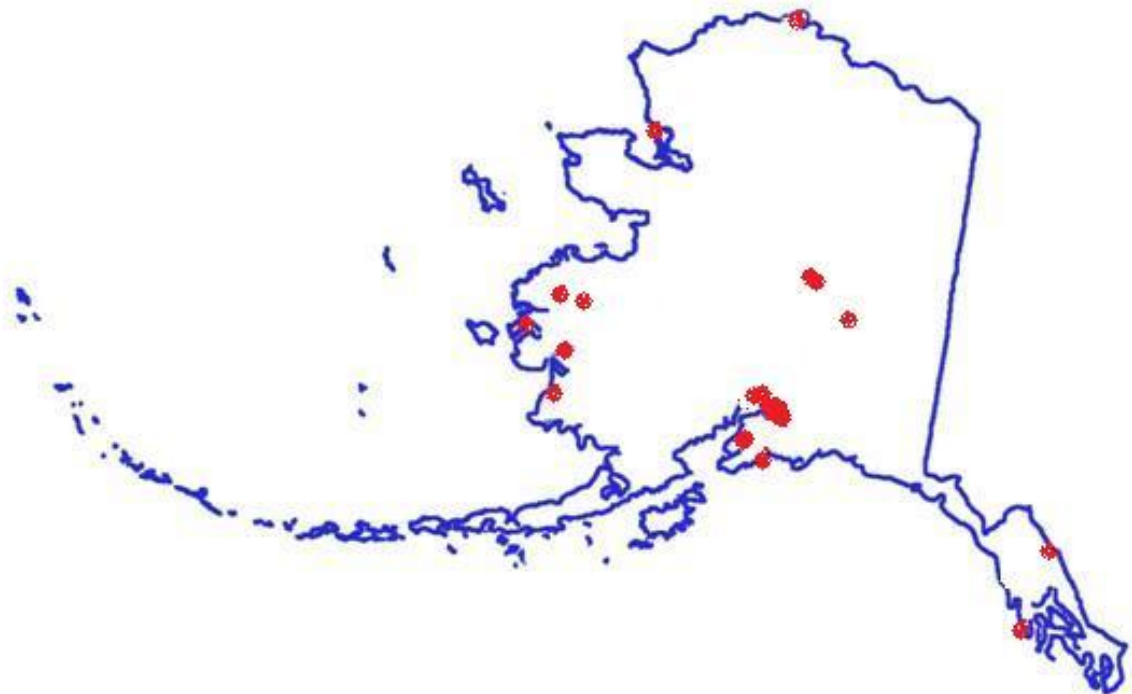


# Results of the 2010/2011 Survey of Alaskan 3<sup>rd</sup> Grade Children

Alaska Oral Health Basic Screening Survey



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# Alaska State Oral Health Assessment, 2011 Preliminary Data

## Assessment description:

This assessment consisted of two parts: a consent form and questionnaire for parents/guardians to complete and a school-based clinical assessment provided by dentists operating under standardized ASTDD survey guidelines. The consents were sent home as individual paperwork or as a part of student's weekly packets, as school registration had already occurred. Response rates are reported separately for questionnaire return and for the number of children actually screened. There were a small percentage of Respondents who completed questionnaires but did not want their children to have the clinical assessment (2.4%) and an additional small percentage of children who had consents returned with permission to examine but who were absent on the day of the exam (3.2%).

All analyses were performed using EpiInfo2000 software; confidence intervals for means were computed by hand using software tabulated variances.

## Response Tables:

For these preliminary dataset calculations, sample weights were not available. Response rates were averaged at the School level, and the average school value was used in response tabulations, assuming that the school, not the child, was the sampling unit. Some schools provided updated enrollment information, which was used in calculations when available. One school declined participation and was replaced in the sample, and one school substitution was made due to the size of the school and the expense and difficulty of scheduling a screener with the remoteness of the site.



## Demographic Variables:

**Table 1.**

**Percent of returned completed questionnaires to enrolled children,  
Alaskan 3rd Graders, 2011**

<b>Site</b>	<b>Number of students enrolled in grade</b>	<b>Number of returned completed questionnaires</b>	<b>Percent participation</b>
Alpenglow Elementary	76	44	57.9
Big Lake Elementary	51	12	23.5
Delta Junction Elementary	57	32	56.1
Hunter Elementary	45	10	22.2
Ignatius Beans School	18	9	50.0
Fred Ipalook Elementary	65	42	76.4
Kake Elementary and High School	7	7	100.0
Kasuun Elementary	67	33	49.3
Kalifornsky Beach Elementary	61	39	63.9
Knik Elementary	130	66	50.8
Kuinerrarmiut Elitnaurviat	26	9	34.6
Mountain View Elementary Anchorage	57	50	87.7
Mountain View Elementary Kenai	77	36	46.8
June Nelson Elementary	56	19	33.9
Ayaprun School (Newtok)	11	5	45.5
Northern Lights ABC School	75	55	73.3
Pilot Station School	13	6	46.2
Riverbend Elementary	50	4	8.0
Sand Lake Elementary	83	27	32.5
William H. Seward Elementary	34	20	58.8
Susitna Elementary	65	29	44.6
Ticasuk Brown Elementary	73	40	54.8
Tudor Elementary	42	25	55.6
Turnagain Elementary	61	32	52.5
Williwaw Elementary	55	14	25.5
<b>Total</b>	<b>1355</b>	<b>665</b>	<b>50.02</b>

Response rates varied between sites, ranging from 8% to 100% for survey participation.

**Table 2.****Percent of returned completed questionnaires and clinical screenings to enrolled children, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Site</b>	<b>Number of Students enrolled in grade</b>	<b>Number of children screened</b>	<b>Percent participation questionnaire plus screening</b>
Alpenglow Elementary	76	40	52.6
Big Lake Elementary	51	11	21.6
Delta Junction Elementary	57	28	49.1
Hunter Elementary	45	7	15.6
Ignatius Beans School	18	9	50.0
Fred Ipalook Elementary	65	42	64.6
Kake Elementary and High School	7	7	100.0
Kasuun Elementary	67	32	47.8
Kalifornsky Beach Elementary	61	38	55.9
Knik Elementary	130	62	47.7
Kuinerrarmiut Elitnaurviat	26	9	34.6
Mountain View Elementary Anchorage	57	50	87.7
Mountain View Elementary Kenai	77	36	46.8
June Nelson Elementary	56	19	33.9
Ayaprun School (Newtok)	11	5	45.5
Northern Lights ABC School	75	44	58.7
Pilot Station School	13	6	46.1
Riverbend Elementary	50	3	6.0
Sand Lake Elementary	83	27	32.5
William H. Seward Elementary	34	16	47.1
Susitna Elementary	65	26	40.0
Ticasuk Brown Elementary	73	40	54.8
Tudor Elementary	42	25	59.5
Turnagain Elementary	61	32	52.5
Williwaw Elementary	55	14	25.5
<b>Total</b>	<b>1355</b>	<b>628</b>	<b>47.04</b>

Response rates varied between sites, ranging from 6% to 100% for screening participation.



