Washington State Smile Survey 2015-16

Clark County Results

August 2017

Clark County Public Health

Summary

The Washington State Smile Survey is conducted every 5 years to assess the oral health of children throughout the state. The survey was conducted over the course of the 2014-15 and 2015-16 school years among preschool, kindergarten, 2nd and 3rd grade students. Almost 15,000 children participated across the state, including over 2,800 children in Clark County from 9 Elementary schools and 25 Head Start/ECEAP preschool sites in the area. The survey was conducted via trained examiners who assessed children's level tooth decay and dental care needs.

Key Findings

- In Clark County, 28% of preschoolers, 30% of kindergarteners, 39% of 2nd graders, and 42% of 3rd graders had any decay experience (treated and/or untreated). All age groups experienced lower prevalence of decay than Washington State overall.
- Kindergarteners in Clark County had had significantly lower rates of untreated decay (6%) than Washington State kindergarteners overall (13%).
- 2nd graders in Clark County had significantly lower rates of untreated decay (7%) and rampant decay (11%) than Washington State 2nd graders overall (12% and 19%, respectively).
- Clark County kindergarteners, 2nd graders, and 3rd graders had significantly lower rates of dental sealants (4%, 20%, and 26%, respectively) than Washington State overall (14%, 45%, and 54%, respectively).
- In Clark County, 98% of kindergarteners, 2nd graders, and 3rd graders had no obvious dental treatment needs (early or urgent), which is significantly lower than the Washington State rate (89%).
- In Clark County, 2nd and 3rd graders of Hispanic origin had the highest prevalence of decay experience (treated and/or untreated), untreated decay, and dental sealants.
- In Clark County, non-Hispanic Black 2nd and 3rd graders had the lowest prevalence of decay experience (treated and/or untreated).
- Preschoolers in Clark County who spoke a language other than English at home had a higher prevalence of any decay experience (31%) than preschoolers who spoke only English (25%).

- Clark County 2nd and 3rd graders who spoke a language other than English at home were significantly more likely to have any decay experience (63%) and rampant decay (31%) than students who only spoke English at home (40% and 10%, respectively).
- Clark County 2nd and 3rd graders who were eligible for free or reduced priced lunches had a higher prevalence of any decay experience (46%) and dental sealants (36%) than students not eligible for free or reduced priced lunches (29% and 28%, respectively).
- Clark County preschoolers are exceeding Healthy People 2020 goals for any tooth decay (treated and/or untreated) and untreated decay.
- Clark County 6-9 year-olds exceeded Healthy People 2020 goals for any decay experience (treated and/or untreated) and untreated decay, but progress is still needed to reach the Healthy People 2020 goal for dental sealants.

Methodology

Sampling

For both the preschool and elementary school samples a cluster sampling design methodology was used for the Washington State sample. All elementary schools with at least 15 children enrolled in each of the 3 surveyed grades (kindergarten, 2nd grade, and 3rd grade) were included in the sampling frame. Calculations were made based on the design effect of clustering to determine the size of sample needed. This number was divided by the average statewide program/class size and resulted in a final sample size of 76 elementary schools and 44 Head Start/ECEAP sites for the Washington State sample. Elementary schools were sorted by free or reduced price lunch status and probability systematic sampling was used to select schools for participation. Head Start/ECEAP sites were selected by systematic random sampling. Elementary schools and preschool programs selected were contacted and invited to participate. If they declined to participate, the next program on the list was contacted and invited, repeating until a replacement was identified.

In Clark County, 3 elementary schools and 3 Head Start/ECEAP sites were included as a part of the Washington State sample. Also included in the Clark County sample were 6 additional elementary schools and 22 additional Head Start/ECEAP schools. Thus, a total of 9 elementary schools and 25 Head Start/ECEAP participated in Clark County. 2,204 students from the 9 elementary school participated, including 702 kindergarteners, 770 2nd graders, and 732 3rd graders. From the 25 Head Start/ECEAP schools, 633 3-5 year-olds participated. (See Appendix A for more details)

Screening Protocols

The exams for the survey were conducted by oral health professionals; either Registered Dental Hygienists or participating licensed Doctors of Dental Surgery. Each examiner underwent a calibration training the fall before the commencement of the data collection to ensure the different examiners were classifying disease and other conditions in the same way. The examination consisted of a visual assessment of the child's mouth using only a penlight and dental mirror. Examinations were carried out of the course of the 2014-15 and 2015-16 school years.

Core Indicators

Indicators of oral health status included decay experience, presence of untreated or rampant decay, white spot lesions, dental sealants, and urgency of need for dental care. All indicators used are defined in Table 1.

