

**SURVEY OF  
THE ORAL HEALTH STATUS OF  
MARYLAND SCHOOL CHILDREN  
2005-2006**

**University of Maryland Dental School**

**SURVEY OF THE ORAL HEALTH STATUS OF MARYLAND SCHOOL CHILDREN  
2005-2006**

Richard J. Manski, D.D.S., M.B.A., Ph.D.  
Haiyan Chen, M.D., Ph.D.  
Ronald R. Chenette, D.M.D., M.P.H.  
Susan Coller, M.A.

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Dental School, University of Maryland  
650 West Baltimore Street  
Baltimore, Maryland 21201

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## Executive Summary

This “Survey of the Oral Health Status of Maryland School Children, 2005-2006” is a dental evaluation of the State’s public school children in kindergarten and 3rd grade. It consists of a simple oral screening and a brief oral health questionnaire. The Survey is a follow-up to the 1995-1996 and the 2000-2001 surveys and is designed to assess the current status of oral health among Maryland school children. The Survey will also serve as a benchmark reference to assess current program progress, provide a basis for an ongoing temporal oral health surveillance system and facilitate child oral health related public program planning.

Survey highlights include:

- Approximately, 31% of school children in Kindergarten and Grade 3 had at least one tooth with dental caries.
- School children in Kindergarten and Grade 3 residing on the Eastern Shore were more likely to have at least one tooth with dental caries than similar children residing in Southern Maryland or Western Maryland.
- Non-Hispanic Black school children in Kindergarten and Grade 3 were more likely to have at least one tooth with dental caries than Non-Hispanic White children.
- Non-Hispanic Black school children in Kindergarten and Grade 3 were less likely to have at least one tooth with a dental sealant than Non-Hispanic White children.
- Other characteristics of school children with at least one tooth with dental decay:
  - Living in households eligible for free and reduced meals;
  - With a parent/caregiver who did not graduate from college;
  - Covered by Medicaid dental coverage
  - No private dental insurance coverage;
  - Prior dental caries experience in the past 12 months;
  - No treatment for dental caries in the past 12 months.
- Other characteristics of school children without any dental sealants:
  - Living in households eligible for free and reduced meals;
  - Covered by Medicaid dental coverage;
  - No dental visit in the past 12 months;
  - No treatment for dental caries in the past 12 months.

A more detailed list of Survey Finding follow:

# Survey Findings

Dental Caries	Dental Sealants
<ul style="list-style-type: none"> <li>Approximately 31% of school children in Kindergarten and Grade 3 had at least one tooth with dental caries.</li> </ul>	<ul style="list-style-type: none"> <li>Approximately 27% of school children in Kindergarten and Grade 3 had at least one tooth with a dental sealant.</li> </ul>
<ul style="list-style-type: none"> <li>School children in Kindergarten and Grade 3 residing on the Eastern Shore were more likely to have at least one tooth with dental caries than similar children residing in Southern Maryland or Western Maryland.</li> </ul>	<ul style="list-style-type: none"> <li>School children in Kindergarten and Grade 3 residing on the Eastern Shore and in Central Baltimore were less likely to have at least one tooth with a sealant than similar children residing in Western Maryland or Central DC.</li> </ul>
<ul style="list-style-type: none"> <li>Non-Hispanic Black school children in Kindergarten and Grade 3 were more likely to have at least one tooth with dental caries than Non-Hispanic White children.</li> </ul>	<ul style="list-style-type: none"> <li>Non-Hispanic Black school children in Kindergarten and Grade 3 were less likely to have at least one tooth with a dental sealant than Non-Hispanic White children.</li> </ul>
<ul style="list-style-type: none"> <li>School children in Kindergarten and Grade 3, eligible for free or reduced meals, were more likely to have at least one tooth with dental caries than children ineligible for free or reduced meals.</li> </ul>	<ul style="list-style-type: none"> <li>School children in Kindergarten and Grade 3 eligible for free or reduced meals were less likely to have at least one tooth with a dental sealant than children ineligible free or reduced meals.</li> </ul>
<ul style="list-style-type: none"> <li>School children in Kindergarten and Grade 3 with a parent/caregiver who did not graduate from college were more likely to have at least one tooth with dental caries than children with a parent/caregiver who did graduate from college.</li> </ul>	<ul style="list-style-type: none"> <li>There were no statistically significant differences in the likelihood of having at least one tooth with a dental sealant among school children in Kindergarten and Grade 3 by parent/caregiver education.</li> </ul>
<ul style="list-style-type: none"> <li>School children in Kindergarten and Grade 3 with Medicaid or no dental coverage were more likely to have at least one tooth with dental caries than children with private dental coverage.</li> </ul>	<ul style="list-style-type: none"> <li>School children in Kindergarten and Grade 3 with Medicaid coverage were less likely to have at least one tooth with a dental sealant than children with private dental coverage.</li> </ul>
<ul style="list-style-type: none"> <li>There were no statistically significant differences in the likelihood of having at least one tooth with dental caries among school children in Kindergarten and Grade 3 with or without a dental visit in the past twelve months.</li> </ul>	<ul style="list-style-type: none"> <li>School children in Kindergarten and Grade 3 with dental visit in the past twelve months were more likely to have at least one tooth with a dental sealant than children without a visit in the past twelve months.</li> </ul>
<ul style="list-style-type: none"> <li>School children in Kindergarten and Grade 3 with reported dental caries in the past twelve months were more likely to have at least one tooth with dental caries than children with no reported dental caries in the past twelve months.</li> </ul>	<ul style="list-style-type: none"> <li>There were no statistically significant differences in the likelihood of having at least one tooth with a dental sealant among school children in Kindergarten and Grade 3 by reported dental caries in the past twelve months.</li> </ul>
<ul style="list-style-type: none"> <li>School children in Kindergarten and Grade 3 not treated for dental caries in the past twelve months were more likely to have at least one tooth with dental caries than children who were treated for dental caries in the past twelve months.</li> </ul>	<ul style="list-style-type: none"> <li>School children in Kindergarten and Grade 3 not treated for dental caries in the past twelve months were less likely to have at least one tooth with a dental sealant than children who were treated for dental caries in the past twelve months.</li> </ul>

## Acknowledgements

The *Survey of the Oral Health of Maryland School Children* is a multi year project started in 2005. We would like to take this opportunity to thank a number of key people who were involved with the study. They provided the technical expertise, data collection and administrative support that made the *Survey* so successful.

First, we would like to thank the Office of Oral Health, State of Maryland Department of Health and Mental Hygiene (DHMH) which provided the funding for this project. We wish to highlight the contributions of Ms. Kelly Sage, MS, Director, Office of Oral Health and Ms. Ilise D. Marrazzo, MPH, former Director, Office of Oral Health, Maryland Department of Health and Mental Hygiene. Ms. Sage and Ms. Marrazzo were very responsive to our requests and provided guidance whenever necessary. Their direction and willingness to assist us is greatly appreciated.

At the local county level, we would like to extend our appreciation to the school supervisors, principals, nurses, teachers, aides and staff who participated in the project for their assistance and support. Without their contribution, the *Study* would never have been possible.

Also, we would like to thank the dental examiners. We commend Doctors Ronald Chenette, Brandt Foster, Sean Noonan, Olga Pulgar-Vidal and Travis Weeks for their enthusiasm and dedication to the project.

Dr. Haiyan Chen was responsible for the sample selection process, analysis and overall study design. Her effort and contribution was critical to the success of the study.

We would like to acknowledge the contributions of Ms. Susan Coller who served as Program Manager and as a data recorder.

Special thanks to Ms. Darlene Watkins and Ms. Carol Stillwell from the University of Maryland Dental School who provided administrative support and attended to many details associated with this project.

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## **Background and Purpose**

On April 15, 2005, the Family Health Administration, Office of Oral Health, Maryland Department of Health and Mental Hygiene, contracted with the Department of Health Promotion and Policy, University of Maryland, Baltimore, Dental School, to perform the *Survey of the Oral Health Status of Maryland Public School Children 2005-2006*.

This survey of Maryland public school children is a follow-up to the 1995-1996 and the 2000-2001 Maryland public school children surveys of oral health status. The current project uses a methodology that was adapted from the 1995-1996 and 2000-2001 studies and provided a basis for the development of a temporal oral health surveillance system.

The Survey is a dental evaluation of the State's public school children in kindergarten and 3rd grade. It consists of a simple oral screening and a brief oral health questionnaire. The Survey is designed to fulfill a State mandate which requires the collection of oral health data of Maryland's public school children to facilitate personnel and public program planning and funding allocation. Specifically, this Survey will be used to determine if any progress has been made since the last oral health needs assessment (2000-2001) and to assess the current status of oral health and related issues, such as access to preventive modalities and treatment services.

The *Survey* is a three year project. The first year's activities were comprised of planning for the survey including designing the project, hiring personnel, purchasing equipment and supplies, developing materials, contacting county school superintendents and scheduling visits with appropriate local school personnel. The second year's activities were comprised of fielding the survey (including onsite screenings), questionnaire dissemination and data collection. The third and final year's activities consist of data analyses, report production and preparation of manuscripts for dissemination. A final report will be complete and submitted to DHMH January 2008.

## METHODS

The Survey of the Oral Health Status of Maryland School Children, 2005-2006, consisted of two parts; an oral screening (Part One) and a health survey (Part Two). Part One included primary assessments including dental caries, existing restoration and dental sealants. Part One also included a secondary overall assessment of anticipated and general oral health treatment needs. Part Two was a self administered questionnaire, completed by a parent or guardian, designed to collect demographic characteristics.

### Sample Design:

The Survey of the Oral Health Status of Maryland School Children, 2005-2006 employed a complex, multi-stage probability sample design. Specifically, a two-stage sampling design was used to select the study sample. The first stage involved the selection of 50 public elementary schools from five geographic regions throughout Maryland (Map 1). Seventeen counties plus Baltimore City were included in the sample. The second stage involved the selection of all children in the 50 schools who were enrolled in kindergarten and third grades.

Methods employed anticipated a sampling of approximately 5,000 students from kindergarten and grade 3 of Maryland public elementary schools. The rationale for this sample size is as follows: Assuming that the average prevalence of decay is 50%, the type I error rate is 0.05, and given the sample size of 1,000 to 3,000, this study would have 0.80 of power to detect 5% to 10% of differences from the average prevalence of decay. Then, assuming that the survey response rate is 50%, this study would need approximately 2,000 students to be recruited. On average, there are four kindergarten and grade 3 classes in each school with 25 students per class. A total of 50 schools were selected for this survey.

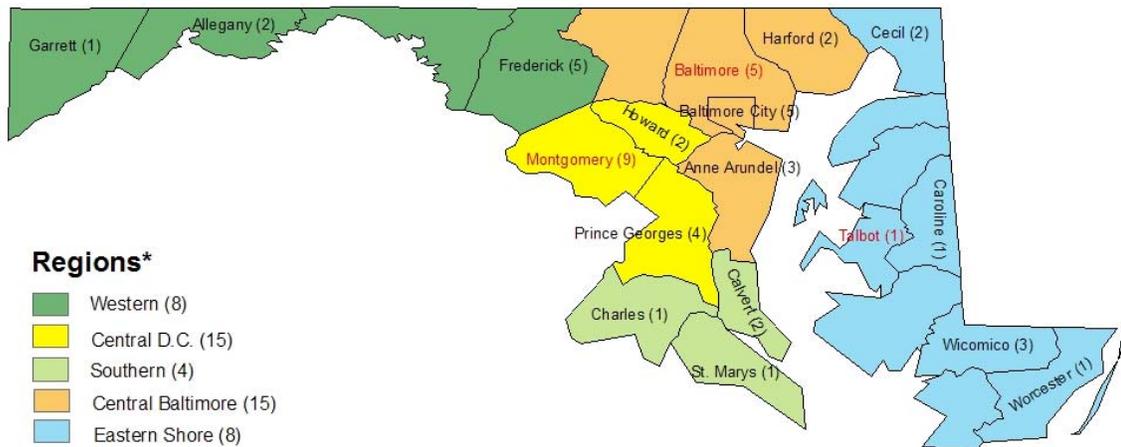
Twenty-four counties of Maryland are classified into five different regions. Table I lists regions and constituent counties. These five regions can be further classified into two municipalities: Urban (including regions II and IV) and Rural (including regions I, III, and V). The first stage of survey sampling involved the selection of elementary schools from each of the different municipalities of Maryland. The number of schools selected from each municipality was predefined as 20 schools for Rural and 30 schools for Urban by comprehensively considering such factors as population size, cost of survey, response, and geographic areas. The population proportion to size (PPS) sampling method was used to independently select 20 schools for Rural municipality and 30 schools for Urban municipality. This yielded 50 schools from 17 counties plus Baltimore City for the state. Map I shows sampled counties and number of schools in a county. Once a school was selected, we included all children in classrooms of kindergarten and grade 3 in that school as part of the second stage of the sampling design.

**Table I: Region identifiers and constituent counties, Maryland, 2005-2006**

Number	Name	Constituent counties
I	Western	Allegany, Frederick, Garrett, Washington
II	Central D.C.	Howard, Montgomery, Prince George's
III	Southern	Calvert, Charles, St. Mary's
IV	Central Baltimore	Anne Arundel, Baltimore City, Baltimore County, Carroll, Harford
V	Eastern Shore	Caroline, Cecil, Dorchester, Kent, Queen Anne's, Somerset, Talbot, Wicomico, Worcester

SOURCE: Survey of the Oral Health Status of Maryland School Children, 2005-2006

**Map I: Sampled counties by region, Maryland, 2005-2006\***



SOURCE: Survey of the Oral Health Status of Maryland School Children, 2005-2006

\* Only sampled counties are labelled on map. Numbers in parenthesis are numbers of schools sampled either from the county or the region. Labels in red on map are sampled counties that declined to participate.