**Table 3.**

**Distribution of participants by screener, Alaskan 3rd Graders, 2011**

<b>Screener</b>	<b>Number of Participants</b>	<b>Percent of Participants</b>
AB	6	1.0
JCW	5	0.8
JEM	19	3.0
JLE	3	0.5
JT	149	23.7
KSM	42	6.7
PAB	9	1.4
RCM	246	39.2
RDB	9	1.4
SXE	133	21.2
TJ	7	1.1
<b>Total</b>	<b>628</b>	<b>100.0</b>

Eleven screeners collected data for this survey, providing between 3 and 246 exams each.

**Table 4.****Distribution of respondents by site, Alaskan 3rd Graders, 2011**

<b>School</b>	<b>Site</b>	<b>Number of Respondents</b>	<b>Percent Respondents</b>
Alpenglow Elementary	3	44	6.6
Big Lake Elementary	67	12	1.8
Delta Junction Elementary	214	32	4.8
Hunter Elementary	221	10	1.5
Ignatius Beans School	156	9	1.4
Fred Ipalook Elementary	143	42	6.3
Kake Elementary and High School	137	7	1.1
Kasuun Elementary	27	33	5.0
Kalifornsky Beach Elementary	96	39	5.9
Knik Elementary	42	66	9.9
Kuinerrarmiut Elitnaurviat	175	9	1.4
Mountain View Elementary Anchorage	83	50	7.5
Mountain View Elementary Kenai	112	36	5.5
June Nelson Elementary	148	19	2.9
Ayaprun School (Newtok)	198	5	0.8
Northern Lights ABC School	12	55	8.3
Pilot Station School	163	6	0.9
Riverbend Elementary	129	4	0.6
Sand Lake Elementary	19	27	4.1
William H. Seward Elementary	105	20	3.0
Susitna Elementary	50	29	4.4
Ticasuk Brown Elementary	208	40	6.0
Tudor Elementary	58	25	3.8
Turnagain Elementary	34	32	4.8
Williwaw Elementary	75	14	2.1
<b>Total</b>		<b>665</b>	<b>100.0</b>

Based on rough extrapolation of Year 2010 census data, this sample represents approximately 6.5% of Alaskan 3<sup>rd</sup> grade children. The 625 students screened represent about 6.1% of Alaskan 3<sup>rd</sup> grade children.

**Table 5.**

**Distribution of respondents by gender, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Gender</b>	<b>Number of Respondents</b>	<b>Percent</b>	<b>95% CI</b>
Male	342	51.4	(47.6, 55.3)
Female	323	48.6	(44.7, 52.4)
<b>Total</b>	<b>665</b>	<b>100.0</b>	

Boys and girls were proportionately distributed in this sample; census data indicates that Alaska has more males than females in this age group.

**Table 6.**

**Mean age (in months) of respondents by gender, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Gender</b>	<b>Mean age in months (range)</b>	<b>Std. Deviation</b>
Male (n=319)	106.9 (94-147)	6.19
Female (n=308)	105.3 (93-134)	5.30
<b>Both (n=627)</b>	<b>106.1 (93-147)</b>	<b>5.82</b>

Girls were slightly younger than boys; this difference in age between genders was statistically significant (P-Value=0.0011), although not practically significant. Birthdates ranged from 12-14-1998 to 12-18-2002. Age was computed only for children who participated in the clinical assessment (Date of birth was missing for one child).

**Table 7.****Distribution of respondents by race/ethnicity as reported by parent/guardian, Alaskan 3rd Graders, 2011**

<b>Race/Ethnicity</b>	<b>Code</b>	<b>Number of Respondents</b>	<b>Percent of Respondents</b>	<b>Approx. Census Estimate</b>
White	1	299	45.0 (41.1, 48.8)	66.7
Black/African American	2	17	2.6 (1.5, 4.1)	3.3
Hispanic/Latino	3	43	6.5 (4.8, 8.7)	5.5
Asian	4	61	9.2 (7.1, 11.7)	5.4
American Indian/Alaskan Native	5	161	24.2 (21.0, 27.7)	14.8
Native Hawaiian/Pacific Islander	6	19	2.9 (1.8, 4.5)	1.0
Multi-Racial	7	60	9.0 (7.0, 11.5)	7.3
Unknown	9	4	0.6	
Blank		1	0.1	
<b>Total</b>		<b>665</b>	<b>100</b>	

If children were not scored or scored as “unknown” by their parent/guardian, the screener confirmed/corrected the score with school consultation.

Based on rough extrapolation, again, of Alaska 2010 census data, this racial distribution crudely approximates reported Race/Ethnicity distributions for the state population as a whole (all ages). The confidence intervals for this sample did not include the census estimate for “Whites” (census estimate 66.7%), “Asian” (census estimate 5.4%), “American Indian/Alaskan Native” (census estimate 14.8%), and “Native Hawaiian/Pacific Islander” (census estimate 0.5). This sample under-represents the “White” race/ethnicity category and over-represents “Asian”, “American Indian/Alaskan Native”, “Native Hawaiian/Pacific Islander” and “Multi-Racial” categories with respect to crude State estimates.

For some analyses, cell sizes were too small to evaluate all racial groupings. A grouped racial variable was created in categories identical to those used in previous survey analyses to allow comparisons. The original seven groupings for Race/ethnicity were collapsed into three groupings, displayed in Table 8: “White”, “Native American/Alaskan Native”, and “All others” which includes “Blacks/African American”, Hispanic/Latino”, “Asian”, “Native Hawaiian/Pacific Islander”, “Multi-Racial”, and “Unknown”.

**Table 8.**

**Distribution of respondents by race/ethnicity (collapsed groupings),  
Alaskan 3rd Graders, 2011**

<b>Race/Ethnicity</b>	<b>Number of Respondents</b>	<b>Percent of Respondents</b>	<b>95% CI</b>
White	299	45.0	(41.1, 48.8)
American Indian/Alaskan Native	161	24.2	(21.0, 27.7)
All others	205	30.8	(27.4, 34.5)
<b>Total</b>	<b>665</b>	<b>100</b>	

Heights and weights were also collected in this survey. Calculations for BMI and BMI percentile for age were performed using the CDC's BMI tool for schools.