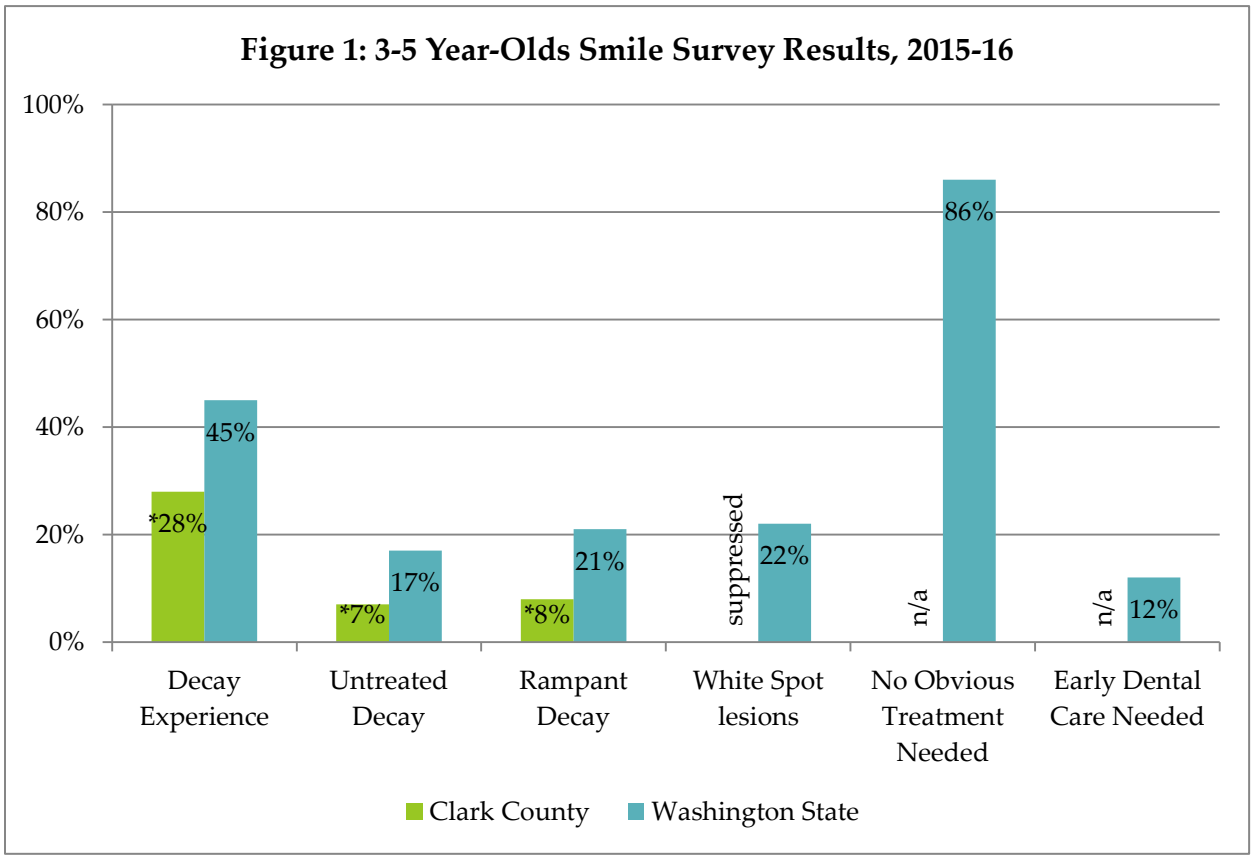
Table 1: Core SMILE Survey Indicators	
Decay Experience	The presence of a treated or untreated decay, or any missing tooth due to dental decay.
Untreated Decay	The presence of a dental cavity in which the screener can readily observe breakdown of enamel surface. Only cavitated lesions are noted as untreated decay.
Rampant Decay	Seven or more teeth ever having decay
White Spot Lesions	Presence of white spot lesions (areas of enamel decalcification in teeth, which appear white in color). Preschool only.
Dental Sealants	Child has dental sealants on one or more permanent molars. Kindergarten, 2nd and 3rd grades only
No Obvious Treatment Needed	Presence of no obvious untreated decay.
Early Dental Care Needed	Presence of any obvious untreated decay which should be restored.
Urgent Dental Care Needed	When the child presents with any sign of pain or swelling. The child should be seen by a dentist within 24-48 hours.

Suppression

Data were suppressed if observations were fewer than 5 individuals or if the relative standard error was greater than or equal to 0.30 for the estimate. These data are considered unreliable.

Results – Preschoolers

Figure 1 shows the oral health of preschoolers in Clark County and Washington State. In Clark County, 28% of preschoolers aged 3-5 years-old have experienced tooth decay in their life. 7% had untreated tooth decay and 8% had rampant tooth decay. Data for children who experienced white spot lesions were suppressed for Clark County. In addition, data on dental treatment need were not collected for Clark County.



*significantly different from Washington State

Comparison to Washington State

Preschoolers in Clark County experienced decay (treated and/or untreated), untreated and rampant tooth decay at significantly lower rates than Washington State overall. In Washington State, 45% of 3-4 year-olds had decay experience (28% in Clark County). In addition, 17% of preschoolers in Washington State had untreated decay (7% in Clark County), 21% had rampant decay (8% in Clark County), and 22% had white spot lesions.

Progress

Oral health among 3-5 year-olds in Clark County has significantly improved in the last 10 years. Prevalence of treated and untreated decay dropped from 47.0% of preschoolers in 2005, to 39.1% in 2010, to 27.9% in 2015-16. In addition, the prevalence of untreated decay dropped from 20.4% in 2005, to 13.0% in 2010, to just 7.3% in 2015-16. Rampant decay also decreased similarly.

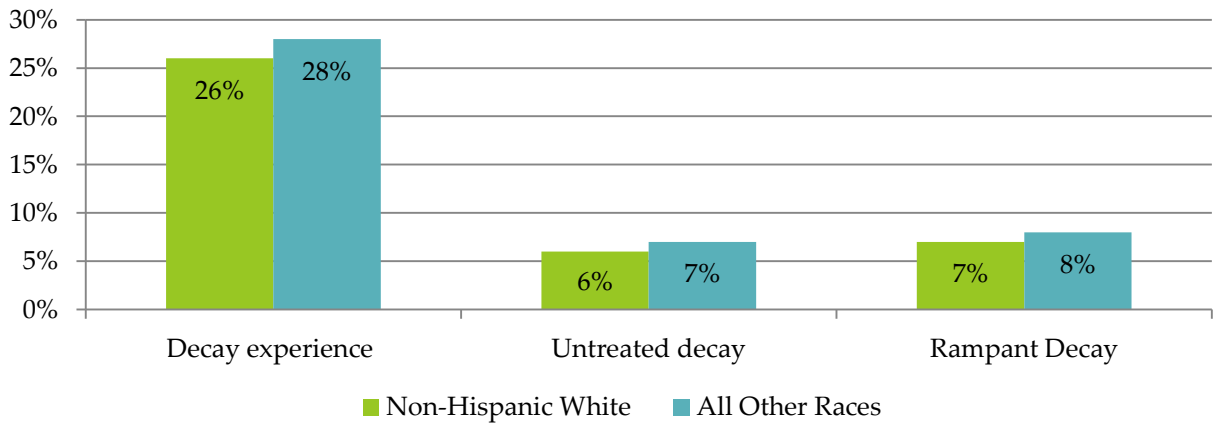
Table 2: Oral Health Status of 3-5 year-olds in Clark County, 2005, 2010, and 2015-16