### Sample Weights:

We applied sample weights to the participants of the Survey of the Oral Health Status of Maryland School Children, 2005-2006 so that the sample would be representative of all Maryland public school children in kindergarten and grade 3. Sample weights accounted for multiple factors, including: 1) number of schools in each municipality; 2) number of children in each school; 3) number of children in the State; 4) response rates in each school; and 5) response rate in each region.

### Project Manager:

A Project Manager was hired to ensure coordination of the project. The Manager's qualifications included over 20 years experience in administering Federal and State grants. Her responsibilities consisted of contacting state and local school officials, scheduling, making agreements to conduct the study, coordinating the training of the dental examiners, ensuring the data was collected and coded properly, arranging for equipment and supply purchases, developing materials and providing the Office of Oral Health with timely reports as needed.

### Communicating with the Local Superintendents:

The Project Manager identified each of the County Superintendents, wrote a letter of introduction and provided a description of the project including sample materials that were to be sent to the schools. The purpose of the letter was to introduce the study, request permission to conduct the screening and to schedule visits in their local school districts. Along with the letter of introduction was a letter of support written by the Secretary of the State Department of Health and Mental Hygiene and a flyer entitled *Highlights*. The flyer, developed for the project, provided statewide statistics from the previous *Surveys*, and called attention to oral health problems that were found in elementary school children, especially those in the third grade.

Once the superintendents agreed to participate in the project, we asked for the identification of an appropriate contact at each target school. Our initial timeline called for this portion of the project to be complete by the end of June corresponding with the end of the school year. Unfortunately, reaching people was challenging during the summer months since a number of the key staff were away or out of the office at this time. There were additional problems reaching the contact people in mid to late August as they were often busy planning for the new school year, attending meetings or otherwise unavailable to take our calls.

## Dental Screening:

Subsequent to the approval and support of the local superintendent and school Principal, the Project Manager scheduled dental teams to visit each school. Each dental team consisted of a dental examiner(s) and a recorder(s). Prior to the agreed upon scheduled date, the Project Manager prepared and forwarded a list of required items (e.g. a private and well-lit area to perform the screening exam, two tables, chairs, an electrical outlet for the dentist's head lamp and a trash can) and a packet of survey materials. In addition, we requested assistance in bringing children to the dental screening area and the identification of a designated contact person in each school (Supply Request List, Appendix 1).

Four dentist examiners and two dental student recorders were recruited to help conduct the oral screening component of the study. Prior to the visits, the dentist examiners and recorders were trained on the oral screening component, parameters of recognizing dental conditions, entering data on the screening recording form (Examination Form, Appendix 2) and completing a report card (Report Card, Appendix 3) A total of 1,292 completed oral screenings took place.

The lead dental examiner was present during each dentist's first on site session providing training, guidance and oversight to ensure accurate examinations. The screenings were performed by Maryland licensed dentists who were affiliated with the University of Maryland Dental School. Each dentist used a portable dental chair and wore a head lamp. Supplies included disposable dental mirrors, mouth masks, safety glasses, gauze, disinfectant, and vinyl gloves. Strict safety procedures were followed.

As the dentist examined a child's mouth, findings were conveyed to the recorder who entered the information by hand on a recording form. Each child who was screened received a toothbrush for participating, two oral health related puzzles and a report card to bring home to a parent or guardian.

The report card was a tri-part form primarily used to report the overall screening results to the child's parent/guardian in terms of treatment need. Treatment needs were categorized as immediate treatment necessary, non-urgent treatment needed that could occur during the next regularly scheduled dental visit and no treatment needed. One copy was given to the child after the screening, one was kept by the Project Manager for the project files and the third was given to the school nurse or school contact person for their records.

The examiners identified a number of children who needed urgent treatment due to multiple caries, extensive caries or other oral health issues. Before leaving the school, the Project Manager brought the report cards for these children to the attention of the nurse or school contact person. She stressed the need for follow-up communication with the parent/guardian as well as referrals to a community location if the children did not visit a health professional on a regular basis. Each school nurse or representative

was provided a dental care access resource guide developed and disseminated by DHMH.

#### Materials Designed for the Project:

Prior to contacting the local school superintendents, there were a number of materials that had to be developed specifically for this project. These included an anonymous survey questionnaire that was to be completed by the parents/guardians, a brochure that would explain the project to parents/guardians, a two page consent form that parents/guardians were required to sign in order for their child to participate, an exam form to be completed by the dental examiners and a report card to also be completed by a dentist examiner. (Survey Questionnaire, FAQ Brochure and Consent Form, see Appendices 4, 5a, 5b & 6).

A distinctive packet consisting of a white 9x12 envelope with a bright red border was developed to contain all materials sent home with a child. The outside of the packet included a short letter addressed to the parents/guardians providing an overview of the study. Inside the packet were two copies of the consent form, an anonymous survey and a Frequently Asked Questions (FAQ) brochure. In addition to the consent form, parents were also required to check one of three boxes corresponding to their level of interest in this study and their willingness to allow their child to participate. The front cover also included instructions to parents/guardians asking them to sign and return one consent form to the school in the envelope. (Envelope, see Appendix 7).

The *Frequently Asked Questions* brochure was designed to provide family members with additional information about the project in an easy to understand format. Also included was a brief anonymous and voluntary questionnaire designed to capture dental visit history, dental insurance status, access to care and oral disease risk behavior data. Parents/guardians were asked to complete the anonymous survey and return it in the provided envelope regardless of whether their child would participate in the screening examination. In order for a child to participate in the actual screening a signed consent form was also required to be returned in the envelope. The envelope was sealed to protect the confidentiality of the materials and returned to the school.

All developed materials were submitted to, reviewed and approved by the Institutional Review Boards (IRB) of the State Department of Health and Mental Hygiene and the University of Maryland.

Packages were sent from the Dental School to each school by a delivery service or hand delivered about three weeks prior to each school visit. School officials were responsible for providing the Project Manager with the number of packets that were needed. Generally, the envelopes were distributed by the teachers when they arrived, and the children were asked to bring the completed forms back as soon as possible. Additional copies were sent in the event any envelopes were lost or if school officials wanted copies for their files.

The contact person for distribution of the materials varied from school to school. Often it was the school nurse working with the teachers in kindergarten and the 3<sup>rd</sup> grade; however, in some cases, the principal, vice principal or a member of the staff took on this responsibility.

### Screening Criteria:

This examination was designed to be a tooth level survey using modified examination criteria established by Macek (Macek, 2004) for use during the 2000-2001 Survey of the Oral Health Status of Maryland School Children. Macek's dental caries assessment was based on criteria developed by Radicke (Radicke, 1972) but modified to eliminate the "extraction indicated" code for the primary dentition and modified to introduce the use of a periodontal probe as a guide to the presence of dental caries. Our adaptation to Macek's criteria was to focus and evaluate dental conditions at a tooth level rather than at a surface level. Examination criteria were also defined and adapted utilizing guidelines described in Oral Health Surveys of the National Institute of Dental Research, Diagnostic Criteria and Procedures (NIH Publication No. 91-2870, January 1991).

Each tooth was defined as being primary, permanent or missing. Scoring a tooth as primary or permanent was based on tooth morphology, anticipated eruption patterns and the child's age. A tooth was considered present and able to be scored if the entire incisal edge or occlusal surface was visible. If the entire incisal or occlusal surface was not visible, the tooth was marked as missing. For each tooth location, if both permanent and primary teeth were present, only the permanent tooth was scored.

If present, the tooth was assessed for caries using visual cues only. Caries was defined as present if cavitation of the tooth was present. The cavitation needed to measure at least 0.5 mm in diameter. If the cavitation of the suspected lesion did not measure 0.5 mm, the tooth was considered to be sound. A World Health Organization periodontal probe with a 0.5 mm ball on the tip was used whenever needed, to confirm minimal size requirements.

Each tooth was examined for the presence of sealants. Examiners were instructed to use visual and tactile clues for assessing the presence of sealants and were instructed to use the periodontal probe to assist in verification of the presence of clear sealants. Visual clues were used to differentiate between an occlusal resin placed as a restoration versus a sealant. If it appeared that the tooth had both a resin restoration and a sealant, the tooth was scored as having both present. If a resin restoration was completely covered by a sealant, making it difficult or impossible to distinguish as a restoration, it would be scored as a sealant.

Finally, each tooth was also examined for restorative materials. Visual clues were used to detect the presence of amalgam, composite, stainless steel crowns, cast restorations, or other restorative materials.

In the absence of caries, restorative material, or sealant material, the tooth was scored as OK. This designation indicates the absence of each of the three conditions.

In addition to having none of the three conditions (caries, restorative material, or sealant) each tooth could have multiple conditions, in any combination. Thus a tooth may have had: caries only; caries plus sealant; caries plus restoration; caries plus sealant plus restoration; sealant only; sealant plus restoration; or restoration only.

The screening protocol was standardized for all examiners. Each examiner used identical mobile dental chairs, headlamps, equipment and supplies. Disposable World Health Organization periodontal probes were used to determine whether pits, fissures and voids in the surface of the tooth were larger than 0.5 mm.

#### Calibration and reliability assessments

Four dental examiners provided dental screenings during the study, including the lead examiner who was considered the standard examiner. A general training session was held during which each examiner received information about performing an oral screening, details of the specific scoring criteria to be utilized, the standard format for examining each subject, the required parental consent form, the equipment and supplies to be used during the screening and the procedure to transfer and record data on the subject screening form. Each examiner was also supervised during their initial screening session by the lead examiner. Any inconsistency with protocol was noted and discussed.

The lead examiner was present with the Principle Investigator during the first three screening sessions. The appropriateness and manageability of the defined screening criteria and procedure were observed and verified. The lead examiner similarly observed each of the other two examiners during each of their first screening sessions. The lead examiner also attended subsequent screening sessions.

The lead examiner examined 378 children representing 30% of the total number of children examined.

The first examiner (P.I.) examined 402 children representing 31% of the total number of children examined.

The second examiner examined 110 children representing 9% of the total number of children examined.

The third examiner examined 388 children representing 30% of the total number of children examined.

The lead examiner was present, either as examiner or observer, at 18 schools, representing 51% of the total number of screening sessions.

To determine intra- and Inter- examiner reliability, the four examiners independently diagnosed conditions of 23 teeth on 10 slides on two occasions separated by a 30-day interval. The intra-examiner and inter-examiner reliability were determined by calculating percentage of agreement. Generally, the degree of agreement was favorable: 1) intra-examiner reliability: percentages of self-agreement for the four examiners ranged from 78% to 100%; 2) inter-examiner reliability: percentages of agreement between the other three examiners and the standard examiner ranged from 70% to 89%; and percentage of agreement between each pair of the other three examiners ranged from 66% to 79%.

### Consent and assent:

Once a school agreed to participate, a sufficient number of consent packages were sent to each school for distribution among all kindergarten and 3<sup>rd</sup> graders approximately 3 weeks prior to a scheduled visit. The consent package included a “Frequently Asked Questions” brochure, a letter describing the survey, and a consent letter. Only children whose parents and guardians provided a signed consent form were allowed to participate in the survey.

Children without signed consent forms were not allowed to participate in the examination portion of the survey. These consent procedures were reviewed and approved by the Institutional Review Boards at the Maryland Department of Health and Mental Hygiene and the University of Maryland, Baltimore.

### Variables:

Outcome variables of interest (dependent variables) were collected via Part One of the survey, and potential risk factors (independent variables) were collected via Part One and Two. Dependent variables included the presence of dental caries experience for the primary dentition, permanent dentition, and both dentitions combined, as well as the presence of dental sealants.

Independent variables included region, grade level (kindergarten, 3<sup>rd</sup>-grade, and unknown), gender (boys, girls, and unknown), race/ethnicity (non-Hispanic white, non-Hispanic black, non-Hispanic other, Hispanic, and unknown), eligibility for free or reduced meals at school (eligible, ineligible, and unknown), caregiver’s education level (less than college graduate, college graduate, and unknown), dentist visit in past 12 months (yes or no), dental care service availability (yes or no), reported past 12-month caries (yes or no), treated past 12-month caries (yes or no), reported toothache by caries (yes or no) and dental insurance status (Medicaid, Private, No coverage, and unknown). For all independent variables, “unknown” categories included don’t know, refused, and missing responses.

### Data collection and data entry:

Trained dentist examiners and recorders collected tooth, dental caries, dental sealant and restorative data in sample schools using portable equipment, including a dental chair and a light source. The dentist examiners used a disposable, single use, non-magnifying dental mirror and a disposable, single use, WHO periodontal probe with a 0.5 mm ball at the tip to detect dental caries and sealants. New, single use, non-latex dental screening gloves were worn by dentist examiners. The dentist examiner and data recorder were trained in entering the data onto a data collection sheet. Each data collection sheet also had data transferred from the questionnaire completed by the child's parent/guardian. This process allowed for coordination of data and protection of personal identifiers.

Prior to a screening, a dentist examiner or examiner assistant opened the Parental Consent Form Envelope for each child who presented to have a screening. Forms were reviewed and consent was assured. Parental consent was verified (signature present) and the survey identification number from the accompanying twelve question survey was transferred to the screening form. This survey identification number allowed for correlation between survey data and screening data while protecting for the confidentiality of each child. Other information transferred from the survey to the screening form (to allow for data scanning) included: date of birth, grade in school, gender, and home zip code. Data entered by the examiner or examiner assistant included: date of screening and examiner identification number.