**Table 9.**

**BMI percentile for age, Alaskan 3<sup>rd</sup> graders, 2011**

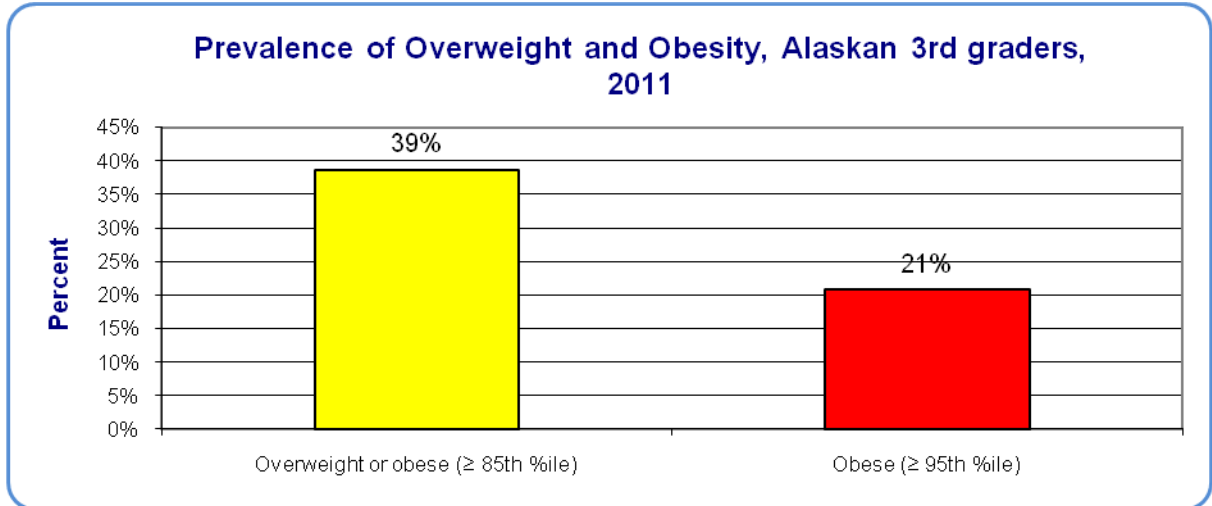
	n	% Underweight (<5 <sup>th</sup> percentile)	% Normal BMI (5 <sup>th</sup> - 85 <sup>th</sup> percentile)	% Overweight (85 <sup>th</sup> -95 <sup>th</sup> percentile)	% Obese (>95 <sup>th</sup> percentile)
<b>Male</b>	324	4	56	20	22
<b>Female</b>	312	2	60	16	20
<b>Both</b>	<b>636</b>	<b>3</b>	<b>58</b>	<b>18</b>	<b>21</b>

\*Terminology based on: Barlow SE and the Expert Committee. Expert committee recommendations regarding the prevention, assessment, and treatment of child and adolescent overweight and obesity: summary report. Pediatrics. 2007;120 (suppl 4):s164-92.

Some parents gave consent for height/weight assessments but not dental screenings; while consent was obtained for height/weight assessments for 636 children only 628 had consent for dental screenings.

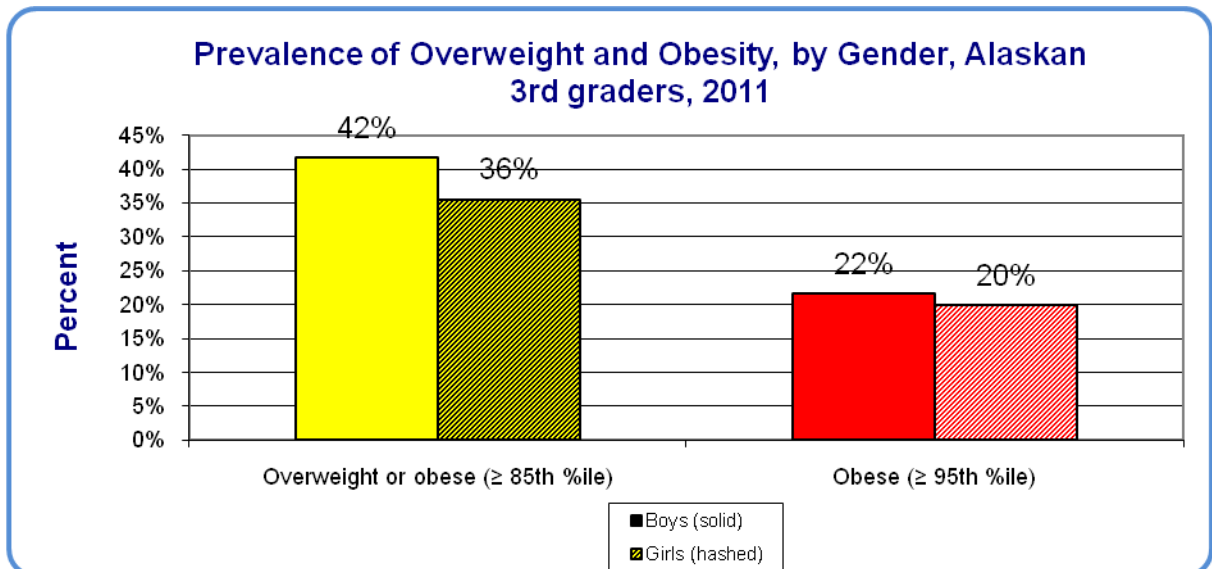
**Figure 1:**

**Prevalence of overweight and obese children, Alaskan 3<sup>rd</sup> graders, 2011**



**Figure 2:**

**Prevalence of overweight and obese children by gender, Alaskan 3<sup>rd</sup> graders, 2011**







## Questionnaire Variables:

**Table 10.**

### **Length of time since last reported dental visit, Alaskan 3rd Graders, 2011**

Question 1: About how long has it been since your child last visited a dentist? (Include all types of dentists such as orthodontists and oral surgeons as well as dental hygienists.) (Please check only one.)

<b>Response</b>	<b>Number Responding</b>	<b>Percent Responding</b>	<b>95% CI</b>
6 months or less	359	54.0	(50.1, 57.8)
More than 6 months, but not more than 1 year	113	17.0	(14.3, 20.1)
More than 1 year, but not more than 3 years ago	97	14.6	(12.0, 17.6)
More than 3 years ago	17	2.6	(1.5, 4.1)
Never has been to the dentist	18	2.7	(1.5, 4.1)
Don't know/don't remember	17	2.6	
(Blank)	44	6.9	
<b>Total</b>	<b>665</b>	<b>100.0</b>	

Over 70% of respondents reported that their child's last dental visit was within the past year, with over half visiting a dentist within the past 6 months. A small percentage of parents (less than 3%) responded that their child had never been to a dentist.

**Table 11.****Main reason for last dental visit, Alaskan 3rd Graders, 2011**

Question 2. What was the main reason that your child last visited a dentist? (Check only one.)