	2005	2010	2015-16
Decay Experience	47.0%	39.1%	27.9%
Untreated Decay	20.4%	13.0%	7.3%
Rampant Decay	18.0%	14.5%	7.9%
White Spot Lesions	11.6%	29.5%	suppressed
No Obvious Treatment Needed	79.6%	87.7%	n/a
Early Dental Care Needed	18.0%	11.6%	n/a
Urgent Dental Care Needed	2.5%	suppressed	n/a
n/a = data not collected			

Disparities by Race/Ethnicity

Non-Hispanic White preschoolers in Clark County experienced decay, untreated and rampant decay at lower but not significantly different rates than preschoolers of other races. 26% of non-Hispanic White 3-5 year-olds in Clark County had decay experience, whereas 28% of 3-5 year-olds of other races had decay experience. 6% of non-Hispanic White 3-5 year-olds had untreated decay and 7% had rampant decay, whereas 7% of 3-5 year-olds of other races had untreated decay and 8% had rampant decay.

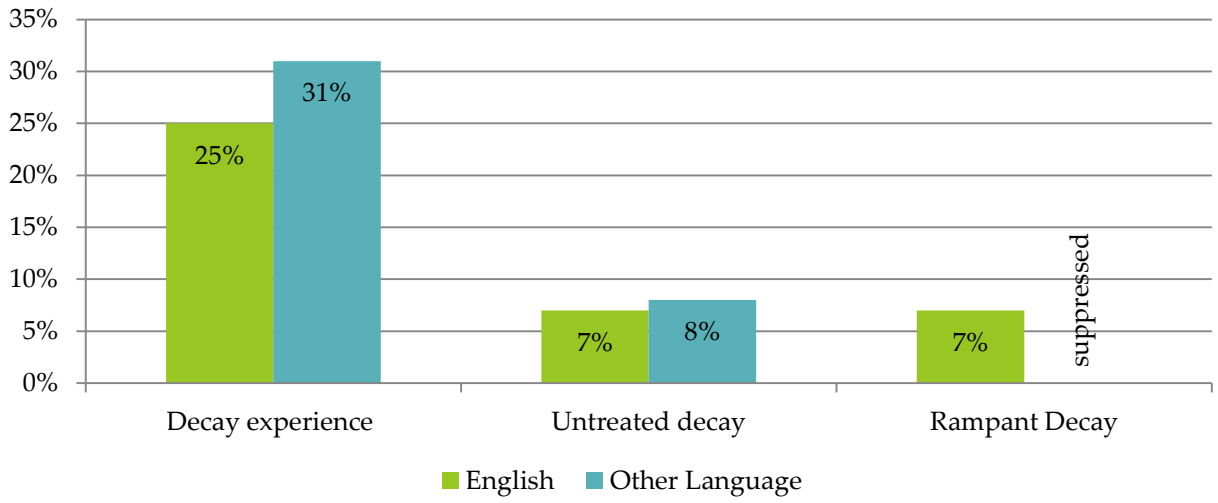
Figure 2: 3-5 Year-Olds in Clark County by Race/Ethnicity
Smile Survey Results, 2015-16



Disparities by Language Spoken at Home

In Clark County, preschoolers who spoke a language other than English at home experienced decay and untreated decay at higher but not significantly different rates than preschoolers who only spoke English at home. 25% of 3-5 year-olds in Clark County who only spoke English at home had decay experience, whereas 31% of 3-5 year-olds who spoke a language other than English at home had decay experience. 7% of 3-5 year-olds who only spoke English at home had untreated decay, whereas 8% of 3-5 year-olds who spoke a language other than English at home had untreated decay. In addition, 7% of 3-5 year-olds who only spoke English at home had rampant decay. Data for rampant decay among 3-5 years who spoke a language other English as home were suppressed.