A unique number code was assigned to each questionnaire. This number was transferred to the data collection sheet during the screening. By associating the questionnaire with the screening data, dependent and independent variables could be appropriately linked. Additionally, the privacy and confidentiality of each participant could be protected, as there would be no personal identifiers present in the final data set.

Information transferred from the survey questionnaire to the screening form included: date of birth, grade in school, gender, home zip code, date of visit and the examiner identification number. Some parents/ guardians who did not wish to have their child screened did choose to complete and return a survey questionnaire. Data from these survey questionnaires were also scanned and tabulated.

### Scanning the Data:

Scanning of survey questionnaires and screening forms were completed with the use of a Fujitsu fi-5110C optical scanner and Remark Office OMR Version 5.5 optical scanning software program.

### Ongoing Progress Review:

Meetings were held regularly with the Principal Investigator, the Lead Examiner, the Project Manager and the Director of Oral Health of DHMH. The project activity status was reviewed and progress reports were submitted as required. The Office of Oral Health provided technical assistance when needed.

### Analyses:

The statistical software SAS v9.1 for Windows© was used to prepare data for further analysis such as combining the oral screening exam and health questionnaire data, cleaning the data, and recoding the variables when necessary. The statistical software SUDAAN v9.01 for Windows©, which accounts for the complex, multi-stage sample design, was used to estimate overall population means and standard errors of outcome variables, along with 95% confidence intervals of population means. Means, standard errors, and 95% confidence intervals of outcome variables by descriptor levels were estimated as well. Comparisons of means between/among different levels of each descriptor were conducted using either T-tests (for comparing two sample means) or F-tests (for comparing multiple sample means). A p-value < 0.05 was considered statistically significant in all tests.

During certain circumstances, the standard error of the estimate was rather large relative to the estimate. Larger standard errors are due to great variability in estimates across a population sub-group, usually due to insufficient sample size. Our final sample size was less than what we had hoped for due to the lack of participation of Baltimore County, Montgomery County and Talbot County (see Table 1). When the standard error was equal to or greater than 30 percent of the estimate, we judged the estimate not to meet the standard for statistical reliability. Such estimates should be interpreted with caution throughout this report.

## RESULTS

The following section describes the findings from the *Survey of the Oral Health Status of Maryland School Children, 2005-2006*. Results are grouped by the two primary dependent variables – dental caries prevalence and dental sealant prevalence. Dental caries and sealant prevalence is grouped further by grade.

### Response rates:

The response rates for the Survey of the Oral Health Status of Maryland School Children, 2005-2006 were calculated for each municipality, region, county, grade level, and the entire sample. Three different response rates at each level were computed: 1) proportion of students returning the questionnaire of all children eligible for the survey; 2) proportion of students receiving the screening oral screening of all children eligible for the survey; and ratio of students receiving the oral screening divided by the number of students returning the questionnaire. Table 2 lists all response rates mentioned above.

The Rural municipality had a slightly lower response rate than the Urban municipality. The returning questionnaire rates for regions ranged from a low of 41% in Central Baltimore to a high of 49% in Southern Maryland. The Western (48%) and Central DC (47%) areas had similar return rates. Screening rates for regions ranged from a low of 22% for Central Baltimore to a high of 30% for the Eastern Shore. The ratios of screening divided by returning questionnaire ranged from a low of 49% in the Southern Maryland area to a high of 65% in the Eastern Shore region.

The response rates and screening rates among kindergarten (47% and 25%) and 3<sup>rd</sup> graders (44% and 26%) were similar. The ratio of screening divided by the returning questionnaire rate was 52% for kindergarten children and 58% for 3<sup>rd</sup> graders. The returning questionnaire rates for the 15 participating counties ranged from a low of 28% in Baltimore City to a high of 69% in Worcester County. Three other counties (Allegany, Garrett, and Howard) had return rates greater than 60%. Screening rates ranged from a low of 14% in Charles County to a high of 55% for Worcester County. Three counties had screening rates greater than 30% including Allegany, Calvert, and Garrett counties. The ratios of screening divided by returning questionnaires ranged from a low of 33% in Charles County to a high of 80% for Worcester County.

Three counties (15 schools) chose not to participate in the survey. They were Baltimore County, Montgomery County, and Talbot County. The exclusion of these counties was taken into consideration in the response rate calculations listed above. The reader should note that estimates derived from the Survey of the Oral Health Status of Maryland School Children, 2005-2006 are representative of participating counties only.

### Sample characteristics:

Table 3a lists the un-weighted and weighted sample characteristics for the survey. The sample of 2,322 public school children represented 112,661 children in Maryland public elementary schools in Kindergarten and Grade 3. Approximate 58 percent of the sample resided in an Urban municipality [the Central District of Columbia (II) and Central Baltimore (IV) regions].

Slightly more than half of the sample included children in 3rd-grade. More girls were sampled than boys. Over half of the sample was non-Hispanic white, and more than four-fifths of the sample included non-Hispanic whites or non-Hispanic blacks. Almost 31 percent of the sample reported being eligible for free meals at school. Nearly 48 percent of the sample reported having a college graduate parent/guardian.

While 60 percent of the sample reported having private dental insurance, 28 percent had Medicaid dental coverage and 11 percent had no dental coverage at all. While 83 percent of the sample reported having a dental visit in the past twelve months, 90 percent of the sample reported having dental service availability. Thirty-one percent of the sample reported having dental caries in the twelve months and 25 percent of the sample reported having received treatment for dental caries in the past twelve months. Approximately, 8 percent of the sample reported a dental caries associated toothache in the past twelve months.

Tables 3b and 3c lists the un-weighted and weighted sample characteristics for the survey for Kindergarten and Grade 3. Table 3d lists the weighted sample characteristics for the survey for children who returned the questionnaire and participated in the oral exam and for children who returned the questionnaire but did not participate in the oral exam.

Table 4a lists weighted prevalence and mean of dental caries among school children in Kindergarten and 3rd-grade, by selected characteristics. Table 5a lists weighted prevalence and mean of dental sealants among school children in Kindergarten and 3rd-grade, by selected characteristics. Table 6a lists weighted prevalence and mean of dental restorations among school children in Kindergarten and 3rd-grade, by selected characteristics. Table 7a lists weighted prevalence of children with no caries, sealant or restorations in school children in Kindergarten and 3rd-grade, by selected characteristics. Tables 4b, 4c, 5b, 5c, 6b, 6c, 7b and 7c provide data for Kindergarten and Grade 3 for each respective table series.

Table 8 list sample characteristics including sample size and percentage for cases examined. Table 9 list projected sample population numbers vs. actual sample population numbers.

Table 1: Region, Constituent Counties, Schools and Number of Students; Projected and Actual							
Number	Name	Projected			Actual		
		Constituent counties	Schools	Total Students	Constituent counties	Schools	Total Student
I	Western	Allegany, Frederick, Garrett, Washington	8	1013	Allegany, Frederick, Garrett, Washington	8	1013
II	Central D.C.	Howard, Montgomery, Prince George's	15	2719	Howard, Prince George's	6	911
III	Southern	Calvert, Charles, St. Mary's	4	656	Calvert, Charles, St. Mary's	4	656
IV	Central Baltimore	Anne Arundel, Baltimore City, Baltimore County, Carroll, Harford	15	2263	Anne Arundel, Baltimore City, Carroll, Harford	10	757
V	Eastern Shore	Caroline, Cecil, Dorchester, Kent, Queen Anne's, Somerset, Talbot, Wicomico, Worcester	8	1426	Caroline, Cecil, Dorchester, Kent, Queen Anne's, Somerset, Wicomico, Worcester	7	1146
Total			50	8077		35	4483

Table 2: Overall response rate and response rates by municipality, region, county, and grade: Maryland, 2005-2006

Characteristic	RRQ <sup>1</sup>	RRE <sup>2</sup>	Ratio of RRE vs. RRQ <sup>3</sup>
Overall	46	25	55
Municipality			
Urban (region II, IV)	47	27	57
Rural (region I,III, V)	43	23	53
Region			
I – Western	48	26	53
II – Central DC	47	24	51
III – Southern	49	24	49
IV – Central Baltimore	41	22	54
V – Eastern Shore	45	30	65
Grade level			
Kindergarten	47	25	52
3rd-grade	44	26	58
County			
Allegany	63	45	72
Anne Arundel	45	21	47
Baltimore City	28	22	78
Calvert	54	32	60
Caroline	39	25	64
Cecil	42	25	60
Charles	43	14	33
Frederick	44	21	48
Garrett	61	30	50
Harford	58	23	39
Howard	65	28	43
Prince George's	38	22	58
St. Mary's	46	18	40
Wicomico	43	27	62
Worcester	69	55	80

SOURCE: Survey of the Oral Health Status of Maryland School Children, 2005-2006

Note:

1. RRQ = Response rate to questionnaire =  $\frac{\text{No. returnques}}{\text{No. enrolled}} \times 100$ .

2. RRE = Response rate to exam =  $\frac{\text{No. examined}}{\text{No. enrolled}} \times 100$ .

3. Ratio of RRE vs. RRQ = Proportion of response to exam among those responding to questionnaire =  $\frac{\text{No. examined}}{\text{No. returnques}} \times 100$ .

Table 3a: Sample characteristics including sample size, percentage, weighted population, and weighted percentage: Maryland, 2005-2006				
Characteristic	Sample size	Percentage	Weighted population	Weighted % (SE)
Overall	2,322	100.0	112,661	100.0 (---)
<b>Municipality</b>				
Urban (region II, IV)	1,340	57.7	84,270	74.8 (---)
Rural (region I,III, V)	982	42.3	28,391	25.2 (---)
<b>Region</b>				
I – Western	482	20.8	11,266	10.0 (2.7)
II – Central DC	433	18.6	42,586	37.8 (10.6)
III – Southern	329	14.2	5,520	4.9 (2.2)*
IV – Central Baltimore	549	23.6	41,685	37.0 (9.4)
V – Eastern Shore	529	22.8	11,604	10.3 (3.1)*
<b>Grade level</b>				
Kindergarten	1,087	46.8	53,852	47.8 (2.4)
3rd-grade	1,232	53.1	58,133	51.6 (2.3)
Unknown	3	0.1	676	0.6 (0.5)*
<b>Gender</b>				
Boys	1,047	45.1	51,261	45.5 (1.6)
Girls	1,113	47.9	53,514	47.5 (1.8)
Unknown	162	7.0	7886	7.0 (1.4)
<b>Race/ethnicity</b>				
Non-Hispanic white	1,481	63.8	47,881	42.5 (7.2)
Non-Hispanic black	463	19.9	41,572	36.9 (6.8)
Non-Hispanic other	169	7.3	8,788	7.8 (1.1)
Hispanic	146	6.3	11,153	9.9 (5.4)*
Unknown	63	2.7	3,267	2.9 (0.5)
<b>Free/reduced meal</b>				
Eligible	720	31.0	48,444	43.0 (7.0)
Ineligible	1,563	67.3	61,738	54.8 (6.8)
Unknown	39	1.7	2,479	2.2 (0.3)
<b>Caregiver's education</b>				
Less than college graduate	1185	51.0	30,908	58.8 (5.3)*
College Graduate	1130	47.5	20,593	39.1 (5.8)
Unknown	34	1.5	1,120	2.1 (1.2)

Table 3a (Cont'd): Sample characteristics including sample size, percentage, weighted population, and weighted percentage: Maryland, 2005-2006

Characteristic	Sample size	Percentage	Weighted population	Weighted % (SE)
Overall	2,322	100.0	112,661	100.0 (---)
Dental coverage				
Medicaid	659	28.4	40,671	36.1(5.1)
Private	1384	59.6	57,232	50.8(5.1)
No Coverage	259	11.1	13,181	11.7(1.7)
Unknown	20	0.9	1,577	1.4(0.5)*
Dentist visit in past 12 months				
Yes	1930	83.1	87,425	77.6(3.3)
No	362	15.6	23,208	20.6(3.1)
Unknown	30	1.3	2,028	1.8(0.4)
Dental care service availability				
Yes	2097	90.3	98,128	87.1(2.5)
No	187	8.1	11,604	10.3(2.2)
Unknown	38	1.6	2,929	2.6(0.7)
Reported past-12-mon caries				
Yes	722	31.1	36,161	64.7(1.6)
No	1548	66.7	72,836	32.1(2.2)
Unknown	52	2.2	3,664	3.3(0.8)
Treated past 12-mon caries				
Yes	598	25.8	28,582	25.4(1.2)
No	121	5.2	7,394	6.6(1.2)
Unknown	1603	69.0	76,685	68.1(1.6)
Reported toothache by caries				
Yes	180	7.8	9,232	8.2(1.0)
No	539	23.2	26,676	23.7(1.2)
Unknown	1603	69.0	76,753	68.1(1.7)

SOURCE: Survey of the Oral Health Status of Maryland School Children, 2005-2006  
SE = standard error of weighted percentage.

\* Does not meet the standard for statistical reliability (i.e. The standard error was equal to or greater than 30 percent of the estimate).