<b>Response</b>	<b>Number Responding</b>	<b>Percent Responding</b>	<b>95% CI</b>
Something was wrong, bothering or hurting	46	6.9	(5.2, 9.2)
Went for treatment of a condition that dentist discovered at earlier check-up or examination	86	12.9	(10.5, 15.8)
Went in on own for check-up, exam or cleaning	368	55.3	(51.5, 59.1)
Was called in by dentist for check-up, exam or cleaning	80	12.0	(9.7, 14.8)
Other reason (unspecified)	2	0.3	(0.1, 1.2)
Don't know	15	2.3	
(Blank)	68	10.2	
<b>Total</b>	<b>665</b>	<b>100</b>	

About 7% of respondents reported that their child's last dental visit was due to pain or discomfort. Sixty-eight percent went in for examination or cleaning, and about 12% went in for some type of dental treatment that was previously noted by their dentist. "Other" responses were re-coded as a listed response if comments indicated a logical choice was available (i.e. "abscess" was recoded as "Something was wrong, bothering, or hurting."). Two respondents did not specify the "other" reason.

**Table 12.**

**Inability to obtain dental care in past 12 months, Alaskan 3rd Graders, 2011**

Question 3. During the past 12 months, was there a time when your child needed dental care but could not get it at that time?

<b>Response</b>	<b>Number Responding</b>	<b>Percent Responding</b>	<b>95% CI</b>
Yes	81	12.2	(9.8, 15.0)
No	498	74.9	(71.4, 78.1)
Don't Know	22		
(Blank)	64		
<b>Total</b>	<b>665</b>		

Eighty one parents (12%) reported having difficulty in obtaining needed dental care for their child in the past 12 months.

**Table 13.****Main reason for parent’s inability to get dental care for their child, Alaskan 3rd Graders, 2011 (among those who could not get care)**

Question 3 subset: What was the main reason the child couldn’t get care? (Please check only one.)

<b>Response</b>	<b>Number Responding</b>	<b>Percent Responding</b>	<b>95% CI</b>
Dentist did not accept Denali KidCare/Medicaid Insurance	7	8.6	(3.5, 17.0)
No dentist available	4	4.9	(1.4, 12.2)
No way to get there	3	3.7	(0.8 , 10.4)
Difficulty in getting appointment	18	22.2	(13.7, 32.8)
Did not know where to go	4	4.9	(1.4, 12.2)
Could not afford	37	45.7	(34.6, 57.1)
Don’t know	3	3.7	
Other reason (unspecified)	2	2.5	
(Blank)	3	3.7	
<b>Total</b>	<b>81</b>	<b>99.9</b>	

Of those parents whose children needed care but could not get it, the most frequent reason given was that they could not afford care (46%); more than 20% said they had difficulty in getting an appointment and an additional 8.6% reported that they did not get care for their child because their dentist did not accept Denali KidCare/Medicaid. Again, “Other” responses were re-coded as a listed response if comments indicated a logical choice was available (e.g., “waiting for appointment” was recorded as “Difficulty in getting appointment.” Two responders did not specify the “Other” reason for their inability to get an appointment.

**Table 14.**

**Survey respondents reporting tooth pain, Alaskan 3rd Graders, 2011**

Question 4: During the past 6 months did your child have a toothache more than once when biting or chewing?

<b>Response</b>	<b>Number Responding</b>	<b>Percent Responding</b>	<b>95% CI</b>
Yes	44	6.6	(4.9, 8.9)
No	552	83.0	(79.9, 85.7)
Don't Know	18	2.7	
(Blank)	51	7.7	
<b>Total</b>	<b>665</b>	<b>100.0</b>	

Less than 7% of respondents reported that their child had a toothache more than once in the past 6 months.

**Table 15.**

**Respondents with dental insurance, Alaskan 3rd Graders, 2011**

Question 5. Do you have any kind of insurance that pays for some or all of your child's dental care? (Check only one.)

<b>Response</b>	<b>Number Responding</b>	<b>Percent Responding</b>	<b>95% CI</b>
Yes	534	80.3	(77.0, 83.2)
No	76	11.4	(9.2, 14.2)
Don't Know	4	0.6	
(Blank)	51	7.7	
<b>Total</b>	<b>665</b>	<b>100.0</b>	

Over 80% of respondents reported having some type of dental insurance.

**Table 16.**

**Type of dental insurance coverage carried by respondents, Alaskan 3rd Graders, 2011**

Question 5 subset. What kind of dental insurance? (Check all that apply)

<b>Response</b>	<b>Number Responding</b>	<b>Percent Responding</b>	<b>95% CI</b>
Commercial (provided by employer)	227	42.5	(43.1, 50.4)
Private (you bought yourself)	26	4.9	(3.3, 7.1)
Denali KidCare/Medicaid	200	37.5	(33.4, 41.7)
Military/Tricare (Champus)	67	12.5	(9.9, 15.7)
Native Health Corporation	62	11.6	(9.1, 14.7)
Don't Know	3	0.6	(0.1, 1.8)
Multiple types of insurance selected	66	13.1	(10.4, 16.3)
At least one type of insurance selected	436	81.6	(78.0, 84.8)

Of those covered by some type of dental insurance, over 40% reported having insurance through their employer. Over 37% were covered by Denali KidCare or Medicaid. Military coverage accounted for about 12% of those who had some type of insurance. About 13% of children seemed to be covered by more than one type of policy. In addition to those who responded "Don't Know", 28 respondents who indicated that they had insurance did not select any of the listed categories.

**Table 17.**

**Respondents receiving care through a Native Health Corporation, Alaskan 3rd Graders, 2011**

Question 6. Does your child receive dental care through a Native Health Corporation/tribal clinic or in a village based setting (school/clinic)?

<b>Response</b>	<b>Number Responding</b>	<b>Percent Responding</b>	<b>95% CI</b>
Yes	128	19.2	(16.4, 22.5)
No	459	69.0	(65.3, 72.5)
Don't Know	19	2.9	
(Blank)	59	8.9	
<b>Total</b>	<b>665</b>	<b>100.0</b>	

Almost 20% of respondents reported receiving dental care through a Native Health Corporation/tribal clinic or in a village based setting.

**Table 18.**

**Respondents with medical insurance, Alaskan 3rd Graders, 2011**

Question 7. Do you have any kind of insurance that pays for some or all of your child's Medical or surgical care? Include health insurance obtained through employment or purchased directly as well as government programs like Denali KidCare/Medicaid. (Please check only one.)

<b>Response</b>	<b>Number Responding</b>	<b>Percent Responding</b>	<b>95% CI</b>
Yes	499	75.0	(71.5, 78.2)
No	101	15.2	(12.6, 18.2)
Don't Know	9	1.4	
(Blank)	56	8.4	
<b>Total</b>	<b>665</b>	<b>100</b>	

Seventy-five percent of respondents reported that they had some type of medical/surgical insurance.





