experience.
- 27% of 3rd grade children in Georgia have untreated dental decay.
- 40% of 3rd grade children in Georgia have dental sealants.
- Adults with higher income are more likely to visit a dentist and to have their teeth cleaned than those with lower income.
- Adults aged 35-44 years with higher income are more likely to have all their natural teeth than adults aged 35-44 years with lower income.
- Adults aged 65-74 years with lower income are more likely to lose all their natural teeth due to dental decay or disease than adults aged 65-74 with higher income.
- The incidence of oral cancer in Georgia males is 2.6 times higher than in Georgia females.
- The death rate due to oral cancers among Black males is almost twice as high as the death rate due to oral cancers among White males.
- Whites have higher proportions of oral cancer diagnoses in earlier stages of disease progression than Blacks.

Conclusions

- Poor oral health is a significant public health problem among Georgia residents.
- The percentages of surveyed Head Start children aged 2-5 with caries experience and untreated dental decay do not meet the Healthy People 2010 Objectives.
- The percentages of 3rd grade children in Georgia with caries experience, untreated dental decay, and dental sealants do not meet Healthy People 2010 Objectives.
- Overall, Georgia adults meet the Healthy People 2010 Objectives for dental visits and tooth loss; however, lower income groups do not meet these objectives.

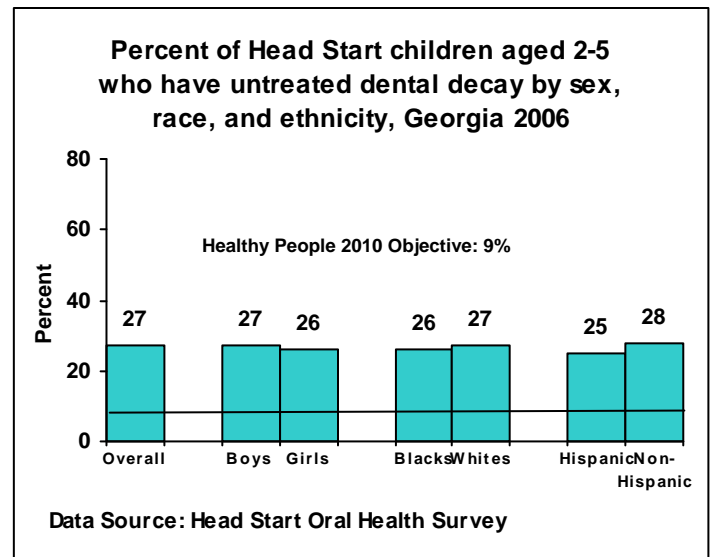
Caries Experience

- Dental caries is the most common chronic disease in children.¹
- Effective measures for prevention and treatment of childhood caries include community water fluoridation; appropriate use of fluoridated toothpaste; dental sealants; topical fluorides, including varnishes; and proper feeding of infants.¹
- Among children in Georgia Head Start who were surveyed:
 - Boys (48%) are more likely than girls (40%) to have caries experience.
 - White children (50%) are more likely than Black children (40%) to have caries experience.
 - Hispanic children are more likely to have caries experience (52%) than non-Hispanic children (40%).
- None of the groups meet the Healthy People 2010 Objective of 11%.