Table 3b: Sample characteristics including sample size, percentage, weighted population, and weighted percentage, Kindergarten: Maryland, 2005-2006

Characteristic	Sample size	Percentage	Weighted population	Weighted % (SE)
Overall	1087	100.0	52,621	100.0 (---)
Municipality				
Urban (region II, IV)	474	43.6	22,943	76.7 (---)
Rural (region I,III, V)	613	56.4	29,678	23.3 (---)
Region				
I – Western	230	21.2	4,946	9.4 (2.6)
II – Central DC	199	18.3	20,996	39.9 (11.2)
III – Southern	135	12.4	1,947	*3.7 (2.0)
IV – Central Baltimore	275	25.3	19,364	36.8 (9.8)
V – Eastern Shore	248	22.8	5,368	*10.2 (3.5)
Gender				
Boys	507	46.6	24,416	46.4 (2.2)
Girls	506	46.6	24,469	46.5 (2.6)
Unknown	74	6.8	3,736	7.1 (1.8)
Race/ethnicity				
Non-Hispanic white	678	62.4	21,154	40.2 (7.6)
Non-Hispanic black	228	21.0	20,943	39.8 (7.4)
Non-Hispanic other	76	7.0	3,789	7.2 (1.4)
Hispanic	72	6.6	4,841	*9.2 (4.7)
Unknown	33	3.0	1,894	3.6 (0.7)
Free/reduced meal				
Eligible	350	32.2	22,995	43.7(6.4)
Ineligible	713	65.6	28,257	53.7 (6.6)
Unknown	24	2.2	1,369	2.6 (0.6)
Caregiver's education				
Less than college graduate	572	52.6	31,779	60.4 (5.1)
College Graduate	494	45.5	19,538	37.1 (5.5)
Unknown	21	1.9	1,304	2.5 (1.7)

Table 3b (Cont'd): Sample characteristics including sample size, percentage, weighted population, and weighted percentage, Kindergarten: Maryland, 2005-2006				
Characteristic	Sample size	Percentage	Weighted population	Weighted % (SE)
Overall	1087	100.0	52,621	100.0 (---)
Insurance coverage				
Medicaid	322	29.6	19,380	36.8(4.6)
Private	632	58.2	26,353	50.1(4.7)
No Coverage	123	11.3	6,124	11.6(1.8)
Unknown	10	0.9	764	1.5(0.8)
Dentist visit in past 12 months				
Yes	883	81.2	39,941	75.9(3.4)
No	192	17.7	11,908	22.6(3.3)
Unknown	12	1.1	771	1.5(0.6)*
Dental care service availability				
Yes	975	89.7	46,123	87.6(2.6)
No	92	8.5	5,095	9.7(2.2)
Unknown	20	1.8	1,403	2.7(0.9)
Reported past-12-mon caries				
Yes	311	28.6	14,905	28.3(2.1)
No	752	69.2	35,685	67.8(2.5)
Unknown	24	2.2	2,032	3.9(1.3)
Treated past 12-mon caries				
Yes	248	22.8	10,982	20.9(1.6)
No	62	5.7	3,905	7.4(1.4)
Unknown	777	71.5	37,734	71.7(2.1)
Reported toothache by caries				
Yes	76	7.0	3,407	6.5(1.1)
No	233	21.4	11,461	21.8(1.4)
Unknown	778	71.6	37,753	71.7(2.1)

SOURCE: Survey of the Oral Health Status of Maryland School Children, 2005-2006  
SE = standard error of weighted percentage.

\* Does not meet the standard for statistical reliability (i.e. The standard error was equal to or greater than 30 percent of the estimate).

Table 3c: Sample characteristics including sample size, percentage, weighted population, and weighted percentage, 3rd grade: Maryland, 2005-2006

Characteristic	Sample size	Percentage	Weighted population	Weighted % (SE)
Overall	1,232	100.0	60,040	100.0 (---)
<b>Municipality</b>				
Urban (region II, IV)	505	41.0	43,709	72.8 (---)
Rural (region I,III, V)	727	59.0	16,331	27.2 (---)
<b>Region</b>				
I – Western	252	20.5	6,364	10.6 (3.0)
II – Central DC	234	19.0	21,795	36.3 (10.6)
III – Southern	194	15.7	3,662	6.1 (2.9)*
IV – Central Baltimore	271	22.0	21,915	36.5(9.3)
V – Eastern Shore	281	22.8	6,304	10.5 (3.7)
<b>Gender</b>				
Boys	540	43.8	27,078	45.1(2.1)
Girls	607	49.3	29,300	48.8 (1.9)
Unknown	85	6.9	3,662	6.1 (1.2)
<b>Race/ethnicity</b>				
Non-Hispanic white	803	65.2	27,078	45.1 (7.1)
Non-Hispanic black	233	18.9	20,233	33.7 (6.4)
Non-Hispanic other	93	7.5	5,103	8.5 (1.4)
Hispanic	74	6.0	6,424	10.7 (6.2)*
Unknown	29	2.4	1,202	2.0 (0.5)
<b>Free/reduced meal</b>				
Eligible	368	29.9	25,157	41.9 (5.8)
Ineligible	850	69.0	33,862	56.4 (5.9)
Unknown	14	1.1	1,021	1.7 (0.4)
<b>Caregiver's education</b>				
Less than college graduate	611	49.6	29,975	57.0 (5.8)
College Graduate	609	49.4	21,791	41.4 (6.3)
Unknown	12	1.0	855	1.6(0.9)*

Table 3c (Cont'd): Sample characteristics including sample size, percentage, weighted population, and weighted percentage, 3rd grade: Maryland, 2005-2006

Characteristic	Sample size	Percentage	Weighted population	Weighted % (SE)
Overall	1,232	100.0	60,040	100.0 (---)
Insurance coverage				
Medicaid	335	27.2	20,931	34.9(5.4)
Private	752	61.1	31,219	52.0(5.6)
No Coverage	1366	11.0	7,133	11.9(0.5)
Unknown	9	0.7	757	1.3(1.9)*
Dentist visit in past 12 months				
Yes	567	79.8	47,780	79.6(3.9)
No	133	18.7	11,088	18.4(3.7)
Unknown	11	1.5	1,172	2.0(0.6)
Dentalcare service availability				
Yes	632	88.9	52,006	86.6(3.6)
No	70	9.8	6,597	11.0(3.4)
Unknown	9	1.3	1,437	2.4(0.8)
Reported past-12-mon caries				
Yes	254	35.7	21,316	35.5(2.1)
No	440	61.9	37,210	62.0(2.5)
Unknown	17	2.4	1,513	2.5(0.6)
Treated past 12-mon caries				
Yes	204	28.7	17,639	29.4(1.9)
No	49	6.9	3,505	5.8(1.3)
Unknown	458	64.4	38,896	64.8(2.1)
Reported toothache by caries				
Yes	72	10.1	5,930	9.9(1.7)
No	181	25.5	15,164	25.2(1.6)
Unknown	458	64.4	38,946	64.9(2.2)

SOURCE: Survey of the Oral Health Status of Maryland School Children, 2005-2006  
SE = standard error of weighted percentage.

\* Does not meet the standard for statistical reliability (i.e. The standard error was equal to or greater than 30 percent of the estimate).

Table 3d: Sample characteristics including sample size, percentage, weighted population, and weighted percentage: Maryland, 2005-2006				
Characteristic	Full Sample		Exam Only	
	Sample size	Percentage	Sample size	Percentage
Overall	2,322	100.0	1,280	100.0
Municipality				
Urban (region II, IV)	1,340	57.7	762	59.5
Rural (region I,III, V)	982	42.3	518	40.5
Region				
I – Western	482	20.8	257	20.1
II – Central DC	433	18.6	221	17.3
III – Southern	329	14.2	160	12.5
IV – Central Baltimore	549	23.6	297	23.2
V – Eastern Shore	529	22.8	345	26.9
Grade level				
Kindergarten	1,087	46.8	566	44.2
3rd-grade	1,232	53.1	711	55.6
Unknown	3	0.1	3	0.2
Gender				
Boys	1,047	45.1	574	44.9
Girls	1,113	47.9	648	50.6
Unknown	162	7.0	58	4.5
Race/ethnicity				
Non-Hispanic white	1,481	63.8	730	57.0
Non-Hispanic black	463	19.9	332	25.9
Non-Hispanic other	169	7.3	94	7.3
Hispanic	146	6.3	83	6.5
Unknown	63	2.7	41	3.2
Free/reduced meal				
Eligible	720	31.0	513	40.1
Ineligible	1,563	67.3	742	58.0
Unknown	39	1.7	25	1.9
Caregiver's education				
Less than college graduate	1185	51.0	737	57.6
College Graduate	1130	47.5	522	40.8
Unknown	34	1.5	21	1.6

Table 3d (Cont'd): Sample characteristics including sample size, percentage, weighted population, and weighted percentage: Maryland, 2005-2006				
Characteristic	Full Sample		Exam Only	
	Sample size	Percentage	Sample size	Percentage
Overall	2,322	100.0	1,280	100.0
Dental coverage				
Medicaid	659	28.4	450	35.2
Private	1384	59.6	675	52.7
No Coverage	259	11.1	141	11.0
Unknown	20	0.9	14	1.1
Dentist visit in past 12 months				
Yes	1930	83.1	992	77.5
No	362	15.6	268	20.9
Unknown	30	1.3	20	1.6
Dental care service availability				
Yes	2097	90.3	1127	88.0
No	187	8.1	130	10.2
Unknown	38	1.6	23	1.8
Reported past-12-mon caries				
Yes	722	31.1	438	34.2
No	1548	66.7	807	63.1
Unknown	52	2.2	35	2.7
Treated past 12-mon caries				
Yes	598	25.8	340	26.6
No	121	5.2	97	7.6
Unknown	1603	69.0	843	65.8
Reported toothache by caries				
Yes	180	7.8	132	10.3
No	539	23.2	304	23.8
Unknown	1603	69.0	844	65.9

SOURCE: Survey of the Oral Health Status of Maryland School Children, 2005-2006  
SE = standard error of weighted percentage.

\* Does not meet the standard for statistical reliability (i.e. The standard error was equal to or greater than 30 percent of the estimate).

Table 4a: Weighted prevalence and mean of dental caries among school children by selected characteristics: Maryland, 2005-2006 (n=1,276<sup>1</sup>)

Characteristic	Prevalence % (SE) <sup>2</sup>	Mean (SE) <sup>3</sup>
Overall	31.1(2.4)	2.7(0.2)
Municipality		
Urban (region II, IV)	31.0(3.5)	2.9(0.2)
Rural (region I,III, V)	31.1(3.0)	2.6(0.3)
Region		
I – Western	23.5(4.8)	2.4(0.2)
II – Central DC	28.4(5.5)	2.5(0.5)
III – Southern	25.5(4.4)	2.5(0.1)
IV – Central Baltimore	33.6(2.9)	2.7(0.3)
V – Eastern Shore	39.2(4.8)	3.3(0.3)
Grade level		
Kindergarten	32.6(3.1)	2.9(0.2)
3rd-grade	29.7(3.5)	2.5(0.2)
Gender		
Boys	30.6(3.3)	2.7(0.2)
Girls	30.1(2.4)	2.7(0.3)
Race/ethnicity		
Non-Hispanic white	20.2(2.0)	2.6(0.2)
Non-Hispanic black	35.0(3.7)	2.7(0.2)
Non-Hispanic other	41.6(9.4)	3.8(0.5)
Hispanic	41.1(5.3)	2.3(0.6)
Free/reduced meal		
Eligible	39.2(2.3)	2.7(0.2)
Ineligible	23.0(3.0)	2.7(0.3)
Caregiver's education		
Less than college graduate	35.5(2.1)	2.8(0.2)
College Graduate	20.8(2.8)	2.5(0.3)

Table 4a (Cont'd): Weighted prevalence and mean of dental caries among school children by selected characteristics: Maryland, 2005-2006 (n=1,276 <sup>1</sup> )		
Characteristic	Prevalence % (SE) <sup>2</sup>	Mean (SE) <sup>3</sup>
Overall	31.1(2.4)	2.7(0.2)
Insurance coverage		
Medicaid	38.1(2.9)	2.8(0.2)
Private	22.9(3.1)	2.5(0.2)
No Coverage	34.4(4.7)	2.7(0.6)
Dentist visit in past 12 months		
Yes	28.3(2.5)	2.6(0.2)
No	38.1(6.0)	3.0(0.4)
Dentalcare service availability		
Yes	28.5(2.3)	2.4(0.2)
No	42.9(4.4)	3.9(0.5)
Reported past-12-mon caries		
Yes	55.6(4.4)	2.9(0.3)
No	17.5(1.8)	2.4(0.2)
Treated past 12-mon caries		
Yes	49.3(4.5)	2.3(0.2)
No	71.0(9.0)	4.0(0.4)
Reported toothache by caries		
Yes	63.4(6.0)	3.5(0.5)
No	52.6(5.7)	2.5(0.3)

SOURCE: Survey of the Oral Health Status of Maryland School Children, 2005-2006.

NOTE: 1. 1276 out of 1280 cases examined had prevalence available. One out of 1276 cases had grade information missed, 564 were in Kindergarten and 711 in 3<sup>rd</sup> grade.

2. Prevalence is defined as occurrence of any caries among all selected population.

3. Mean is the average number of teeth with caries among students with caries in selected population.

\* Does not meet the standard for statistical reliability (i.e. The standard error was equal to or greater than 30 percent of the estimate).