## Screening Variables:

Parental consent was obtained to examine 649 of the 665 children who returned surveys. Of these, 24 children were absent on the day of exam. 625 (94.0%) of children with returned surveys were examined by a dentist at their school, using a mouth mirror and headlamp. Children were scored for the presence of untreated dental carious lesions, dental caries experience, presence of sealants on permanent molar teeth, treatment urgency, and the number of quadrants needing treatment for dental caries. Only children who had parental consent and gave consent for an exam (n=625) were included in clinical response tabulations.

Assessments were performed between September 21, 2010 and March 14, 2011.

## Frequencies of Clinical Variables:

**Table 19.**

### **Untreated dental caries, Alaskan 3rd Graders, 2011**

<b>Untreated Dental Caries</b>	<b>Number of Participants</b>	<b>Percent of Participants</b>	<b>95% CI</b>
Yes	150	23.9	(20.6, 27.5)
No	478	76.1	(72.5, 79.4)
<b>Total</b>	<b>628</b>	<b>100.0</b>	

About 24% of children examined had cavitated carious lesions.

**Table 20.**

### **Dental caries experience, Alaskan 3rd Graders, 2011**

<b>Dental Caries Experience</b>	<b>Number of Participants</b>	<b>Percent of Participants</b>	<b>95% CI</b>
Yes	387	61.6	(57.7, 65.4)
No	241	38.4	(34.6, 42.3)
<b>Total</b>	<b>628</b>	<b>100.0</b>	

Of children examined, over 60% had dental caries experience.

**Table 21.****Presence of dental sealants, Alaskan 3rd Graders, 2011**

<b>Number of permanent 1<sup>st</sup> molars sealed</b>	<b>Number of Participants</b>	<b>Percent of Participants</b>	<b>95% CI</b>
0	334	53.2	(49.2, 57.1)
1	47	7.5	(5.6, 9.9)
2	62	9.9	(7.7, 12.5)
3	41	6.5	(4.8, 8.8)
4	144	22.9	(19.7, 26.5)
<b>Total</b>	<b>628</b>	<b>100.0</b>	

Less than half of the children examined had a dental sealant on at least one permanent molar.

**Table 22.****Number of permanent 1<sup>st</sup> molars filled, Alaskan 3rd Graders, 2011**

<b>Number of permanent 1<sup>st</sup> molars filled</b>	<b>Number of Participants</b>	<b>Percent of Participants</b>	<b>95% CI</b>
0	565	90.0	(87.3, 92.2)
1	26	4.1	(2.8, 6.1)
2	17	2.7	(1.6, 4.4)
3	8	1.3	(0.6, 2.6)
4	12	1.9	(1.0, 3.4)
<b>Total</b>	<b>628</b>	<b>100.0</b>	<b>100.0</b>

Ninety percent of children examined had no permanent first molars filled.

**Table 23.****Number of permanent 1<sup>st</sup> molars with untreated decay, Alaskan 3rd Graders, 2011**

<b>Number of permanent 1<sup>st</sup> molars with untreated decay</b>	<b>Number of Participants</b>	<b>Percent of Participants</b>	<b>95% CI</b>
0	551	87.7	(84.9, 90.1)
1	37	5.9	(4.2, 8.1)
2	23	3.8	(2.5, 5.7)
3	4	0.6	(0.2, 1.7)
4	12	1.9	(1.0, 3.4)
<b>Total</b>	<b>628</b>	<b>100.0</b>	<b>100.0</b>

Over 12% of children examined had untreated decay on at least one permanent molar.

**Table 24.****Urgency of dental treatment needs, Alaskan 3rd Graders, 2011**

<b>Urgency of Treatment Need</b>	<b>Number of Participants</b>	<b>Percent of Participants</b>	<b>95% CI</b>
No obvious problem	476	75.8	(72.2, 79.1)
Early dental care (within weeks)	145	23.1	(19.9, 26.6)
Urgent care (within 24 hours)	7	1.1	(0.5, 2.4)
<b>Total</b>	<b>628</b>	<b>100.0</b>	

Most children (76%) had no obvious treatment needs, about 23% needed routine care, and 1% needed urgent care.



# Alaska State Oral Health Assessment, 2011

## Differences by BMI Percentile

Variables that revealed no statistical differences in results when stratified by BMI percentile are listed in Table 25. For both questionnaire and clinical variables, only records with meaningful responses were tabulated (all “unknown” and “blank” responses were ignored when appropriate). This yields varying numbers of records for different variables, as respondents were not required to answer all questions. Males and “Yes” responses occupied the default table positions. P-values (Chi-square) are presented for multi-level variables and Odds Ratios (OR) with 95% Confidence Intervals for two-level variables. ANOVA tests for population means were used for continuous variables.

There were too few respondents (83) reporting on Question 3b, reasons for the inability to obtain care (eight choices) to make assessments by gender meaningful.

Clinical measures were assessed by broad BMI categorizations: normal weight, overweight, and obese. Underweight children were not addressed as they constituted only 3% of this sample. Only race had a statistically significant relationship with BMI categories in this sample.

**Table 25.****Variables with insignificant differences between results when compared by BMI category, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Variable</b>	<b>P-Value</b>
Length of time since last reported dental visit <sup>1</sup>	0.9998
Main reason for last dental visit	0.2665
Inability to get dental care in past 12 months	0.9509
Respondents reporting tooth pain	0.1979
Proportion of Respondents with dental insurance	0.8096
Proportion of Respondents with commercial dental insurance	0.06596
Proportion of Respondents with private dental insurance : unable to assess due to small expected cell sizes	
Proportion of Respondents with Military/Tricare (Champus) coverage	0.0646
Proportion of Respondents with Native Health Corporation or Tribal coverage	0.4473
Proportion of Respondents with Denali KidCare/Medicaid dental coverage	0.5022
Proportion of Respondents who receive dental care through a Native Health Corporation/tribal clinic or in a village based setting (school/clinic)	0.0766
Respondents with medical insurance	0.6395
Untreated dental caries	0.5744
Dental caries experience	0.1618
Mean number of permanent molars sealed	0.8264
Mean number of permanent molars filled*	0.7284
Mean number of permanent molars with untreated decay*	0.8552
Treatment urgency (categorically analyzed) <sup>3</sup>	0.4592

<sup>1</sup> categories “more than 3 years ago” and “never” were combined to permit adequate cell size for analysis

\* Kruskal-Wallis test

<sup>3</sup> categories “early dental care” and “urgent care” combined to permit adequate cell size for analysis