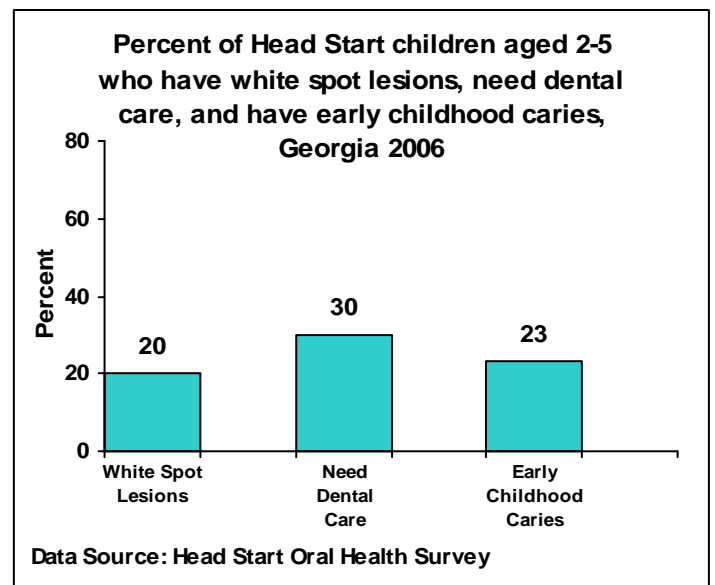
Untreated Dental Decay

- Untreated tooth decay can result in pain and tooth loss.
- Among children in Georgia Head Start who were surveyed:
 - Boys (27%) are as likely as girls (26%) to have untreated dental decay.
 - White children (27%) are as likely as Black children (26%) to have untreated dental decay.
 - Hispanic children are more likely to have untreated dental decay (28%) than non-Hispanic children (25%).
- None of the groups meet the Healthy People 2010 Objective of 9%.



White Spot Lesions, Need Dental Care, Early Childhood Caries

- Unmet dental need can compromise children's ability to grow and to function, including their ability to learn, to develop positive self-esteem, to eat, and to speak.¹
- Among children in Georgia Head Start who were surveyed:
 - 20% of children had white spot lesions
 - 30% of children were in need of dental care.
 - 23% of children had early childhood caries.

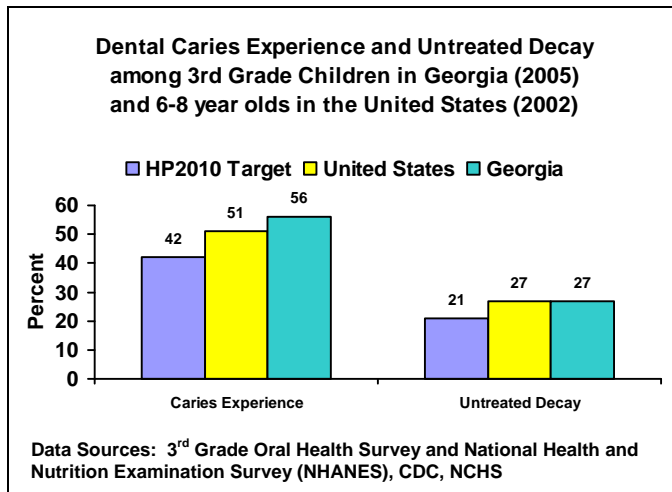


*Data are from a combined data set of a random sample and a convenience over-sample of Hispanic children.

Oral Health of Georgia Third Grade Children Enrolled in Public Schools

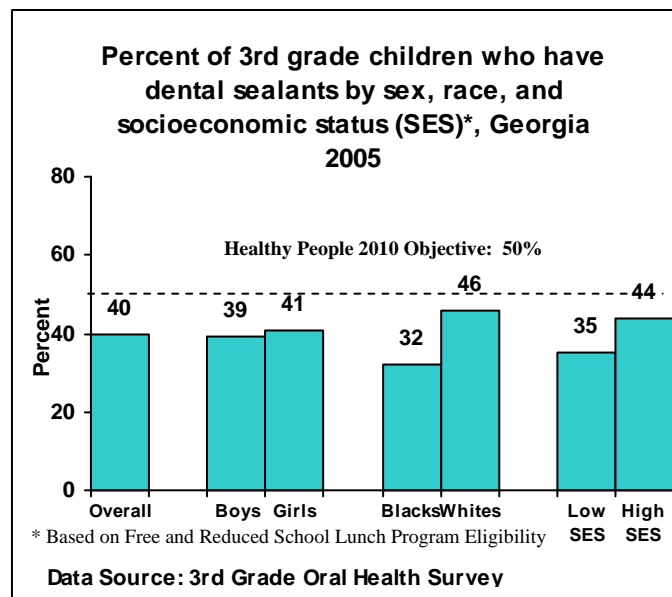
Dental Caries Experience and Untreated Decay

- More than half (56%) of all surveyed third grade students in Georgia have caries experience and more than a quarter (27%) have untreated decay.
- Georgia (56%) has a higher percentage of children with dental caries experience than the national average (51%).¹¹
- The percentage of third grade children from Georgia with caries experience (56%) does not meet the Healthy People 2010 Objective (42%) for caries experience.
- The prevalence of untreated decay among Georgia third grade children (27%) is comparable to the national prevalence among children 6-8 years old (27%).^{11,12}
- The percentage of third grade children from Georgia with untreated dental decay (27%) does not meet the Healthy People 2010 Objective (21%).