Table 4b: Weighted prevalence and mean of dental caries among school children in Kindergarten, by selected characteristics: Maryland, 2005-2006 (n=564)

Characteristic	Prevalence % (SE) <sup>1</sup>	Mean (SE) <sup>2</sup>
Overall	32.6(3.1)	2.9(0.2)
Municipality		
Urban (region II, IV)	32.1(4.9)	3.2(0.2)
Rural (region I,III, V)	32.8(3.8)	2.8(0.3)
Region		
I – Western	22.7(4.5)	2.6(0.4)
II – Central DC	32.4(6.7)	2.7(0.5)
III – Southern	23.3(9.3)	2.6(0.6)
IV – Central Baltimore	33.2(4.0)	2.9(0.3)
V – Eastern Shore	41.5(6.2)	3.6(0.2)
Gender		
Boys	36.3(5.0)	2.9(0.3)
Girls	28.2(4.1)	3.0(0.4)
Race/ethnicity		
Non-Hispanic white	24.4(3.3)	2.5(0.3)
Non-Hispanic black	36.8(4.4)	3.1(0.3)
Non-Hispanic other	36.2(11.3)	4.1(0.9)
Hispanic	40.0(3.8)	2.4(0.5)
Free/reduced meal		
Eligible	40.6(4.1)	2.8(0.2)
Ineligible	25.7(4.0)	3.1(0.5)
Caregiver's education		
Less than college graduate	36.7(3.5)	2.9(0.2)
College Graduate	24.4(4.3)	2.8(0.5)

Table 4b (Cont'd): Weighted prevalence and mean of dental caries among school children in Kindergarten, by selected characteristics: Maryland, 2005-2006 (n=564)		
Characteristic	Prevalence % (SE) <sup>1</sup>	Mean (SE) <sup>2</sup>
Overall	32.6(3.1)	2.9(0.2)
Insurance coverage		
Medicaid	41.1(5.6)	2.9(0.2)
Private	25.1(4.2)	2.7(0.4)
No Coverage	30.9(5.2)	3.3(0.7)
Dentist visit in past 12 months		
Yes	30.6(4.3)	2.7(0.2)
No	37.6(4.7)	3.3(0.5)
Dentalcare service availability		
Yes	32.7(3.4)	2.8(0.2)
No	32.1(5.0)	4.3(0.8)
Reported past-12-mon caries		
Yes	65.6(5.8)	3.0(0.3)
No	17.7(3.2)	2.7(0.4)
Treated past 12-mon caries		
Yes	53.1(7.1)	2.2(0.2)
No	88.8(6.0)	3.9(0.4)
Reported toothache by caries		
Yes	79.3(6.9)	4.0(0.6)
No	59.3(6.9)	2.4(0.3)

SOURCE: Survey of the Oral Health Status of Maryland School Children, 2005-2006.

NOTE:

1. Prevalence is defined as occurrence of any caries among all selected population.
2. Mean is the average number of teeth with caries among students with caries in selected population.

\* Does not meet the standard for statistical reliability (i.e. The standard error was equal to or greater than 30 percent of the estimate).

Table 4c: Weighted prevalence and mean of dental caries among school children in 3rd-grade, by selected characteristics: Maryland, 2005-2006 (n=711)

Characteristic	Prevalence % (SE) <sup>1</sup>	Mean (SE) <sup>2</sup>
Overall	29.7(3.5)	2.5(0.2)
Municipality		
Urban (region II, IV)	30.2(4.0)	2.7(0.3)
Rural (region I,III, V)	29.5(4.5)	2.4(0.3)
Region		
I – Western	24.1(5.8)	2.3(1.4)
II – Central DC	24.9(8.1)	2.2(0.5)
III – Southern	26.4(3.9)	2.4(0.1)
IV – Central Baltimore	33.5(4.5)	2.5(0.3)
V – Eastern Shore	37.3(6.4)	3.0(0.5)
Gender		
Boys	25.7(3.5)	2.4(0.3)
Girls	31.4(4.5)	2.4(0.3)
Race/ethnicity		
Non-Hispanic white	17.4(2.9)	2.7(0.3)
Non-Hispanic black	33.3(5.6)	2.3(0.2)
Non-Hispanic other	45.9(10.7)	3.6(0.8)
Hispanic	42.0(8.6)	2.3(0.7)
Free/reduced meal		
Eligible	38.2(4.2)	2.6(0.3)
Ineligible	20.8(3.5)	2.4(0.3)
Caregiver's education		
Less than college graduate	34.6(2.7)	2.7(0.3)
College Graduate	18.1(4.0)	2.1(0.2)

Table 4c (Cont'd): Weighted prevalence and mean of dental caries among school children in 3rd-grade, by selected characteristics: Maryland, 2005-2006 (n=711)		
Characteristic	Prevalence % (SE) <sup>1</sup>	Mean (SE) <sup>2</sup>
Overall	29.7(3.5)	2.5(0.2)
Insurance coverage		
Medicaid	35.6(3.8)	2.7(0.3)
Private	21.1(3.8)	2.3(0.2)
No Coverage	37.0(7.1)	2.3(0.6)
Dentist visit in past 12 months		
Yes	26.6(3.6)	2.4(0.2)
No	38.7(8.4)	2.7(0.4)
Dentalcare service availability		
Yes	25.0(3.5)	2.1(0.1)
No	49.4(8.1)	3.7(0.6)
Reported past-12-mon caries		
Yes	49.0(5.2)	2.8(0.3)
No	17.3(2.6)	2.1(0.2)
Treated past 12-mon caries		
Yes	47.2(5.1)	2.4(0.2)
No	52.7(11.9)	4.1(0.8)
Reported toothache by caries		
Yes	53.6(7.8)	3.1(0.4)
No	47.9(6.7)	2.6(0.4)

SOURCE: Survey of the Oral Health Status of Maryland School Children, 2005-2006.

NOTE:

1. Prevalence is defined as occurrence of any caries among all selected population.
2. Mean is the average number of teeth with caries among students with caries in selected population.

\* Does not meet the standard for statistical reliability (i.e. The standard error was equal to or greater than 30 percent of the estimate).

Table 5a: Weighted prevalence and mean of dental sealants among school children by selected characteristics: Maryland, 2005-2006 (n=1,276<sup>1</sup>)

Characteristic	Prevalence % (SE) <sup>2</sup>	Mean (SE) <sup>3</sup>
Overall	26.8(3.6)	3.0(0.2)
Municipality		
Urban (region II, IV)	28.8(4.5)	3.1(0.2)
Rural (region I,III, V)	26.1(4.5)	3.0(0.2)
Region		
I – Western	43.1(4.6)	3.5(0.1)
II – Central DC	34.7(5.7)	2.9(0.2)
III – Southern	34.8(9.2)	3.0(0.1)
IV – Central Baltimore	18.3(5.3)	3.1(0.3)
V – Eastern Shore	14.6(4.1)	2.3(0.2)
Grade level		
Kindergarten	7.5(2.7)*	2.7(0.4)
3rd-grade	42.4(5.1)	3.0(0.2)
Gender		
Boys	25.9(4.1)	2.8(0.1)
Girls	28.2(3.7)	3.1(0.2)
Race/ethnicity		
Non-Hispanic white	37.3(4.3)	3.1(0.1)
Non-Hispanic black	17.2(3.6)	2.6(0.2)
Non-Hispanic other	25.8(8.5)	3.3(0.6)
Hispanic	31.2(5.3)	3.4(0.9)
Free/reduced meal		
Eligible	18.6(4.1)	2.8(0.2)
Ineligible	34.5(4.2)	3.0(0.1)
Caregiver's education		
Less than college graduate	23.4(3.4)	2.9(0.2)
College Graduate	33.0(5.0)	3.2(0.2)

Table 5a (Cont'd): Weighted prevalence and mean of dental sealants among school children by selected characteristics: Maryland, 2005-2006 (n=1,276 <sup>1</sup> )		
Characteristic	Prevalence % (SE) <sup>2</sup>	Mean (SE) <sup>3</sup>
Overall	26.8(3.6)	3.0(0.2)
Insurance coverage		
Medicaid	19.5(4.0)	2.7(0.2)
Private	33.4(4.0)	3.0(0.1)
No Coverage	29.5(4.5)	3.6(0.6)
Dentist visit in past 12 months		
Yes	30.2(4.1)	3.1(0.2)
No	16.1(3.5)	2.5(0.3)
Dentalcare service availability		
Yes	28.3(3.7)	3.1(0.1)
No	19.7(4.2)	2.5(0.5)
Reported past-12-mon caries		
Yes	28.1(4.2)	2.9(0.2)
No	26.6(3.9)	3.1(0.2)
Treated past 12-mon caries		
Yes	34.2(3.9)	2.9(0.2)
No	12.8(5.6)	2.7(0.3)
Reported toothache by caries		
Yes	23.6(6.8)	3.0(0.2)
No	30.6(4.1)	2.5(0.2)

SOURCE: Survey of the Oral Health Status of Maryland School Children, 2005-2006.

NOTE:

1. 1276 out of 1280 cases examined had prevalence available. One out of 1276 cases had grade information missed, 564 were in Kindergarten and 711 in 3<sup>rd</sup> grade.
  2. Prevalence is defined as occurrence of any sealant among all selected population.
  3. Mean is the average number of teeth with sealant among students with sealant in selected population.
- \* Does not meet the standard for statistical reliability (i.e. The standard error was equal to or greater than 30 percent of the estimate).

Table 5b: Weighted prevalence and mean of dental sealant among school children in Kindergarten, by selected characteristics: Maryland, 2005-2006 (n=564)		
Characteristic	Prevalence % (SE) <sup>1</sup>	Mean (SE) <sup>2</sup>
Overall	7.5(2.7)*	2.7(0.4)
Municipality		
Urban (region II, IV)	4.6(1.7)	2.4(0.3)
Rural (region I,III, V)	8.5(3.5)	2.7(0.5)
Region		
I – Western	9.1(3.4)*	2.6(0.3)
II – Central DC	11.6(6.0)*	2.3(0.1)
III – Southern	0.0(0.0)	0.0(0.0)
IV – Central Baltimore	5.5(3.2)*	3.7(1.3)*
V – Eastern Shore	2.1(0.9)*	1.7(0.2)
Gender		
Boys	8.7(3.2)*	2.1(0.2)
Girls	5.4(2.6)*	2.4(0.1)
Race/ethnicity		
Non-Hispanic white	10.0(3.4)*	2.2(0.2)
Non-Hispanic black	2.3(1.3)*	2.4(0.3)
Non-Hispanic other	6.5(6.5)*	8.0(0.0)
Hispanic	13.1(6.3)*	2.7(0.0)
Free/reduced meal		
Eligible	5.2(2.1)*	3.4(1.1)
Ineligible	8.2(3.2)*	2.4(0.2)
Caregiver's education		
Less than college graduate	5.8(2.3)*	2.3(0.2)
College Graduate	8.0(3.0)	3.3(1.0)

Table 5b (Cont'd): Weighted prevalence and mean of dental sealant among school children in Kindergarten, by selected characteristics: Maryland, 2005-2006 (n=564)		
Characteristic	Prevalence % (SE) <sup>1</sup>	Mean (SE) <sup>2</sup>
Overall	7.5(2.7)*	2.7(0.4)
Insurance coverage		
Medicaid	7.1(3.6)*	2.1(0.1)
Private	6.3(2.7)*	2.4(0.3)
No Coverage	8.1(4.7)*	5.4(1.7)
Dentist visit in past 12 months		
Yes	8.2(2.5)	2.8(0.5)
No	3.3(2.4)*	2.4(0.2)
Dentalcare service availability		
Yes	7.7(2.6)*	2.7(0.4)
No	1.2(1.2)*	1.0(0.0)
Reported past-12-mon sealant		
Yes	5.4(2.0)*	2.3(0.2)
No	7.7(2.7)*	2.9(0.2)
Treated past 12-mon caries		
Yes	8.4(3.0)*	2.3(0.2)
No	NA	NA
Reported toothache by sealant		
Yes	3.4(2.2)*	1.8(0.2)
No	6.0(2.6)*	2.4(0.2)

SOURCE: Survey of the Oral Health Status of Maryland School Children, 2005-2006.

NOTE:

1. Prevalence is defined as occurrence of any sealant among all selected population.
2. Mean is the average number of teeth with sealant among students with sealant in selected population.

\* Does not meet the standard for statistical reliability (i.e. The standard error was equal to or greater than 30 percent of the estimate).

Table 5c: Weighted prevalence and mean of dental sealant among school children in 3rd-grade, by selected characteristics: Maryland, 2005-2006 (n=711)		
Characteristic	Prevalence % (SE) <sup>1</sup>	Mean (SE) <sup>2</sup>
Overall	42.4(5.1)	3.0(0.2)
Municipality		
Urban (region II, IV)	46.6(5.8)	3.2(0.2)
Rural (region I,III, V)	41.0(6.6)	3.0(0.2)
Region		
I – Western	69.7(7.2)	3.5(0.1)
II – Central DC	54.6(8.3)	3.0(0.3)
III – Southern	49.4(4.8)	3.0(0.1)
IV – Central Baltimore	28.8(7.3)	3.0(0.3)
V – Eastern Shore	25.4(3.6)	2.4(0.2)
Gender		
Boys	40.6(6.1)	2.9(0.1)
Girls	44.8(5.3)	3.2(0.2)
Race/ethnicity		
Non-Hispanic white	56.2(5.2)	3.2(0.1)
Non-Hispanic black	30.9(7.4)	2.6(0.2)
Non-Hispanic other	41.5(13.3)	2.7(0.3)
Hispanic	41.7(4.2)	3.6(1.0)
Free/reduced meal		
Eligible	29.2(5.9)	2.7(0.2)
Ineligible	56.0(5.0)	3.1(0.1)
Caregiver's education		
Less than college graduate	37.9(5.1)	2.9(0.2)
College Graduate	52.0(6.6)	3.2(0.2)

Table 5c (Cont'd): Weighted prevalence and mean of dental sealant among school children in 3rd-grade, by selected characteristics: Maryland, 2005-2006 (n=711)		
Characteristic	Prevalence % (SE) <sup>1</sup>	Mean (SE) <sup>2</sup>
Overall	42.4(5.1)	3.0(0.2)
Insurance coverage		
Medicaid	30.0(5.4)	2.8(0.2)
Private	55.0(5.3)	3.1(0.1)
No Coverage	45.5(7.2)	3.4(0.6)
Dentist visit in past 12 months		
Yes	47.3(5.2)	3.1(0.2)
No	38.7(8.4)	2.6(0.4)
Dentalcare service availability		
Yes	45.4(5.0)	3.1(0.1)
No	27.8(5.6)	2.6(0.5)
Reported past-12-mon sealant		
Yes	43.0(5.6)	2.9(0.2)
No	43.1(5.5)	3.1(0.2)
Treated past 12-mon caries		
Yes	48.5(5.4)	3.0(0.2)
No	25.9(10.0)*	2.7(0.3)
Reported toothache by sealant		
Yes	36.1(8.7)	2.6(0.2)
No	47.5(5.4)	3.1(0.2)

SOURCE: Survey of the Oral Health Status of Maryland School Children, 2005-2006.