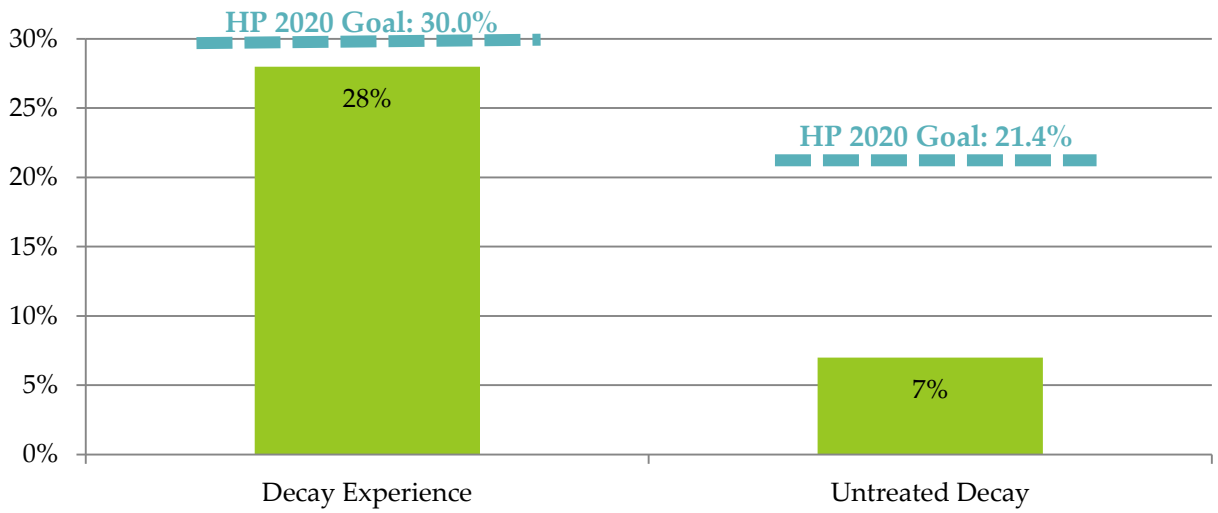
Figure 3: 3-5 Year-Olds in Clark County by Language Spoken at Home
Smile Survey Results, 2015-16



Comparison to Healthy People 2020 Goals

Figure 4 shows how Clark County results compare to Healthy People targets for oral health in 3-5 year-olds. Overall, preschoolers in Clark County are exceeding Healthy People 2020 goals for oral health. 28% of Clark County 3-5 year-olds had decay experience, meeting the Healthy People 2020 target of 30%. In addition, only 7% of Clark County 3-5 year-olds had untreated tooth decay, well exceeding the Healthy People 2020 target of 21.4%.

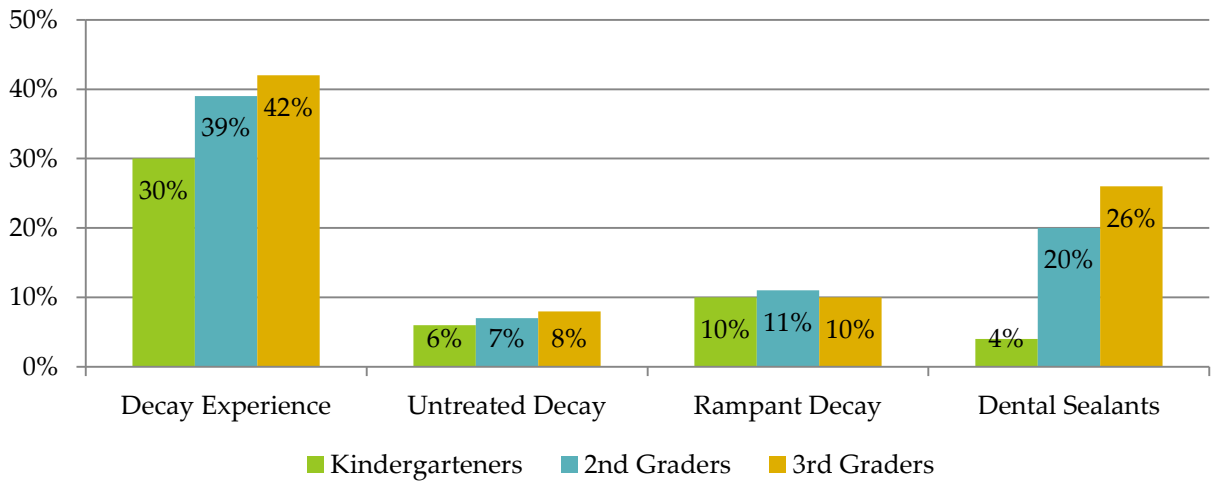
Figure 4: Comparison to Healthy People 2020 Goals, Clark County Preschoolers (Age 3-5 Years-Old), 2015-16



Results – Elementary Schoolers

Figure 5 shows the core Smile Survey indicators for elementary school aged children. In Clark County, 30% of kindergarteners, 39% of 2nd graders, and 42% of 3rd grader had decay experience. In addition, 6% of kindergarteners, 7% of 2nd graders, and 8% of 3rd graders had untreated tooth decay. 10% of kindergarteners, 11% of 2nd graders, and 10% of 3rd graders had rampant tooth decay. Because 2nd and 3rd graders are more likely to have their permanent teeth, they are also more likely to have dental sealants. In Clark County, 20% of 2nd graders and 26% of 3rd graders had dental sealants.