**Table 26.**

**BMI category by Race/Ethnicity (grouped variable), Alaskan 3<sup>rd</sup> Graders, 2011**

Race		BMI Category			
		Normal weight	Overweight	Obese	Total
<b>White</b>	n	183	46	42	271
	<b>row%</b>	<b>67.5</b>	<b>17.0</b>	<b>15.5</b>	<b>100.0</b>
	col%	49.5	40.4	31.8	44.0
<b>American Indian/Alaskan Native</b>	n	76	33	42	151
	<b>row%</b>	<b>50.3</b>	<b>21.9</b>	<b>27.8</b>	<b>100.0</b>
	col%	20.5	28.9	31.8	24.6
<b>All others</b>	n	111	35	48	194
	<b>row%</b>	<b>57.0</b>	<b>18.1</b>	<b>24.9</b>	<b>100.0</b>
	col%	29.8	30.7	36.4	31.4
<b>All Races</b>	n	370	114	132	616
	<b>row%</b>	<b>60.1</b>	<b>18.5</b>	<b>21.5</b>	<b>100.0</b>
	col%	100.0	100.0	100	100.0

There were significant differences in the distribution of BMI categories between Race/Ethnicity groupings (Chi-square = 14.7533, 4 df, P=0.0052). Children classified as “White” were less likely to be in the obese classification than children classified as “American Indian/Alaskan Native”.

**Table 27.**

**Percent participants in BMI category by Race/Ethnicity, Alaskan 3<sup>rd</sup> Graders, 2011**

		Percent of participants in BMI Category			
		Under weight	Normal Weight	Over weight	Obese
Race/Ethnicity	n				
<b>White</b>	281	3.6 (1.7, 6.4)	65.1 (59.2, 70.7)	16.4 (12.2, 21.2)	14.9 (11.0, 19.7)
<b>American Indian/Alaskan Native</b>	155	2.6 (0.7, 6.5)	49.0 (40.9, 57.2)	21.3 (15.1, 28.6)	27.1 (20.3, 34.8)
<b>All others</b>	200	3.0 (1.1, 6.4)	55.5 (48.3, 62.5)	17.5 (12.5, 23.5)	24.0 (18.3, 30.5)
<i>Black/African American</i>	17	0	76.5 (50.1, 93.2)	11.8 (1.5, 36.4)	11.8 (1.5, 36.4)
<i>Hispanic/Latino</i>	42	2.4 (0.1, 12.6)	52.4 (36.4, 68.0)	23.8 (12.1, 39.5)	21.4 (10.3, 36.8)
<i>Asian</i>	60	5.0 (1.0, 13.9)	53.3 (40.0, 66.3)	18.3 (9.5, 30.4)	23.3 (13.4, 36.0)
<i>Native Hawaiian/Pacific Islander</i>	18	0	16.7 (3.6, 41.4)	11.1 (1.4, 34.7)	72.2 (46.5, 90.3)
<i>Multi-racial</i>	59	3.4 (0.4, 11.7)	66.1 (52.6, 77.9)	13.6 (6.0, 25.0)	16.9 (8.4, 29.0)
<b>All respondents</b>	<b>636</b>	<b>3.1 (2.0, 4.9)</b>	<b>58.2 (54.2, 62.0)</b>	<b>17.9 (15.1, 21.2)</b>	<b>20.8 (17.7, 24.2)</b>

Children classified as “White” were less likely to be in the obese classification than children classified as “American Indian/Alaskan Native”. While this difference is not significant for minority children as a group, other individual minority groups have higher proportions of children classified as obese. Larger sample sizes may show statistical differences with multiple minority groups.



## Differences by Gender

Variables that revealed no statistical differences in results when stratified by gender are listed in Table 28. For both questionnaire and clinical variables, only records with meaningful responses were tabulated (all “unknown” and “blank” responses were ignored when appropriate). This yields varying numbers of records for different variables, as respondents were not required to answer all questions. Males and “Yes” responses occupied the default table positions. P-values (Chi-square) are presented for multi-level variables and Odds Ratios (OR) with 95% Confidence Intervals for two-level variables. ANOVA tests for population means were used for continuous variables.

There were too few respondents (83) reporting on Question 3b, reasons for the inability to obtain care (eight choices) to make assessments by gender meaningful.

**Table 28.****Variables with insignificant differences between results when compared by gender, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Variable</b>	<b>P-Value</b>	<b>OR (95% CI)</b>
Race/Ethnicity (grouped variable)	0.7401	
Length of time since last reported dental visit	0.7528	
Main reason for last dental visit	0.9324	
Inability to get dental care in past 12 months		0.82 (0.51, 1.32)
Respondents reporting tooth pain		0.64 (0.34, 1.18)
Proportion of Respondents with dental insurance		0.65 (0.40, 1.06)
Proportion of Respondents with commercial dental insurance		0.97 (0.69, 1.37)
Proportion of Respondents with private dental insurance		0.72 (0.32, 1.59)
Proportion of Respondents with Military/Tricare (Champus) coverage		1.02 (0.61, 1.71)
Proportion of Respondents with Native Health Corporation or Tribal coverage		1.15 (0.68, 1.95)
Proportion of Respondents with Denali KidCare/Medicaid dental coverage		0.93 (0.65, 1.32)
Proportion of Respondents who receive dental care through a Native Health Corporation/tribal clinic or in a village based setting (school/clinic)		1.04 (0.70, 1.54)
Respondents with medical insurance		1.44 (0.94, 2.23)
Untreated dental caries		1.25 (0.87, 1.81)
Dental caries experience		0.93 (0.67, 1.28)
Number of permanent molars sealed	0.4660	
Number of permanent molars filled <sup>2</sup>	0.4178	
Number of permanent molars with untreated decay <sup>2</sup>	0.6100	
Treatment urgency (categorically analyzed) <sup>3</sup>		1.13 (0.78, 1.62)

<sup>2</sup> categories 3 and 4 were combined to permit adequate cell size for analysis

<sup>3</sup> categories "early dental care" and "urgent care" were combined to permit adequate cell size for analysis

**Table 29.**

**Age and gender, Alaskan 3rd Graders, 2011**

<b>Gender</b>	<b>Age in months</b>	<b>SD</b>
Male	106.9	6.1885
Female	105.3	5.3023

Among participants, girls were slightly younger than boys, and this difference was statistically significant ( $P=0.0011$ ). Since the magnitude of this difference is small, however (about one month), the practical impact of this difference is of questionable importance.



# Alaska State Oral Health Assessment 2011

## Response Differences by Race/Ethnicity

The Race variable described in Table 7 will be used for these analyses whenever possible; when these categories were used children with “unknown” race/ethnicity (n=4) were excluded from analyses. For some variables, cell sizes became too small to evaluate every racial category. The grouped racial variable described in Table 8 was used for these analyses. For the question “About how long has it been since your child last visited a dentist?” responses 4 (more than 3 years ago) and 5 (never has been to a dentist) were combined to permit adequate cell size for analysis.