NOTE:

1. Prevalence is defined as occurrence of any sealant among all selected population.
2. Mean is the average number of teeth with sealant among students with sealant in selected population.

\* Does not meet the standard for statistical reliability (i.e. The standard error was equal to or greater than 30 percent of the estimate).

Table 6a: Weighted prevalence and mean of dental restorations among school children by selected characteristics: Maryland, 2005-2006 (n=1,276 <sup>1</sup> )		
Characteristic	Prevalence % (SE) <sup>2</sup>	Mean (SE) <sup>3</sup>
Overall	26.9(3.0)	2.8(0.1)
Municipality		
Urban (region II, IV)	32.0(3.4)	2.8(0.2)
Rural (region I,III, V)	25.2(3.8)	2.7(0.2)
Region		
I – Western	44.2(5.5)	3.1(0.2)
II – Central DC	29.2(6.7)	2.4(0.2)
III – Southern	32.1(4.4)	2.9(0.3)
IV – Central Baltimore	21.6(3.1)	3.1(0.3)
V – Eastern Shore	21.7(2.5)	2.3(0.2)
Grade level		
Kindergarten	22.3(3.3)*	2.7(0.2)
3rd-grade	30.7(3.4)	2.8(0.2)
Gender		
Boys	29.1(4.8)	2.8(0.3)
Girls	25.4(2.2)	2.7(0.1)
Race/ethnicity		
Non-Hispanic white	27.5(3.7)	2.9(0.2)
Non-Hispanic black	23.3(3.0)	2.8(0.2)
Non-Hispanic other	28.1(6.3)	2.5(0.3)
Hispanic	41.2(13.5)	2.4(0.1)
Free/reduced meal		
Eligible	29.1(4.6)	2.8(0.3)
Ineligible	25.1(3.2)	2.7(0.1)
Caregiver's education		
Less than college graduate	29.2(3.6)*	2.9(0.2)
College Graduate	21.6(3.2)	2.5(0.2)

Table 6a (Cont'd): Weighted prevalence and mean of dental restorations among school children by selected characteristics: Maryland, 2005-2006 (n=1,276 <sup>1</sup> )		
Characteristic	Prevalence % (SE) <sup>2</sup>	Mean (SE) <sup>3</sup>
Overall	26.9(3.0)	2.8(0.1)
Insurance coverage		
Medicaid	30.6(4.6)	2.9(0.2)
Private	24.7(3.8)	2.8(0.1)
No Coverage	25.1(6.4)	2.0(0.2)
Dentist visit in past 12 months		
Yes	30.3(3.1)	2.9(0.1)
No	16.6(4.0)	2.1(0.2)
Dentalcare service availability		
Yes	28.7(3.2)	2.8(0.2)
No	12.5(3.7)	2.2(0.3)
Reported past-12-mon caries		
Yes	47.4(4.5)	2.9(0.2)
No	16.5(2.5)	2.4(0.2)
Treated past 12-mon caries		
Yes	58.7(3.4)	3.1(0.2)
No	18.7(6.6)	1.7(0.3)
Reported toothache by caries		
Yes	40.6(8.3)	2.7(0.2)
No	49.8(4.1)	3.1(0.3)

SOURCE: Survey of the Oral Health Status of Maryland School Children, 2005-2006.

NOTE:

1. 1276 out of 1280 cases examined had prevalence available. One out of 1276 cases had grade information missed, 564 were in Kindergarten and 711 in 3<sup>rd</sup> grade.
  2. Prevalence is defined as occurrence of any sealant among all selected population.
  3. Mean is the average number of teeth with sealant among students with sealant in selected population.
- \* Does not meet the standard for statistical reliability (i.e. The standard error was equal to or greater than 30 percent of the estimate).

Table 6b: Weighted prevalence and mean of dental restorations among school children in Kindergarten, by selected characteristics: Maryland, 2005-2006 (n=1,276)

Characteristic	Prevalence % (SE) <sup>1</sup>	Mean (SE) <sup>2</sup>
Overall	22.3(3.3)	2.7(0.2)
Municipality		
Urban (region II, IV)	30.1(4.1)	2.7(0.2)
Rural (region I,III, V)	19.9(4.2)	2.7(0.3)
Region		
I – Western	42.7(7.5)	3.0(0.2)
II – Central DC	21.8(7.4)	2.8(0.3)
III – Southern	24.7(3.5)	2.2(0.2)
IV – Central Baltimore	18.1(4.0)	2.6(0.4)
V – Eastern Shore	21.4(2.4)	2.3(0.3)
Gender		
Boys	28.6(5.6)	2.6(0.3)
Girls	16.4(2.4)	3.0(0.4)
Race/ethnicity		
Non-Hispanic white	22.5(3.9)	2.6(0.2)
Non-Hispanic black	17.3(3.1)	2.9(0.4)
Non-Hispanic other	25.0(10.8)*	2.3(0.4)
Hispanic	49.0(18.8)*	2.6(0.1)
Free/reduced meal		
Eligible	24.7(4.7)	2.8(0.3)
Ineligible	20.3(4.5)	2.5(0.2)
Caregiver's education		
Less than college graduate	23.9(3.3)	2.8(0.2)
College Graduate	17.1(4.5)	2.3(0.2)

Table 6b (Cont'd): Weighted prevalence and mean of dental restorations among school children in Kindergarten, by selected characteristics: Maryland, 2005-2006 (n=1,276)

Characteristic	Prevalence % (SE) <sup>1</sup>	Mean (SE) <sup>2</sup>
Overall	22.3(3.3)	2.7(0.2)
Insurance coverage		
Medicaid	24.1(3.8)	3.2(0.3)
Private	20.2(4.8)	2.4(0.2)
No Coverage	25.8(11.6)*	2.1(0.3)
Dentist visit in past 12 months		
Yes	26.3(3.1)	2.9(0.2)
No	12.0(7.1)*	2.0(0.1)
Dentalcare service availability		
Yes	23.2(3.0)	2.7(0.2)
No	13.7(9.1)*	1.8(0.2)
Reported past-12-mon sealant		
Yes	46.2(7.0)	2.9(0.3)
No	11.8(2.5)	2.3(0.4)
Treated past 12-mon caries		
Yes	66.6(7.0)	2.9(0.3)
No	8.5(4.6)*	2.7(0.6)
Reported toothache by sealant		
Yes	38.1(10.7)	2.9(0.3)
No	49.7(6.4)	2.8(0.4)

SOURCE: Survey of the Oral Health Status of Maryland School Children, 2005-2006.

NOTE:

1. Prevalence is defined as occurrence of any sealant among all selected population.
2. Mean is the average number of teeth with sealant among students with sealant in selected population.

\* Does not meet the standard for statistical reliability (i.e. The standard error was equal to or greater than 30 percent of the estimate).

Table 6c: Weighted prevalence and mean of dental restorations among school children in 3rd-grade, by selected characteristics: Maryland, 2005-2006 (n=1,276)		
Characteristic	Prevalence % (SE) <sup>1</sup>	Mean (SE) <sup>2</sup>
Overall	30.7(3.4)	2.8(0.2)
Municipality		
Urban (region II, IV)	33.4(3.8)	2.9(0.2)
Rural (region I,III, V)	29.8(4.5)	2.7(0.3)
Region		
I – Western	45.4(6.7)	3.2(0.3)
II – Central DC	35.6(6.8)	2.2(0.2)
III – Southern	35.2(4.2)	3.1(0.3)
IV – Central Baltimore	24.6(4.5)	3.5(0.2)
V – Eastern Shore	22.0(3.8)	2.3(0.3)
Gender		
Boys	29.4(5.5)	2.9(0.3)
Girls	31.9(3.3)	2.6(0.2)
Race/ethnicity		
Non-Hispanic white	31.0(4.5)	3.0(0.2)
Non-Hispanic black	28.8(4.6)	2.8(0.3)
Non-Hispanic other	30.6(6.3)	2.6(0.5)
Hispanic	36.6(11.0)	2.2(0.1)
Free/reduced meal		
Eligible	32.5(5.1)	2.8(0.3)
Ineligible	28.9(3.6)	2.8(0.2)
Caregiver's education		
Less than college graduate	33.5(4.5)	2.9(0.3)
College Graduate	24.9(4.8)	2.6(0.2)

Table 6c (Cont'd): Weighted prevalence and mean of dental restorations among school children in 3rd-grade, by selected characteristics: Maryland, 2005-2006 (n=1,276)		
Characteristic	Prevalence % (SE) <sup>1</sup>	Mean (SE) <sup>2</sup>
Overall	30.7(3.4)	2.8(0.2)
Insurance coverage		
Medicaid	35.9(6.1)	2.8(0.3)
Private	28.3(4.3)	3.0(0.2)
No Coverage	24.6(4.4)	2.0(0.2)
Dentist visit in past 12 months		
Yes	33.4(4.0)	2.9(0.2)
No	20.9(4.0)	2.1(0.4)
Dentalcare service availability		
Yes	33.3(4.1)	2.8(0.2)
No	11.8(2.0)	2.4(0.4)
Reported past-12-mon sealant		
Yes	48.2(3.9)	3.0(0.3)
No	20.7(3.3)	2.5(0.2)
Treated past 12-mon caries		
Yes	54.4(3.8)	3.2(0.3)
No	29.3(9.6)	1.4(0.2)
Reported toothache by sealant		
Yes	42.1(8.4)	2.6(0.3)
No	49.9(3.4)	3.2(0.4)

SOURCE: Survey of the Oral Health Status of Maryland School Children, 2005-2006.

NOTE:

1. Prevalence is defined as occurrence of any sealant among all selected population.
2. Mean is the average number of teeth with sealant among students with sealant in selected population.

\* Does not meet the standard for statistical reliability (i.e. The standard error was equal to or greater than 30 percent of the estimate).

Table 7a: Weighted prevalence of children with no caries, sealant or restorations in school children by selected characteristics: Maryland, 2005-2006 (n=1,276 <sup>1</sup> )	
Characteristic	Prevalence % (SE) <sup>2</sup>
Overall	39.0(3.0)
Municipality	
Urban (region II, IV)	36.4(3.7)
Rural (region I,III, V)	39.9(3.8)
Region	
I – Western	28.4(5.1)
II – Central DC	33.7(4.7)
III – Southern	37.4(6.0)
IV – Central Baltimore	45.6(4.4)
V – Eastern Shore	42.8(5.4)
Grade level	
Kindergarten	49.6(4.0)
3rd-grade	30.6(3.8)
Gender	
Boys	38.9(4.4)
Girls	39.3(3.0)
Race/ethnicity	
Non-Hispanic white	38.1(4.1)
Non-Hispanic black	45.0(3.9)
Non-Hispanic other	33.0(8.3)
Hispanic	24.8(8.6)
Free/reduced meal	
Eligible	39.0(4.3)
Ineligible	39.1(3.8)
Caregiver's education	
Less than college graduate	37.4(3.6)
College Graduate	43.9(4.4)

Table 7a (Cont'd): Weighted prevalence of children with no caries, sealant or restorations in school children by selected characteristics: Maryland, 2005-2006 (n=1,276 <sup>1</sup> )	
Characteristic	Prevalence % (SE) <sup>2</sup>
Overall	39.0(3.0)
Insurance coverage	
Medicaid	37.6(4.5)
Private	41.3(4.3)
No Coverage	34.0(3.7)
Dentist visit in past 12 months	
Yes	36.6(2.7)
No	46.3(5.2)
Dentalcare service availability	
Yes	39.7(3.1)
No	37.3(4.0)
Reported past-12-mon caries	
Yes	12.3(1.8)
No	53.1(3.8)
Treated past 12-mon caries	
Yes	10.1(2.0)
No	18.6(5.9)
Reported toothache by caries	
Yes	14.3(4.7)
No	11.6(2.5)

SOURCE: Survey of the Oral Health Status of Maryland School Children, 2005-2006.

NOTE:

1. 1276 out of 1280 cases examined had prevalence available. One out of 1276 cases had grade information missed, 564 were in Kindergarten and 711 in 3<sup>rd</sup> grade.

2. Prevalence is defined as occurrence of any sealant among all selected population.

\* Does not meet the standard for statistical reliability (i.e. The standard error was equal to or greater than 30 percent of the estimate).