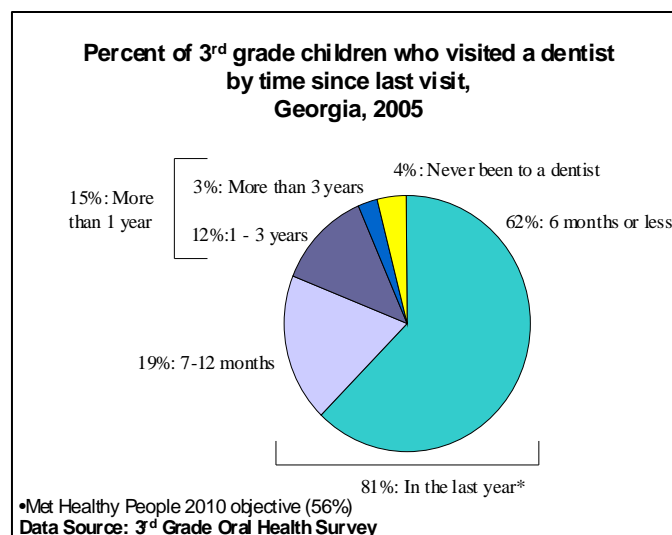
Dental Sealants

- Sealants prevent tooth decay by creating a barrier between tooth enamel and decay-causing bacteria.¹
- Among 3rd grade children in Georgia:
 - White children (46%) are more likely to have dental sealants than Black children (32%).
 - Children from high socioeconomic status (SES) (44%) are more likely to have dental sealants than children from low SES (35%).
 - None of the sex, race, and SES groups meet the Healthy People 2010 Objective of 50% for dental sealants.



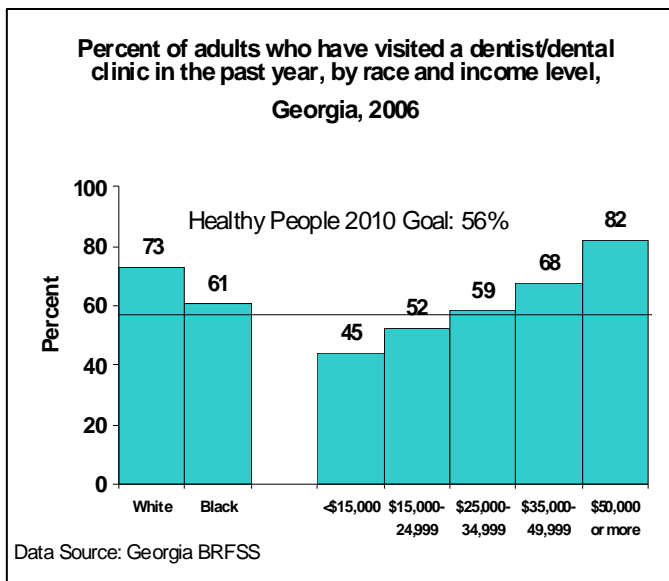
Dental Visits

- Regular preventive care, water fluoridation, use of topical fluorides and varnishes, and dental sealants are important tools for reducing the burden of oral disease.
- 81% of third grade children in Georgia visited a dentist in the past year, which exceeds the Healthy People 2010 goal of 56%.
- 15% of third grade children last visited a dentist more than one year ago.
- 4% of Georgia third grade children have never been to a dentist.