Individual tables are not reported for variables that revealed no statistical differences in results when compared by Race/Ethnicity. These variables are listed in Table 30. For both questionnaire and clinical variables, only records with meaningful responses were tabulated (all “unknown” and “blank” responses were ignored). This yields varying numbers of records for different variables, as respondents were not required to answer all questions.

There were too few respondents (83) reporting on Question 3b, reasons for the inability to obtain care (eight choices), to make assessments by Race/Ethnicity meaningful, even when using the grouped Race/Ethnicity variable.

**Table 30.**

**Variables with insignificant differences between results when compared by Race/Ethnicity, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Variable</b>	<b>P-Value</b>
Age <sup>1</sup>	0.4839
Gender	0.5829
Length of time since last dental visit (grouped) <sup>2,3</sup>	0.0968
Inability to obtain needed dental care <sup>3</sup>	0.4742
Respondents reporting tooth pain <sup>3</sup>	0.3604
Proportion of Respondents with dental insurance <sup>3</sup>	0.1004
Proportion of Respondents with private dental insurance <sup>3</sup>	0.0613

<sup>1</sup> Kruskal-Wallis test for two groups

<sup>2</sup> Categories “more than 3 years ago” and “never” were combine due to small expected cell sizes

<sup>3</sup> Grouped Race/Ethnicity variable used due to small expected cell sizes.

**Table 31.**

**Race/Ethnicity (grouped variable) and reason for last dental visit, Alaskan 3<sup>rd</sup> Graders, 2011**

Race		Reason for last dental visit				Total
		Something was wrong	Went for treatment	Went on own for exam	Was called in for exam	
<b>White</b>	n	14	32	190	31	267
	<b>row%</b>	<b>5.2</b>	<b>12.0</b>	<b>71.2</b>	<b>11.6</b>	<b>100.0</b>
	col%	30.4	37.2	51.6	38.8	46.0
<b>American Indian/Alaskan Native</b>	n	17	32	75	20	144
	<b>row%</b>	<b>11.8</b>	<b>22.2</b>	<b>52.1</b>	<b>13.9</b>	<b>100.0</b>
	col%	37.0	37.2	20.4	25.0	24.8
<b>All others</b>	n	15	22	103	29	169
	<b>row%</b>	<b>8.9</b>	<b>13.0</b>	<b>60.9</b>	<b>17.2</b>	<b>100.0</b>
	col%	32.6	25.6	28.0	36.3	29.1
<b>All Races</b>	n	46	86	368	80	580
	<b>row%</b>	<b>7.9</b>	<b>14.8</b>	<b>63.4</b>	<b>13.8</b>	<b>100.0</b>
	col%	100.0	100.0	100	100.0	100.0

There were significant differences in the reason reported for the last dental visit between Race/Ethnicity groupings (Chi-square = 20.3995, 6 df, P=0.0024). Children classified as “White” were less likely to report that their last visit was because “Something was wrong, bothering or hurting” than children in other race/ethnicity categories. A larger proportion of children that were classified as “American Indian/Alaskan Native” or “other” (about 22%) reported that their last visit was for some type of treatment than “Whites” (12%) or “All others” (13%).

**Table 32.**

**Proportion of respondents with “Commercial” dental insurance by Race/Ethnicity (grouped variable), Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Race/Ethnicity</b>	<b>n</b>	<b>Proportion of respondents who have “Commercial” dental insurance</b>	<b>95% CI</b>
<b>White</b>	246	.50	(.436, .564)
<b>American Indian/Alaskan Native</b>	124	.298	(.220, .387)
<b>All others</b>	164	.409	(.333, .488)
<b>All respondents</b>	<b>534</b>	<b>.425</b>	<b>(.383, .468)</b>

Of those with dental insurance, a higher proportion of “Whites” reported having commercial dental insurance than those classified as “American Indian/Alaskan Native”.

**Table 33.**

**Proportion of respondents with Denali KidCare/Medicaid dental coverage by Race/Ethnicity (grouped variable), Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Race/Ethnicity</b>	<b>n</b>	<b>Proportion of respondents who have Denali KidCare/Medicaid dental coverage</b>	<b>95% CI</b>
<b>White</b>	246	.272	(.218, .333)
<b>American Indian/Alaskan Native</b>	124	.492	(.401, .583)
<b>All others</b>		.439	(.362, .519)
<b>All respondents</b>	<b>534</b>	<b>.375</b>	<b>(.334, .417)</b>

A lower proportion of respondents classified as “White” had Denali KidCare/Medicaid Coverage than children in Alaska as a whole, and than other grouped “Race/Ethnicity” classifications.



**Table 34.**

**Proportion of Respondents with Military/Tricare (Champus) Dental Coverage by Race/Ethnicity (grouped variable), Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Race/Ethnicity</b>	<b>n</b>	<b>Proportion of respondents who have Military/Tricare (Champus) dental coverage</b>	<b>95% CI</b>
<b>White</b>	246	.191	(.144, .246)
<b>American Indian/Alaskan Native</b>	124	.024	(.005, .069)
<b>All others</b>	164	.104	(.062, .161)
<b>All respondents</b>	<b>534</b>	<b>.125</b>	<b>(.099, .157)</b>

A lower proportion of “American Indian/Alaskan Natives” (2%) reported that they had Military/Tricare (Champus) dental coverage.

**Table 35.**

**Proportion of Respondents with Native Health Corporation/Tribal Dental Coverage by Race/Ethnicity (grouped variable), Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Race/Ethnicity</b>	<b>n</b>	<b>Proportion of respondents who have Native Health Corporation/Tribal dental coverage</b>	<b>95% CI</b>
<b>White</b>	246	.016	(.004, .041)
<b>American Indian/Alaskan Native</b>	124	.395	(.309, .487)
<b>All others</b>	164	.055	(.025, .102)
<b>All respondents</b>	<b>534</b>	<b>.116</b>	<b>(.091, .147)</b>

As would be expected, a higher proportion of “American Indian/Alaskan Natives” (2%) reported that they had Military/Tricare (Champus) dental coverage. This coverage should be almost universal, however, for American Indian/Alaskan Natives, but is not reported as frequently as might be expected.

**Table 36.**

**Proportion of respondents who receive care through an IHS/Native Health Corporation/tribal clinic by Race/Ethnicity (grouped variable), Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Race/Ethnicity</b>	<b>n</b>	<b>Proportion of respondents receive care through an IHS/Native Health Corporation/tribal dental clinic</b>	<b>95% CI</b>
<b>White</b>	277	.025	(.010, .051)
<b>American Indian/Alaskan Native</b>	134	.784	(.704, .850)
<b>All others</b>	176	.091	(.053, .143)
<b>All respondents</b>	<b>587</b>	<b>.218</b>	<b>(.186, .254)</b>

In previous surveys, only about one-third of American Indian/Alaskan Native respondents indicated that they have IHS/Native Health Corporation coverage when this coverage was listed as “insurance”, although all were eligible. Questionnaire format was modified to list this coverage as a separate question, to distinguish this care delivery system from dental insurance coverage.