Table 7b: Weighted prevalence of children with no caries, sealant or restorations in school children in Kindergarten, by selected characteristics: Maryland, 2005-2006 (n=1,276<sup>1</sup>)

Characteristic	Prevalence % (SE) <sup>2</sup>
Overall	49.6(4.0)
Municipality	
Urban (region II, IV)	46.7(3.7)
Rural (region I,III, V)	50.6(5.1)
Region	
I – Western	42.9(6.4)
II – Central DC	46.9(8.1)
III – Southern	57.7(8.9)
IV – Central Baltimore	54.0(5.7)
V – Eastern Shore	47.2(4.7)
Gender	
Boys	42.7(5.4)
Girls	57.1(4.4)
Race/ethnicity	
Non-Hispanic white	53.1(4.6)
Non-Hispanic black	52.8(4.5)
Non-Hispanic other	49.2(12.0)
Hispanic	27.0(12.6)*
Free/reduced meal	
Eligible	43.3(5.5)
Ineligible	55.7(5.1)
Caregiver's education	
Less than college graduate	45.5(4.0)
College Graduate	59.9(5.6)

Table 7b (Cont'd): Weighted prevalence of children with no caries, sealant or restorations in school children in Kindergarten, by selected characteristics: Maryland, 2005-2006 (n=1,276 <sup>1</sup> )	
Characteristic	Prevalence % (SE) <sup>2</sup>
Overall	49.6(4.0)
Insurance coverage	
Medicaid	40.7(6.3)
Private	58.0(5.5)
No Coverage	50.1(8.6)
Dentist visit in past 12 months	
Yes	47.0(3.6)
No	56.5(7.1)
Dentalcare service availability	
Yes	49.3(3.9)
No	57.7(7.1)
Reported past-12-mon caries	
Yes	8.8(2.5)
No	68.0(4.0)
Treated past 12-mon caries	
Yes	7.7(2.5)
No	10.8(6.0)*
Reported toothache by caries	
Yes	1.5(1.0)
No	12.1(3.1)

SOURCE: Survey of the Oral Health Status of Maryland School Children, 2005-2006.

NOTE:

1. 1276 out of 1280 cases examined had prevalence available. One out of 1276 cases had grade information missed, 564 were in Kindergarten and 711 in 3<sup>rd</sup> grade.

2. Prevalence is defined as occurrence of any sealant among all selected population.

\* Does not meet the standard for statistical reliability (i.e. The standard error was equal to or greater than 30 percent of the estimate).

Table 7c: Weighted prevalence of children with no caries, sealant or restorations in school children in 3rd-grade, by selected characteristics: Maryland, 2005-2006 (n=1,276 <sup>1</sup> )	
Characteristic	Prevalence % (SE) <sup>2</sup>
Overall	30.6(3.8)
Municipality	
Urban (region II, IV)	28.8(4.7)
Rural (region I,III, V)	31.2(4.9)
Region	
I – Western	17.1(6.9)
II – Central DC	22.4(5.9)
III – Southern	28.9(3.4)
IV – Central Baltimore	39.0(5.6)
V – Eastern Shore	39.0(8.0)
Gender	
Boys	35.7(5.8)
Girls	26.4(3.5)
Race/ethnicity	
Non-Hispanic white	27.7(4.6)
Non-Hispanic black	37.8(7.0)
Non-Hispanic other	19.8(7.4)
Hispanic	23.6(7.1)
Free/reduced meal	
Eligible	35.7(5.2)
Ineligible	25.5(3.9)
Caregiver's education	
Less than college graduate	30.6(4.5)
College Graduate	31.8(6.1)

Table 7c (Cont'd): Weighted prevalence of children with no caries, sealant or restorations in school children in 3rd-grade, by selected characteristics: Maryland, 2005-2006 (n=1,276 <sup>1</sup> )	
Characteristic	Prevalence % (SE) <sup>2</sup>
Overall	30.6(3.8)
Insurance coverage	
Medicaid	35.0(5.2)
Private	28.1(4.3)
No Coverage	21.9(4.1)
Dentist visit in past 12 months	
Yes	28.5(3.9)
No	36.9(6.5)
Dentalcare service availability	
Yes	31.8(4.2)
No	25.1(6.5)
Reported past-12-mon caries	
Yes	14.6(2.6)
No	40.1(5.0)
Treated past 12-mon caries	
Yes	11.4(2.6)
No	26.5(7.2)
Reported toothache by caries	
Yes	22.2(8.1)*
No	11.2(3.8)*

SOURCE: Survey of the Oral Health Status of Maryland School Children, 2005-2006.

NOTE:

1. 1276 out of 1280 cases examined had prevalence available. One out of 1276 cases had grade information missed, 564 were in Kindergarten and 711 in 3<sup>rd</sup> grade.

2. Prevalence is defined as occurrence of any sealant among all selected population.

\* Does not meet the standard for statistical reliability (i.e. The standard error was equal to or greater than 30 percent of the estimate).

Table 8: Sample characteristics including sample size and percentage for cases examined: Maryland, 2005-2006			
Characteristic	Total sample size (%)	Kindergarten sample size (%)	3 <sup>rd</sup> grade sample size (%)
Overall	1,280(100.0)	566(100.0)	711(100.0)
Municipality			
Urban (region II, IV)	762(59.5)	332(58.7)	430(60.5)
Rural (region I,III, V)	518(40.5)	234(41.3)	281(39.5)
Region			
I – Western	257(20.1)	116(20.5)	141(19.8)
II – Central DC	221(17.3)	97(17.1)	124(17.4)
III – Southern	160(12.5)	57(10.1)	103(14.5)
IV – Central Baltimore	297(23.2)	137(24.2)	157(22.1)
V – Eastern Shore	345(26.9)	159(28.1)	186(26.2)
Grade level			
Kindergarten	566(44.2)	566(100.0)	--
3rd-grade	711(55.6)	--	711(100.0)
Unknown	3(0.2)	--	--
Gender			
Boys	574(44.9)	272(48.1)	302(42.5)
Girls	648(50.6)	269(47.5)	379(53.3)
Unknown	58(4.5)	25(4.4)	30(4.2)
Race/ethnicity			
Non-Hispanic white	730(57.0)	302(53.4)	428(60.2)
Non-Hispanic black	332(25.9)	163(28.8)	167(23.5)
Non-Hispanic other	94(7.3)	41(7.2)	53(7.4)
Hispanic	83(6.5)	37(6.5)	46(6.5)
Unknown	41(3.2)	23(4.1)	17(2.4)
Free/reduced meal			
Eligible	513(40.1)	245(43.3)	266(37.4)
Ineligible	742(58.0)	308(54.4)	434(61.0)
Unknown	25(1.9)	13(2.3)	11(1.6)
Caregiver's education			
Less than 12 years	99(7.7)	34(6.0)	64(9.0)
12 years	301(23.5)	146(25.8)	154(21.7)
Greater than 12 years	859(67.1)	374(66.1)	485(68.2)
Unknown	21(1.7)	12(2.1)	8(1.1)
Insurance coverage			
Yes	1125(87.9)	500(88.3)	623(87.6)
No	141(11.0)	60(10.6)	81(11.4)
Unknown	14(1.1)	6(1.1)	7(1.0)

SOURCE: Survey of the Oral Health Status of Maryland School Children, 2005-2006

Table 9: Projected Population vs. Actual Population: Maryland, 2005-2006		
Characteristics	Projected Population	Actual Population
Grade		
K	53,852	56,859
3rd	58,133	61,064
Gender		
Boys	51,261	60,765
Girls	53,514	57,158
Race		
White	47,881	56,171
Black	41,572	43,826
Hispanic	11,153	10,702

SOURCE: Survey of the Oral Health Status of Maryland School Children, 2005-2006

## DISCUSSION

### Challenges to the Study:

A significant challenge that we faced in Year 1 was obtaining permission from the local school systems to conduct the study in their jurisdiction. Currently, Maryland has three mandated school surveys that must be completed during class time in addition to standardized testing. Three local school districts indicated their schools would not participate in our *Survey*. Moreover, there was the perception that the data collection activities would place an undue burden on school staff and students by decreasing the amount of available time spent on learning.

The three school districts that declined to participate in the study presented another difficulty. The decline to participate reduced the anticipated number of schools from 50 to 35 – thereby decreasing the target population to be screened. Eventually, 15 superintendents permitted their school districts to participate. There were a total of 35 schools in these statewide jurisdictions. The lack of participation by Baltimore County, Montgomery County and Talbot County reduced our total target for number of schools from 50 to 35 thereby reducing the total number of targeted children from 8,077 to 4,483. The impact of this reduction was to reduce our overall sample size and thereby reducing the sensitivity of our analyses making statistical discrimination more difficult. As a result, some differences that appear to be prominent cannot be statistically validated due to our decreased sample size and the subsequent increase in variance.

The consent form presented a considerable problem. The mandated language was difficult to read and understand. Moreover, there were so many clauses pertaining to what could go wrong, that parents/guardians may have become frightened with all the implied risks. A number of children returned forms that were not signed. These children were not screened and could not be included in the examination portion of the study, since only children with a consent form that was correctly signed by a parent/guardian was screened.

There were unique situations that occurred in two schools where the response rate was low. In these schools, the principals took care of all the arrangements without the assistance of the school nurses or other school personnel. It is possible that this arrangement may have had an affect upon the outcomes. At one of these schools, only 18 children were examined of 140 eligible children. At another school, of the 102 children in kindergarten and 3<sup>rd</sup> grades, only 13 children were screened.

At another school, there was a lack of interest in the project. School officials said that it was the school's job to facilitate the distribution of the packets but not to do any additional work to ensure a significant response rate. This may have accounted for the low number of screenings and returned surveys. Of 182 eligible children, 24 were screened and 28 returned surveys.

## Assistance in Conducting the Survey

Special mention should be made regarding the contributions of nurses, parent volunteers, teacher aides and school staff who assisted the dental team in the screening process. Their help was greatly appreciated. They went to the various classrooms and brought the children to the screening area, kept them orderly while waiting to be screened and took those in kindergarten back to their classrooms. After each school visit, the Project Manager wrote a thank you note to the principal to express appreciation for permitting the screening to take place and thanking those who assisted the team.

In schools where there was commitment and support for the project, we saw the highest number of participants – both in numbers screened and surveys returned. There were a number of examples of excellent support by administrative staff, teachers, school nurses and other staff. At several locations, the staff worked together to ensure a good turnout.

In some schools, the school nurses spoke to the targeted classes and urged them to take advantage of the free screening. One nurse told us that she offered a “present” to children who were screened. They were allowed to come to her office to take a treat from a box she made for the project. Other school nurses took the initiative and sent letters to parents of students in Kindergarten and the 3<sup>rd</sup> grade classes encouraging them to have their children screened.

At one school, where the level of participation was high, the school nurse, took the time to create a flyer and a letter which she sent to the parents/guardians encouraging them to participate in the study. As a result, about 50% of the eligible students participated in the study. Also, at this school, one of the teachers reported that 15 of the 18 students in her class were screened. Three other teachers had a large number of participants, and another teacher told us that the incentives she gave out encouraged children in her class to be examined.

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## APPENDICES

## Appendix 1

University of Maryland Dental School

# **SURVEY OF THE ORAL HEALTH STATUS OF MARYLAND PUBLIC SCHOOL CHILDREN 2005-2006**

## **SUPPLIES REQUESTED BY THE DENTAL TEAM**

These supplies would be helpful to us. Please let Susan Coller (410.706.3051) know if any of these items cannot be provided. We look forward to meeting you and screening the children.

1. Two tables or one good sized table ( to record data and put dental supplies on)
2. Four chairs
3. Electrical outlet nearby ( to plug in light that dentist wears to examine children)
4. Extension cord
5. Trash can
6. Well lit area
7. Assistant/nurse/teacher/volunteer to bring students to dental areas to and from classrooms
8. Name of contact person who will meet us when we arrive at school and show us where to set up.