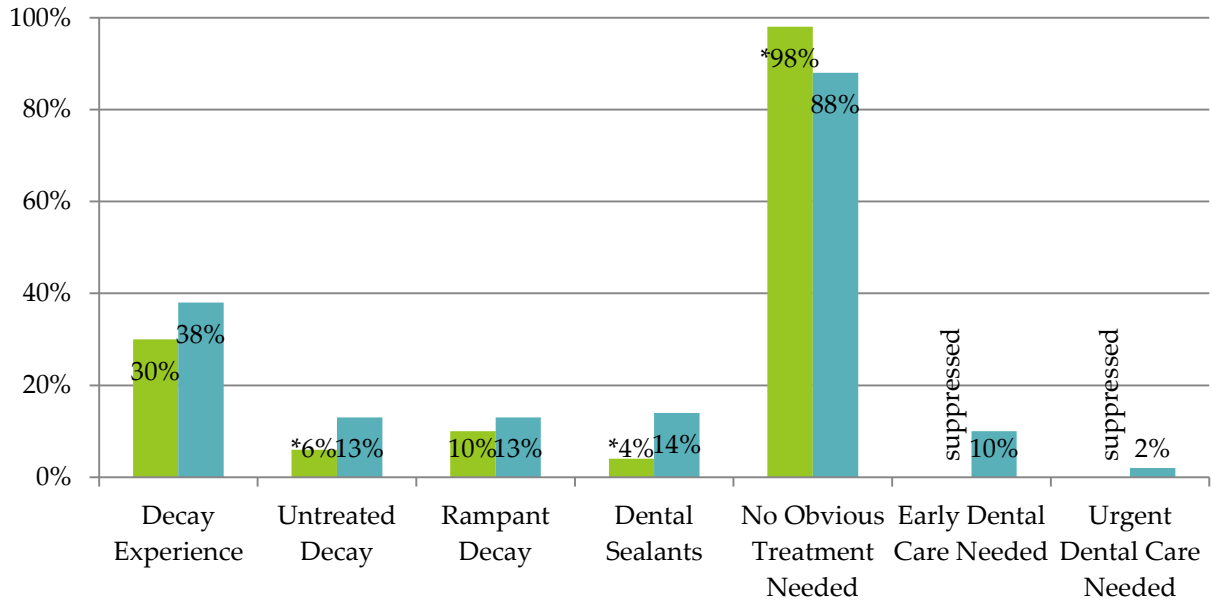
Figure 5: Elementary Schoolers in Clark County
Smile Survey Results, 2015-16



Comparison to Washington State

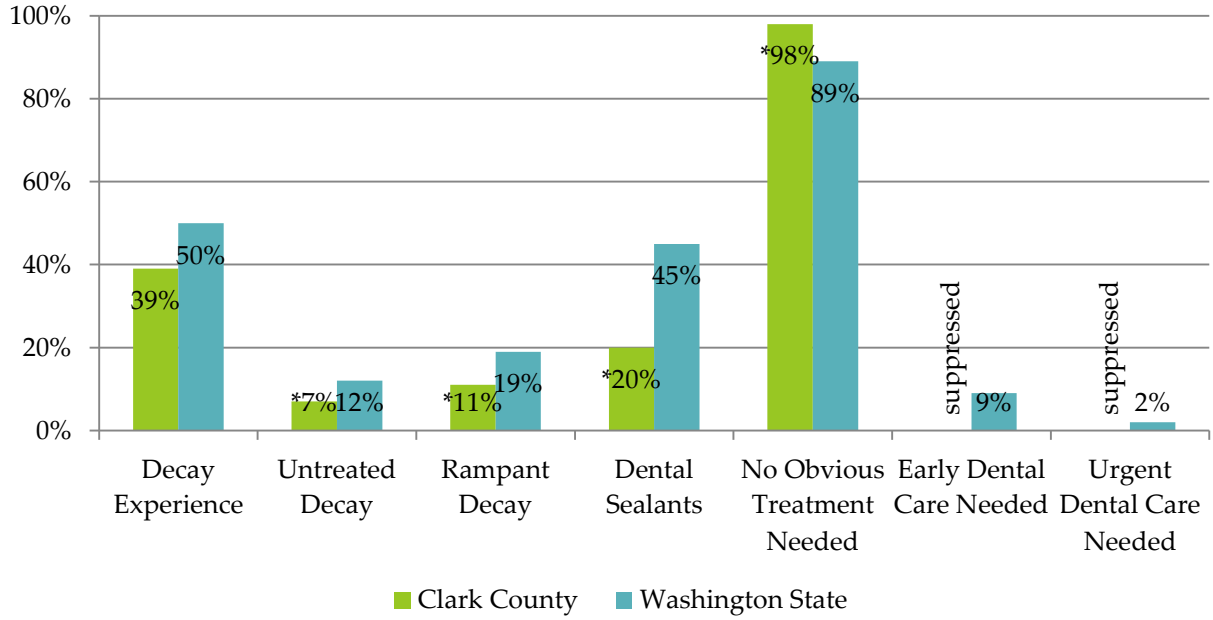
Oral health among kindergarteners, 2nd, and 3rd graders in Clark County was generally better than Washington State overall. Kindergarteners were significantly less likely to have untreated decay, and also had lower rates of any decay experience and rampant decay. In Clark County, 2nd graders were significantly less likely to have untreated and rampant decay than Washington State 2nd graders overall. 3rd graders in Clark County also saw lower rates of treated, untreated, rampant decay. Additionally, kindergarteners, 2nd graders, and 3rd graders in Clark County were significantly less likely to be in need of early or urgent dental care than Washington State elementary schoolers overall. However, kindergarteners, 2nd graders, and 3rd graders in Clark County were also significantly less likely to have dental sealants than Washington State elementary schoolers overall. These data are shown in figures 6-8.

Figure 6: Kindergarten Comparison to Washington State Smile Survey Results, 2015-16