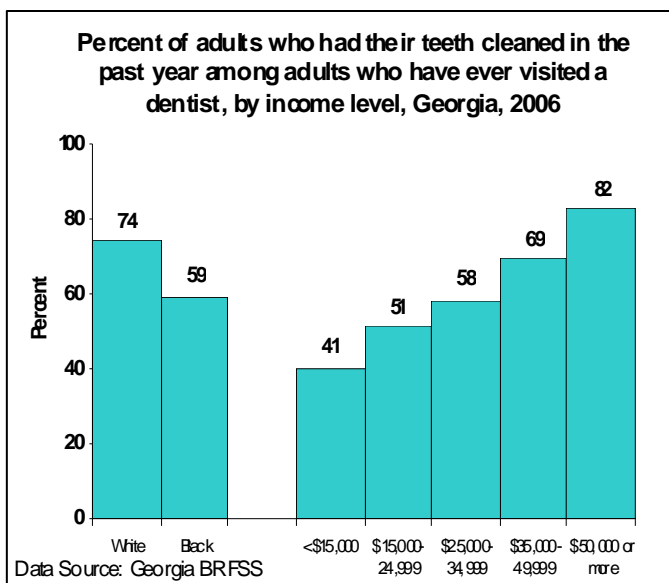
Dental Visits

- Regular dental visits are important for adults as well as for children. Like children, adults can experience tooth decay (caries), and additionally may develop caries on root surfaces as these areas become exposed to bacteria and carbohydrates as a result of gum recession.¹³
- Overall, 69% of adults visited a dentist or a dental clinic in the past year.
- White adults (73%) are significantly more likely to have visited a dentist or a dental clinic in the past year than Black adults (61%).
- The percentage of adults who visited a dentist or dental clinic during the past year increased with increasing income level.



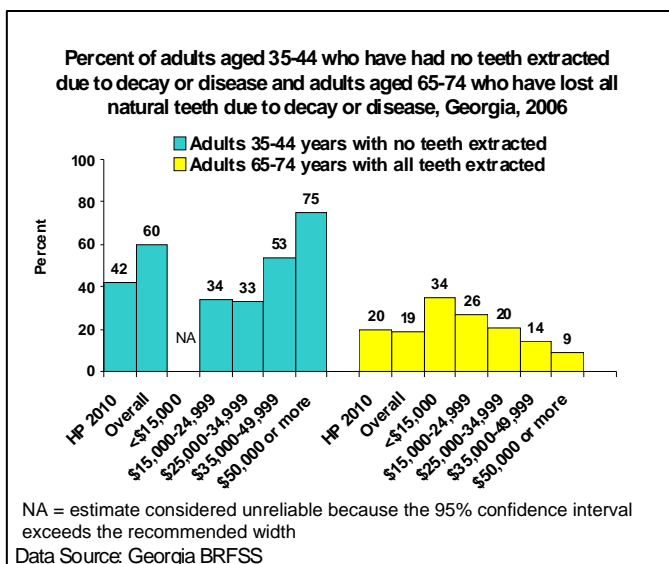
Dental Cleanings

- Overall, 70% of adults who had ever visited a dentist had their teeth cleaned in the past year.
- Among adults who had ever visited a dentist, White adults (74%) were significantly more likely to have had their teeth cleaned in the past year than Black adults (59%).
- Among adults who had ever visited a dentist, the percentage of adults who have had their teeth cleaned in the past year increased with increasing income level.



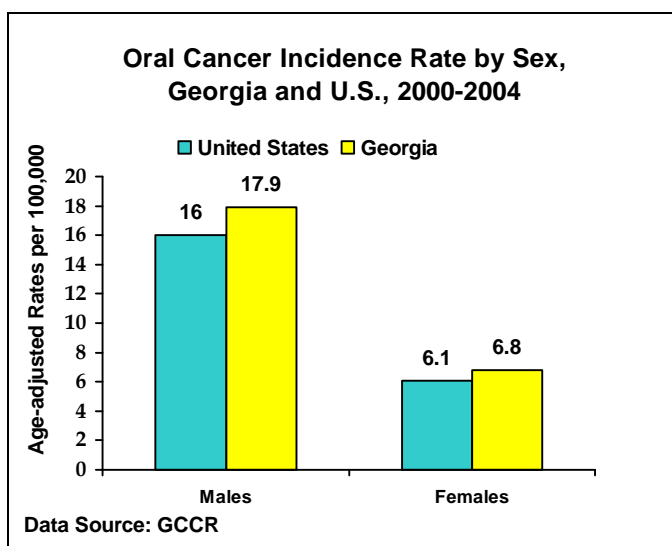
Tooth Loss

- The percentage of adults aged 35-44 years who have lost no teeth due to decay or disease increases with increasing income level.
- The percent of adults aged 65-74 years who have lost all natural teeth due to decay or disease decreases with increasing income level.
- Adults with an annual household income greater than \$50,000 are most likely to have had no teeth extracted (75%) at ages 35-44 and are least likely to have lost all of their natural teeth at ages 65-74 (9%).
- Adults aged 65-74 years with an annual household income of less than \$15,000 are most likely to have lost all of their natural teeth (34%).