## Appendix 2

<b>Exam Date</b>												<b>Survey Number</b>				<b>Examiner</b>	
Month: <input style="width: 20px; height: 20px;" type="text"/> J F M A M J J A S O N D Day: <input style="width: 20px; height: 20px;" type="text"/> 0 1 2 3 4 5 6 7 8 9												<input style="width: 20px; height: 20px;" type="text"/>				<input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/>	
Date of Birth 199: <input style="width: 20px; height: 20px;" type="text"/> 4 <input style="width: 20px; height: 20px;" type="text"/> 5 <input style="width: 20px; height: 20px;" type="text"/> 6 <input style="width: 20px; height: 20px;" type="text"/> 7 <input style="width: 20px; height: 20px;" type="text"/> 8 <input style="width: 20px; height: 20px;" type="text"/> 9 200: <input style="width: 20px; height: 20px;" type="text"/> 0 <input style="width: 20px; height: 20px;" type="text"/> 1 <input style="width: 20px; height: 20px;" type="text"/> 2 <input style="width: 20px; height: 20px;" type="text"/> 3												Grade: <input type="radio"/> K <input type="radio"/> 3 Gender: <input type="radio"/> Male <input type="radio"/> Female				Year: <input type="radio"/> 2005 <input type="radio"/> 2006	
Month: <input style="width: 20px; height: 20px;" type="text"/> J F M A M J J A S O N D Day: <input style="width: 20px; height: 20px;" type="text"/> 0 1 2 3 4 5 6 7 8 9												Options: <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E				Zip: <input style="width: 20px; height: 20px;" type="text"/>	

UR17	UR16	UR15	UR14	UR13	UR12	UR11		UL21	UL22	UL23	UL24	UL25	UL26	UL27
<input type="radio"/>	Primary	<input type="radio"/>												
<input type="radio"/>	Permanent	<input type="radio"/>												
<input type="radio"/>	Missing	<input type="radio"/>												
<input type="radio"/>	OK	<input type="radio"/>												
<input type="radio"/>	Caries	<input type="radio"/>												
<input type="radio"/>	Sealant	<input type="radio"/>												
<input type="radio"/>	Restorative	<input type="radio"/>												
LR47	LR46	LR45	LR44	LR43	LR42	LR41		LL31	LL32	LL33	LL34	LL35	LL36	LL37
<input type="radio"/>	⊕	<input type="radio"/>												
<input type="radio"/>	Primary	<input type="radio"/>												
<input type="radio"/>	Permanent	<input type="radio"/>												
<input type="radio"/>	Missing	<input type="radio"/>												
<input type="radio"/>	OK	<input type="radio"/>												
<input type="radio"/>	Caries	<input type="radio"/>												
<input type="radio"/>	Sealant	<input type="radio"/>												
<input type="radio"/>	Restorative	<input type="radio"/>												

6 months    Soon    Now (Urgent)

Treatment Urgency:        Comments on Report Card

### Appendix 3

## SURVEY OF THE ORAL HEALTH STATUS OF MARYLAND SCHOOL CHILDREN 2005-2006

### DENTAL SCREENING RESULTS REPORT CARD

Dear Parent or Guardian:

Thank you for letting your child take part in the *Survey of the Oral Health Status Of Maryland School Children 2005-2006*. Your help is greatly appreciated and will help Maryland do a better job of planning statewide dental programs and services in the future.

A licensed dentist gave your child, \_\_\_\_\_, a dental screening at his/her school on \_\_\_\_ / \_\_\_\_ / \_\_\_\_\_. The dentist looked at your child's teeth with a dental mirror and a light, but **did not** take x-rays. The dentist recommends that you:

- \_\_\_\_\_ **Keep your child's next scheduled dentist visit.** No problems were found during your child's dental screening. Please plan to take your child to a dentist for regular check-ups every 6 months.
- \_\_\_\_\_ **Make an appointment to see your child's dentist soon.** Minor dental problems were found during your child's dental screening. Please plan to take your child to a dentist soon (ideally in the next 4-6 weeks).
- \_\_\_\_\_ **Make an appointment to see your child's dentist now.** Your child has dental problems that are more serious in nature. You should take your child to a dentist immediately to prevent the possibility of pain or serious health problems.

Comments:

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Remember that the dental screening examination was not a replacement for a regular dental examination done in a dental office. Since we did not take x-rays during the dental screening, your child's dentist may not completely agree with the results of this screening or additional problems may be discovered.

If your child needs to see a dentist, and you are unable to find one, please know that your child's school has been given a list of resources that may assist you in locating dental services.

White – Child      Yellow – School      Pink – Office

## Appendix 4

### SURVEY OF THE ORAL HEALTH STATUS OF MARYLAND SCHOOL CHILDREN 2005-2006

Dear Parent or Guardian:

This survey will ask you some questions about your child's dental health. The survey should take about 5 minutes to finish. If there is a question that you do not want to answer, you can skip that question and go on. Remember that all of your answers will be kept strictly confidential. Please, do not put your child's name on this questionnaire.

After you answer the questions, please put the survey and one copy of the signed consent form in the envelope and seal it. Then, return the sealed envelope to your child's teacher. Keep the second copy of the consent form for your own records. Thank you.

1. What is your Zip Code?   \_ \_ \_ \_ \_
  2. When was your child born?   \_ \_ (Month)   \_ \_ (Day)   \_ \_ \_ \_ (Year)
  3. Did your child go to the dentist in the PAST 12 MONTHS? \_\_\_\_\_  a. Yes  
 b. No
  4. Are there dentists or dental clinics that your child goes to when he/she needs dental care?  a. Yes  
 b. No
  5. In the PAST 12 MONTHS, did your child have a cavity (decay) in any tooth? \_\_\_\_\_  a. Yes  
 b. No
  6. If your child had a cavity, was it treated by a dentist? \_\_\_\_\_  a. Yes  
 b. No
  7. In the PAST 12 MONTHS, has your child had a toothache BECAUSE OF A CAVITY? \_\_\_\_\_  a. Yes  
 b. No
  8. Does your child have dental insurance?  a. Yes, my child has Medicaid, HealthChoice, or Medical Assistance.  
 b. Yes, my child has dental insurance OTHER THAN Medicaid, Health Choice, or Medical Assistance.  
 c. No, I pay for ALL of my child's dental care myself.
- Please answer BOTH questions #9 and #10.
9. Is your child Hispanic/Latino? \_\_\_\_\_  a. Yes  
 b. No
  10. What is your child's race? \_\_\_\_\_  a. Asian or Pacific Islander  
 b. Black or African American  
 c. Native American or American Indian or Alaska Native  
 d. White or Caucasian  
 e. Other
  11. Does your child QUALIFY for free or reduced-cost lunch at school? \_\_\_\_\_  a. Yes  
 b. No
  12. What is the HIGHEST level of education you (parent/guardian) have completed? \_\_\_\_\_  a. Less than 12th grade  
 b. High school graduate  
 c. Some college  
 d. College graduate

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	0	1	2	3	4	5	6	7	8	9	

**Thank you for answering our health survey.**

If you have any questions about the survey, please contact Ms. Susan Coller (410-706-3051).

If you would like, you may call collect.

## Appendix 5a

*Q. What happens if the dentist finds a child with dental decay or a serious dental problem?*

A. Though the primary purpose of *Survey 05/06* is to describe the oral health of Maryland's school children, the secondary purpose is to refer children with serious dental problems to dentists. At the end of each examination period, the child's parent/guardian will receive a summary sheet that describes the results and provides a list of dental care referral resources. In addition, school staff will receive a list of all children with dental problems within their school.

*Q. What questions will be asked on the oral health questionnaire?*

A. The survey will ask simple questions about brushing, visiting the dentist, dental insurance coverage, access to dental care and child characteristics (i.e., age, gender, and race/ethnicity). The questionnaire will be fully approved by the Maryland State Department of Education. All responses will be voluntary.

*Q. Who will have access to the results?*

A. *Survey 05/06* administrators will be the only ones to have access to raw results. Any final reports will contain aggregate descriptions only. At no time will individual schools and/or school children be mentioned. Procedures used for maintaining confidentiality will be in strict accordance with guidelines set forth by the University of Maryland, Baltimore and Maryland State Departments of Education and Health and Mental Hygiene.

*Q. What if I have additional questions?*

A. *Survey 05/06* staff at the University of Maryland, Baltimore will be happy to answer your questions. Please feel free to contact any of the staff members mentioned on the cover of this brochure.

## Survey of the Oral Health Status of Maryland School Children 2005-2006

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### ***Frequently Asked Questions***

Administered by the  
Baltimore College of Dental Surgery Dental School  
University of Maryland, Baltimore

Sponsored by the  
Maryland Department of Health and Mental Hygiene

***Principal Investigator:***

**Dr. Haiyan Chen**  
Research Assistant Professor  
Dept. of Health Promotion & Policy  
Division of Health Service Research  
(410) 706-6677  
hnc002@dental.umaryland.edu

***Project Coordinator:***

**Ms. Bonnie Baldwin**  
Dept. of Health Promotion & Policy  
Division of Health Service Research  
Office: (410) 706-7967  
bbb001@dental.umaryland.edu

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## Appendix 5b

### **Frequently Asked Questions**

*Q. What is this survey?*

A. The Survey of the Oral Health Status of Maryland School Children 2005-2006 (*Survey 05/06*) is a dental evaluation of the State's public school children in kindergarten and 3<sup>rd</sup> grade. *Survey 05/06* will consist of a simple oral screening and a brief oral health questionnaire.

*Q. What is the purpose of this survey?*

A. Under a State mandate, data must be collected to describe the oral health of Maryland's public school children so that personnel, public programs and funding may be properly determined and allocated. Although every child deserves excellent oral health, there are some children in Maryland who do not have it. *Survey 05/06* will identify where the need for improvement exists.

*Q. Who will administer Survey 05/06?*

A. Licensed dentists and other professionals with the Baltimore College of Dental Surgery Dental School will administer *Survey 05/06*. These professionals have extensive experience with health assessments both inside and outside of Maryland.

*Q. Will all school districts and schools be involved?*

A. No. *Survey 05/06* does not have the resources to examine all of Maryland's public school children. The University of Maryland, Baltimore will scientifically select a sample of approximately 50-60 schools. These schools will represent a cross-section of all Maryland public elementary schools.

*Q. Are the school districts and schools in the Maryland public school system required to participate?*

A. Although the purpose of *Survey 05/06* is crucial to the health of Maryland's public school children, school districts and schools are not required to participate. It is hoped, however, that school districts recognize the importance of their involvement. If school districts refuse to participate, *Survey 05/06* will not be accurate and will not meet the State's mandate.

*Q. Who will conduct the oral health examinations?*

A. School children will be examined only by Maryland licensed dentists. The dentist also will be accompanied by a data-entry person and/or an assistant.

*Q. Will the school children's health benefits be affected if they choose not to participate?*

A. Participation is completely voluntary. The dental health benefits of school children that choose not to participate will not be affected in any way.

*Q. How will the oral screenings be conducted?*

A. The dentist will count teeth, look for decay (cavities), fillings and sealants. During the examination, the dentists will use a new disposable mirror and a fresh pair of vinyl examination gloves for each child. The dentist will, at all times, adhere to established guidelines for infection control and safety.

*Q. Where will the oral screenings take place?*

A. Examinations will be conducted with portable dental equipment within school buildings, in areas designated by the schools.

## Appendix 6

### RESEARCH CONSENT FORM

University of Maryland Baltimore - Institutional Review Board

Drs. Haiyan Chen and Richard Manski, (410) 706-3051

H-26883- SURVEY OF THE ORAL HEALTH STATUS OF MARYLAND SCHOOL CHILDREN 2005-2006

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#### Background

The University of Maryland, Baltimore is doing a dental survey to find out how many of Maryland's school children have cavities, fillings, and sealants.

This research study is sponsored by the Maryland Department of Health and Mental Hygiene.

#### Purpose

The survey will help dentists know where the most need for dental care is in the State. The survey will also help dentists know why some children have more decay.

#### Procedures

Your child will be one of approximately 6000 subjects to be asked to participate in this study. The research will be conducted at the following location(s): University of Maryland Baltimore, Other Sites.

If you sign this consent form and return it to your child's teacher, your child will get a dental screening at school. The screening will be done by a licensed dentist (or a dental hygienist) and will take 3-5 minutes. The dentist will use a new disposable mirror on each child to look for cavities, fillings and sealants. The dentist will also wear a mask and a new pair of gloves for each child. The dentist will not take x-rays. The survey screening does not substitute for a complete dental examination at a dentist's office. The enclosed questionnaire will also ask you some simple questions about your child. If there is a question you do not want to answer, you can skip that one and go on. You will receive an examination report form containing information about what the dentist found. After the screening, your child's school nurse will receive a list of the children with dental problems in that school for appropriate follow-up.

#### Potential Risks and Discomforts

The risk to your child for being in this survey is minimal. The screening has no more risk than a regular dental examination in a dentist's office and the survey questionnaire has no risk.

#### Potential Benefits

Your child will receive no direct benefit from participation in this study. However, your child's participation may help the investigators better understand where the most need for dental care is in the State and why some children have more decay than other children.

#### Alternatives

You may choose to not allow your child to participate in this study.

#### Subject Costs and Payments

There are no costs to you as a consequence of your child's participation in this research study. You and your child will not be paid to participate in this research study.

#### Subject's Rights

Even if you sign this consent form, you may continue to ask any questions that you may have, and you may change your mind about your child's participation at any time. Please contact the study staff if you decide to have your child stop participating in this study. In addition to the risks described in this form, there may be unknown risks/discomforts involved in participating in the study. Study staff will update you in a timely way on any new information that may affect your child's health, welfare, or decision to stay in this study. The investigator or sponsor can decide to withdraw your child from the study at any time. Your child could be removed from the study for reasons related solely to your child (for example, not

## Appendix 7

### *Survey of the Oral Health Status of Maryland Public School Children 2005-2006*

**Your Child's Name (Please print)**

\_\_\_\_\_

**Last**

\_\_\_\_\_

**First**

**Grade** \_\_\_\_\_

**Teacher** \_\_\_\_\_

Dear Parent/Guardian/Caregiver:

Every five years, the Maryland Department of Health and Mental Hygiene and the University of Maryland Dental School conduct a statewide dental health survey of public school children in kindergarten and third grades.

The survey consists of a simple dental screening (at no cost to you) in your child's school and a brief questionnaire that we hope you will complete. Participation in the survey is voluntary. No child will be screened unless his/her parent/guardian has signed the enclosed consent form. See the yellow brochure, *Frequently Asked Questions*, for more information.

**Complete the information below. Please check the appropriate box:**

- Yes, my child may have a dental screening. I am enclosing one signed consent form (I kept the other one for myself) and the completed questionnaire in this envelope.**
- No, I do not want my child to have a dental screening. However, I have put the completed questionnaire in this envelope.**
- No, I do not want my child to have a dental screening, and I have not completed the questionnaire. I am returning the consent form (unsigned) and the survey (not completed) in this envelope.**

**Ask your child to return this envelope to his/her teacher as soon as possible.**

Thank you for your help.