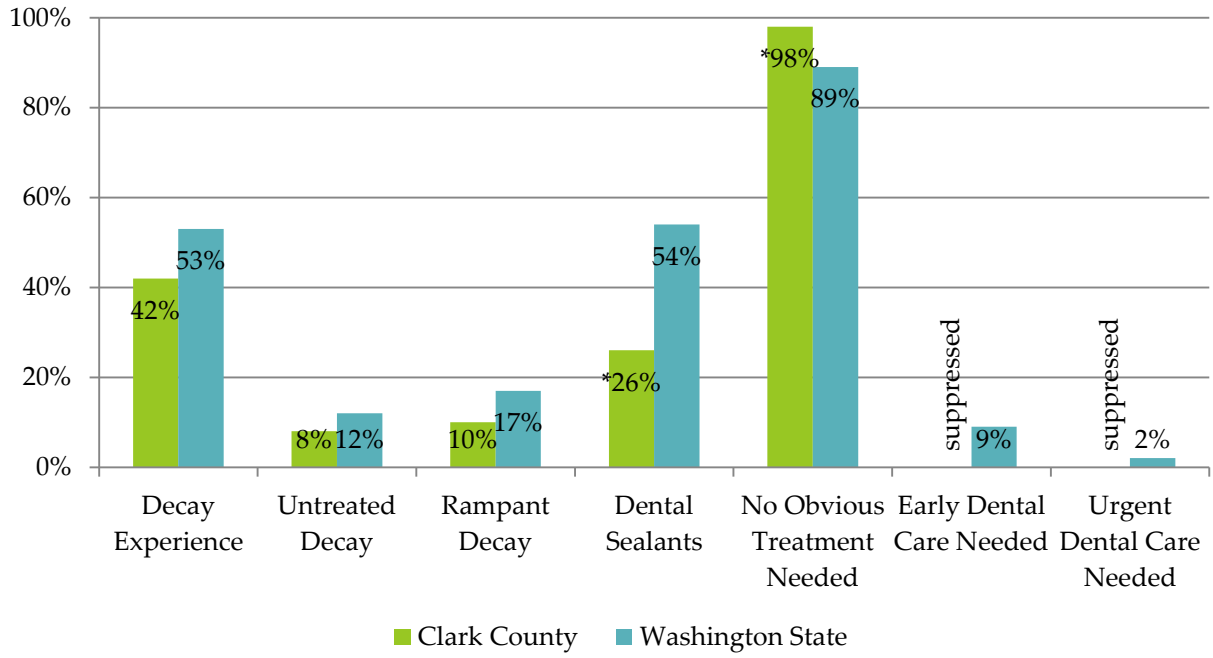
*significantly different from Washington State

Figure 7: 2nd Graders Comparison to Washington State Smile Survey Results, 2015-16



*significantly different from Washington State

Figure 8: 3rd Graders Comparison to Washington State Smile Survey Results, 2015-16



*significantly different from Washington State

Progress

The oral health status of elementary schoolers has been improving in Clark County over the last decade. In 2005, 61.9% of 3rd graders had decay experience. This prevalence decreased to 54.8% in 2010 and then to 41.7% in 2015-16. The rate of untreated decay has also decreased from 13.0% in 2005 to 7.5% in 2015-16. However, the prevalence of dental sealants has also gone down among Clark County 3rd graders, from 39.2% in 2005, to 43.1% in 2010, to just 25.8% in 2015-16.

Table 3: Oral Health Status of 3rd Graders in Clark County, 2005, 2010, and 2015-16

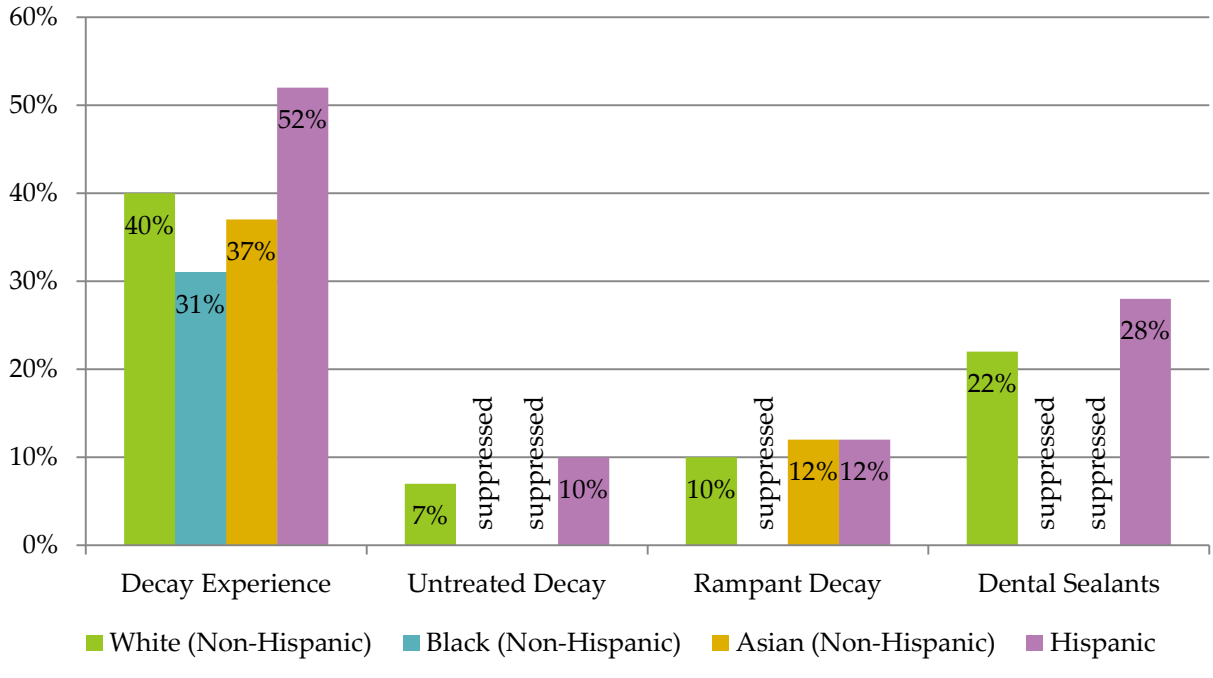
	2005	2010	2015-16
Decay Experience	61.9%	54.8%	41.7%
Untreated Decay	13.0%	6.8%	7.5%
Rampant Decay	13.7%	16.9%	10.0%
Dental Sealants	39.4%	34.1%	25.8%
No Obvious Treatment Needed	88.7%	93.4%	97.6%
Early Dental Care Needed	10.5%	6.4%	suppressed
Urgent Dental Care Needed	0.8%	suppressed	suppressed