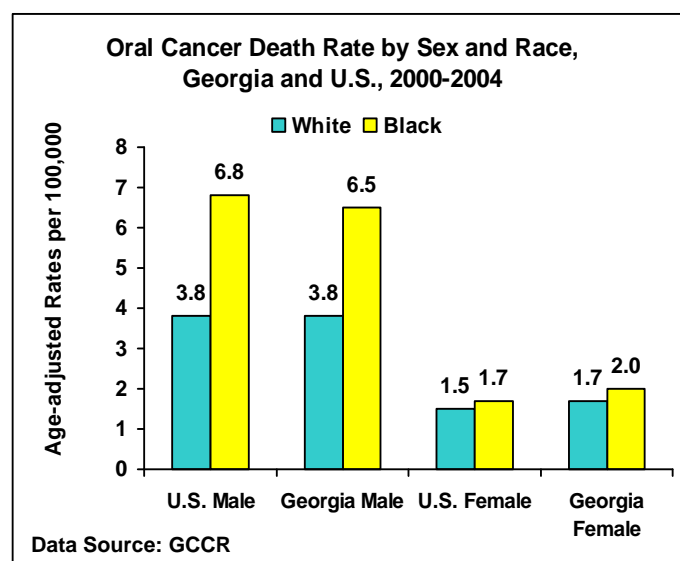
Oral Cancer Incidence Rate

- Cancer of the oral cavity or pharynx (oral cancer) is the fourth most common cancer in Black males and the seventh most common cancer in White males in the United States.¹⁰ 75% of all head and neck cancers begin in the oral cavity.¹⁴
- Estimates of the percentage of oral cancers due to cigarette smoking have been within the range of 75% to 90%.^{12,15-18} The risk of developing oral cancer is 15 times greater among individuals who combine tobacco use with heavy alcohol use than among non-users of tobacco and alcohol products.¹⁹
- The most common sites of oral cancer are on the tongue (30%), lip (17%), and floor of the mouth (14%). Ninety percent of oral cancers are squamous cell carcinomas.¹⁹
- In Georgia, males (17.9 per 100,000) have a higher incidence of oral cancer than females (6.8 per 100,000).
- The incidence of oral cancer among males in Georgia (17.9 per 100,000) is higher than the incidence of oral cancer among males in the United States (16.0 per 100,000).



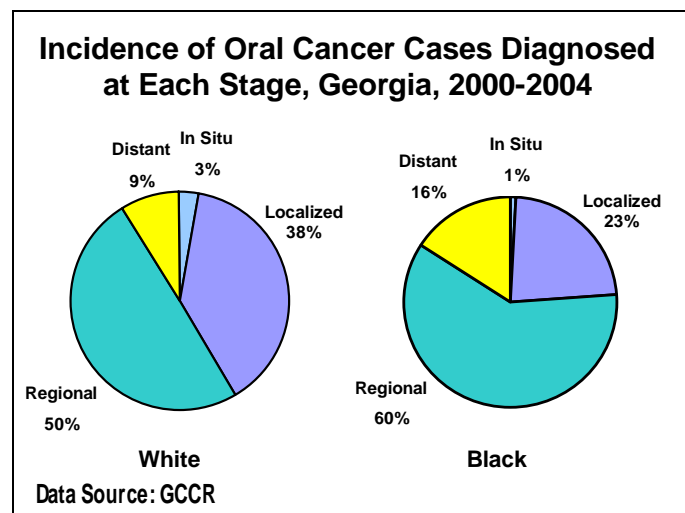
Oral Cancer Death Rate

- The nation's oral cancer death rate is higher than that of cervical cancer. Survival rates have not significantly improved in decades.¹⁹
- More than 40% of persons diagnosed with oral cancer die within five years of diagnosis, although survival varies widely by stage of disease when diagnosed.¹⁰
- The oral cancer death rates among males in the United States (4.1 per 100,000) and in Georgia (4.3 per 100,000) are higher than those among U.S. females (1.5 per 100,000) and Georgia females (1.8 per 100,000).
- Black males have a higher oral cancer death rate than White males in both the U.S. and Georgia.



Cancer Stage Diagnosed

- Oral screenings, or inspections of the lips, tongue, and overall head and neck anatomy, provide an opportunity for early detection and referral for further care, which may prevent progression of a disease that often goes undetected.
- The 5-year survival rate for oral cavity and pharynx cancer is 92.1% if diagnosed in the localized stage, 48.1% if diagnosed in the regional stage, and 24.9% if diagnosed in the distant stage.²⁰
- In Georgia during 2000-2004, oral cancer was most commonly diagnosed in the regional stage (52%) and least commonly diagnosed in situ (2%), regardless of race.
- Blacks had a considerably larger percentage of cases diagnosed in the regional (60%) and distant stages (16%) than Whites (50% in regional stage and 9% in distant stage).
- Whites (38%) had a larger proportion of cases diagnosed in the localized stage than Blacks (23%).
- Blacks have a higher proportion of oral cancers diagnosed in later stages of disease progression than Whites.



Definitions

Cancer stages¹⁴:

In situ – Early cancer that is present only in the layer of cells in which it began

Localized – Cancer that is limited to the organ in which it began, without evidence of spread

Regional – Cancer that has spread beyond the original (primary) site to nearby lymph nodes or organs and tissues

Distant – Cancer that has spread from the primary site to distant organs or distant lymph nodes

Oral health indicators^{21,22}:

Tooth Decay (Caries) – A biofilm-mediated acid demineralization of enamel or dentin. A cavity/decay is detected when a screener for a survey can readily observe a loss of at least 1/2 mm of tooth structure at the enamel surface and brown or dark-brown coloration of the walls of the cavity. Brown staining of the walls of the cavity may not be present for cervical caries (at the gum line) or in cavities of a very young child.

Untreated Decay – Includes any visible tooth decay, broken/chipped teeth with visible decay, and retained roots of decayed teeth.

Caries Experience – Includes untreated decay and the presence of amalgam and/or composite fillings, temporary restorations, crowns, and teeth missing because of decay.

White Spot Lesions (WSL) – Considers only the six maxillary anterior (upper front) teeth and is defined as white spots found only at the cervical 1/3 of the tooth, with or without a break in the enamel surface, and with or without brown staining. The presence of WSL identifies a child as being “at risk for Early Childhood Caries (ECC)”

Early Childhood Caries (ECC) - At least one of the six maxillary anterior primary teeth is decayed, filled or missing due to caries in a child who is 6 years of age or younger (2-5 years of age was used for the GHSOH survey). ECC is sometimes referred to as “Baby Bottle Tooth Decay”, but may be due to causes other than the use of a baby bottle.

Methods

The Burden of Oral Disease: A Tool for Creating State Documents¹³ developed by the National Center for Chronic Disease Prevention and Health Promotion (CDC) assisted preparation of this summary report. This resource tool may be viewed at <http://www.cdc.gov/OralHealth/library/burdenbook/index.htm>.

Head Start Oral Health Survey: Data were collected in 2006 from a statewide systematic sample of 30 Head Start Centers, screening 2 classrooms per center, resulting in a sample size of approximately 1,080 children. In addition, a convenience sample of Hispanic children from classrooms at Gainesville and Lyons centers were screened to increase the number of Hispanic children to 314. Data on all children screened were combined. Combining data from the systematic sample with data from a convenience sample may have changed how well the results represent the overall population of children enrolled at Head Start Centers in Georgia.

Third Grade Oral Health Survey: In 2005, 2,961 children from 57 randomly selected public schools in Georgia with 25 or more students were screened. Completed parent questionnaires were gathered for 2,363 children. Data from both the parent questionnaire and screening were available for 2,326 children.²³

<http://health.state.ga.us/pdfs/familyhealth/oral/2005GeorgiaThirdGradeSurveyApril2006.pdf>

Georgia BRFSS: In 2006, approximately 630 Georgia residents age 18 and older from residential households were randomly selected and interviewed each month by telephone about health conditions, behaviors, and the use of preventive services. The total sample size was 7,560. Data from monthly surveys were combined and weighted to represent the age-, race/ethnicity-, and sex-distribution of the adult population in Georgia and to adjust for the individual's probability of selection.²⁴

<http://health.state.ga.us/epi/brfss/index.asp>

GCCR: The Georgia Comprehensive Cancer Registry (GCCR) is a statewide population-based cancer registry collecting data on all cancer cases diagnosed among Georgia residents since January 1, 1995. Analyses in this report are limited to data collected during 2000-2004.²⁵ <http://health.state.ga.us/programs/qccr/>

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For more information and resources about programs to address oral health in Georgia, please visit the Oral Health Section web pages at <http://health.state.ga.us/programs/oral/> or contact Linda L. Koskela RDH, MPH, Director, GA Oral Health Prevention Program 2 Peachtree Street, NW, 11-105 Atlanta, GA 30303-3142 (404)-463-2449, llkoskela@dhr.state.ga.us

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