Disparities by Race/Ethnicity

The core indicators were broken down by race/ethnicity among the 2nd and 3rd grade combined population. Hispanic students had the highest prevalence of decay experience (52%), whereas 40% of non-Hispanic White students, 37% of non-Hispanic Asian students, and 31% of non-Hispanic Black students had decay experience. In addition, among Hispanic students, 10% had untreated decay and 12% had rampant decay, whereas among non-Hispanic White students 7% had untreated decay and 10% had rampant decay. Among non-Hispanic Asian 2nd and 3rd graders, 12% had rampant decay as well. However, Hispanic students were also more likely to have dental sealants. 28% of Hispanic students and 22% of non-Hispanic White students had dental sealants.

Data for non-Hispanic American Indian/Alaska Native, non-Hispanic Pacific Islander, multi-racial students, and select data for non-Hispanic Black and non-Hispanic Asian students were suppressed.

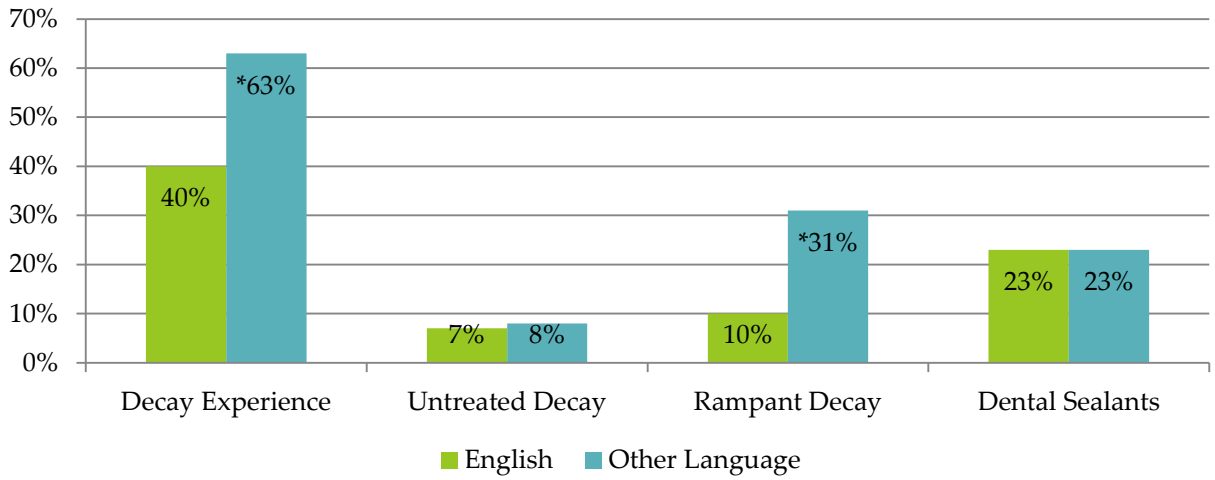
Figure 9: Racial/Ethnic Disparities among 2nd & 3rd Graders in Clark County
Smile Survey Results, 2015-16



Disparities by Language Spoken at Home

Core indicators were broken down by language spoken at home for the 2nd and 3rd grade combined population. Students who primarily spoke a language other than English at home generally showed poorer oral health outcomes. Students who primarily spoke a language other than English at home had significantly higher rates of decay experience (63%) than students who primarily spoke English at home (40%). In addition, students who primarily spoke a language other than English at home were significantly more likely to have rampant decay (31%) than students how spoke primarily English at home (10%). However, the prevalence of dental sealants was the same for both groups (23%).

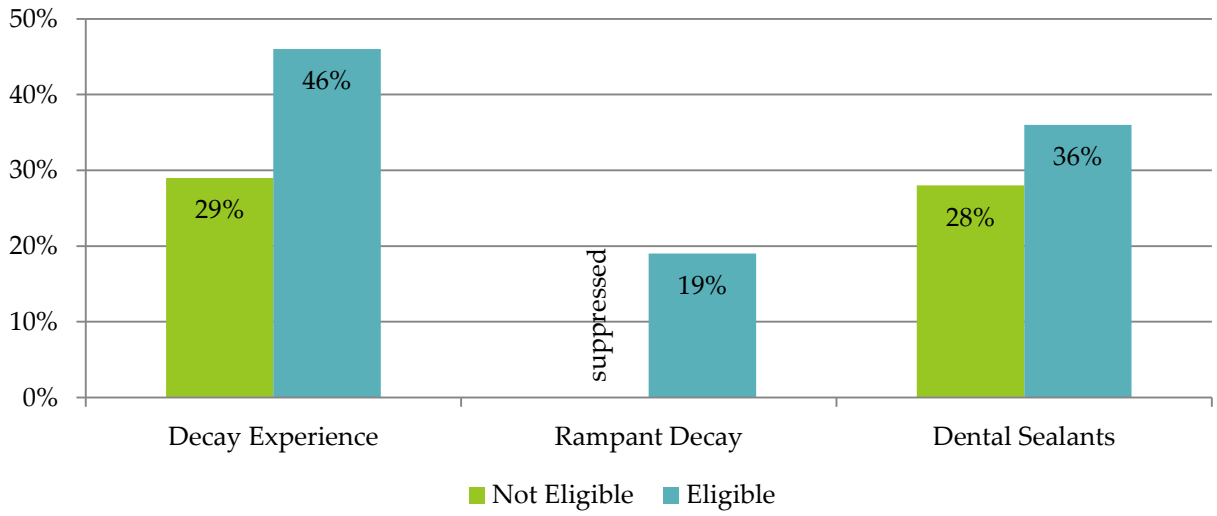
Figure 10: Disparities by Language Spoken at Home among 2nd & 3rd Graders in Clark County
Smile Survey Results, 2015-16



Disparities by Free or Reduced Lunch Eligibility

Core indicators were also broken down by free or reduced lunch eligibility for the 2nd and 3rd grade combined population. Students who were eligible for free or reduced price lunch experienced a higher prevalence of decay experience (46%) than student who were not eligible for free or reduced lunch (29%). However, students eligible for free or reduced price lunch also had a higher prevalence of dental sealants (36%) than students who were not eligible for free or reduced lunch (28%).

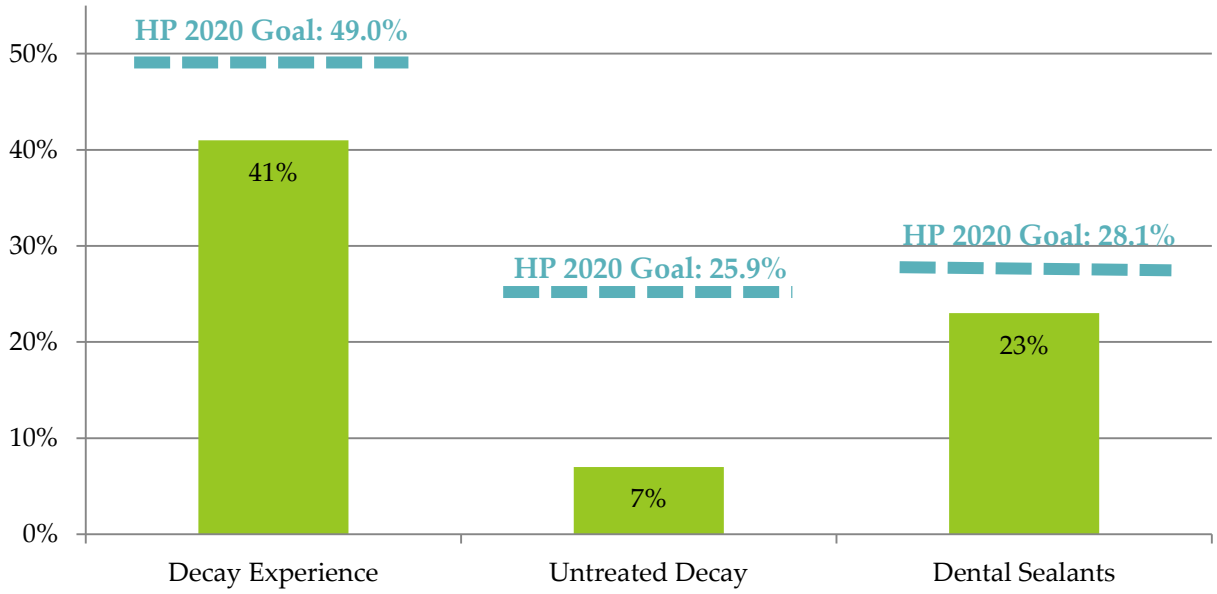
Figure 11: Disparities by Free/Reduced Lunch Eligibility among 2nd & 3rd Graders in Clark County Smile Survey Results, 2015-16



Comparison to Healthy People 2020 Goals

Elementary schoolers (kids age 6-9 years-old) are exceeding Healthy People 2020 goals for decay experience and untreated decay. Only 41% of 6-9 year olds in Clark County had any decay experience, exceeding the Healthy People 2020 target of 49.0%. In addition, only 7% of Clark County 6-9 year-olds had any untreated decay, well exceeding the Healthy People 2020 target of 25.9%. However, progress is still needed to meet the Healthy People 2020 target of 28.1% of 6-9 year-olds having dental sealants, as this prevalence in Clark County is only 23%.

Figure 12: Comparison to Healthy People 2020 Goals, Clark County Elementary Schoolers (Age 6-9 Years-Old) 2015-16



Appendix A

2105-16 Smile Survey Participating Preschools in Clark County	
Site Name	**# of 3-5 Year-Olds Screened**
Boys and Girls Club	14
Burton ECEAP	28
Centeral Park ECEAP	10
Ellsworth Head Start	40
Family Center	12
Fruit Valley Head Start	23
Hathaway Head Start	14
Hazel Dell Head Start	29
SWCC Image	24
Maple Grove ECEAP	6
McArthur Head Start	66
McKenzie Head Start	25
Memorial ECEAP	50
Nierenberg	16
Orchards Head Start	27
Roosevelt Head Start	15
Sifton Head Start	29
Silver Star Head Start	23
St Johns Head Start	28
VHA AM	27
Washington Elementary ECEAP	44
Woodland Head Start	29
Y's Care ECEAP	13
Yacolt Head Start	11
Zellenbeck Adm Ctr ECEAP	30
Total	***633***

2015-16 Smile Survey Participating Elementary Schools in Clark County				
School	**# Screened**			**Total**
	Kindergarten	**2nd Grade**	**3rd Grade**	
Chinook Elementary	28	36	29	93
Franklin Elementary	43	55	43	141
Gause Elementary	78	84	73	235
Glenwood Heights	110	127	112	349
Harmony Elementary	70	71	91	232
Hockinson Elementary	89	111	84	284
Illahee Elementary	72	61	100	233
Sifton Elementary	66	68	52	186
Yacolt Elementary	146	157	148	451
Totals	***702***	***770***	***732***	***2,204***