This survey response seems to capture children who access care through Native Health Corporation/IHS and tribal clinics; 22% of Alaskan 3<sup>rd</sup> Grade respondents accessed care through these clinics. As would be expected, the greatest percentages of children accessing this care were classified as American Indian/Alaskan Native (78%).

**Table 37.**

**Proportion of respondents with medical insurance by Race/Ethnicity (grouped variable), Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Race/Ethnicity</b>	<b>n</b>	<b>Proportion of respondents who have medical insurance</b>	<b>95% CI</b>
<b>White</b>	278	.881	(.837, .917)
<b>American Indian/Alaskan Native</b>	146	.705	(.624, .778)
<b>All others</b>	176	.858	(.797, .906)
<b>All respondents</b>	<b>600</b>	<b>.832</b>	<b>(.799, .860)</b>

Children classified as “American Indian/Alaskan Native” were less likely to report having medical insurance than children classified as “White” or “All others”.

**Table 38.****Proportion of participants with untreated dental caries by Race/Ethnicity, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Race/Ethnicity</b>	<b>n</b>	<b>Proportion of participants who have untreated dental caries</b>	<b>95% CI</b>
<b>White</b>	279	.133	(.095, .178)
<b>American Indian/Alaskan Native</b>	157	.395	(.318, .476)
<b>All others</b>	192	.266	(.205, .334)
<i><b>Black/African American</b></i>	15	.067	(.002, .319)
<i><b>Hispanic/Latino</b></i>	43	.349	(.210, .509)
<i><b>Asian</b></i>	55	.345	(.222, .486)
<i><b>Native Hawaiian/Pacific Islander</b></i>	17	.353	(.142, .617)
<i><b>Multi-racial</b></i>	58	.172	(.086, .294)
<b>All respondents</b>	<b>628</b>	<b>.239</b>	<b>(.206, .275)</b>

A higher proportion of children classified as “American Indian/Alaskan Native” had untreated dental caries than participating children in Alaska as a whole. When compared to children classified as “White” a higher proportion of children classified as “Hispanic/Latino”, “Asian” and “American Indian/Alaskan Native” had untreated dental caries.

**Table 39.**

**Proportion of participants with dental caries experience by Race/Ethnicity, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Race/Ethnicity</b>	<b>n</b>	<b>Proportion of participants who have dental caries experience</b>	<b>95% CI</b>
<b>White</b>	279	.484	(.424, .544)
<b>American Indian/Alaskan Native</b>	157	.834	(.767, .889)
<b>All others</b>	192	.630	(.558, .699)
<i><b>Black/African American</b></i>	15	.600	(.323, .837)
<i><b>Hispanic/Latino</b></i>	43	.605	(.444, .750)
<i><b>Asian</b></i>	55	.818	(.691, .909)
<i><b>Native Hawaiian/Pacific Islander</b></i>	17	.529	(.278, .770)
<i><b>Multi-racial</b></i>	58	.534	(.399, .667)
<b>All respondents</b>	<b>628</b>	<b>.616</b>	<b>(.577, .654)</b>

As in the previous table, a higher proportion of children classified as “American Indian/Alaskan Native” had dental caries experience than participating children in Alaska as a whole. A greater proportion of children classified as “Asian” had caries experience as well.

**Table 40.**

**Proportion of participants with at least one permanent 1<sup>st</sup> molar sealed by Race/Ethnicity, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Race/Ethnicity</b>	<b>n</b>	<b>Proportion of participants with at least one permanent 1<sup>st</sup> molar sealed</b>	<b>95% CI</b>
<b>White</b>	279	47.0	(41.0, 53.0)
<b>American Indian/Alaskan Native</b>	157	57.3	(49.2, 65.2)
<b>All others</b>	192	38.0	(31.1, 45.3)
<i><b>Black/African American</b></i>	15	26.7	(7.8, 55.1)
<i><b>Hispanic/Latino</b></i>	43	25.6	(13.5, 41.2)
<i><b>Asian</b></i>	55	36.4	(23.8, 50.4)
<i><b>Native Hawaiian/Pacific Islander</b></i>	17	29.4	(10.3, 56.0)
<i><b>Multi-racial</b></i>	58	55.2	(41.5, 68.3)
<b>All respondents</b>	<b>628</b>	<b>46.8</b>	<b>(42.9, 50.8)</b>

A higher proportion of children classified as “American Indian/Alaskan Native” had at least one permanent molar sealed than children classified as “all others”. The difference between “American Indian/Alaskan Native” children and children classified as “White” was not statistically significant.

**Table 41.****Mean number of permanent molars sealed by Race/Ethnicity, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Race/Ethnicity</b>	<b>n</b>	<b>Mean number of permanent molars sealed</b>	<b>Std. Dev.</b>
<b>White</b>	279	1.39	1.6945
<b>American Indian/Alaskan Native</b>	157	1.75	1.7131
<b>All others</b>	192	1.09	1.5678
<b><i>Black/African American</i></b>	15	<i>0.60</i>	<i>1.2421</i>
<b><i>Hispanic/Latino</i></b>	43	<i>0.70</i>	<i>1.3546</i>
<b><i>Asian</i></b>	55	<i>0.98</i>	<i>1.5335</i>
<b><i>Native Hawaiian/Pacific Islander</i></b>	17	<i>1.00</i>	<i>1.6583</i>
<b><i>Multi-racial</i></b>	58	<i>1.64</i>	<i>1.6723</i>
<b>All respondents</b>	<b>628</b>	<b>1.39</b>	<b>1.6767</b>

The mean number of permanent first molars sealed varied significantly by race (P=0.0007). Children classified as “American Indian/Alaskan Native” had the highest mean number of molars sealed, followed by those classified as “Multi-racial” and “White”. In general, non-native minorities had low mean numbers of molar sealants.

**Table 42.**

**Mean number of permanent molars filled by Race/Ethnicity, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Race/Ethnicity</b>	<b>n</b>	<b>Mean number of permanent molars filled</b>	<b>Std. Dev.</b>
<b>White</b>	279	.16	.6245
<b>American Indian/Alaskan Native</b>	157	.37	.9693
<b>All others</b>	192	.15	.6050
<b><i>Black/African American</i></b>	15	.33	1.0465
<b><i>Hispanic/Latino</i></b>	43	.12	.4477
<b><i>Asian</i></b>	55	.02	.1348
<b><i>Native Hawaiian/Pacific Islander</i></b>	17	.42	1.0641
<b><i>Multi-racial</i></b>	58	.17	.6526
<b>All respondents</b>	<b>628</b>	<b>.2102</b>	<b>.7258</b>

The mean number of permanent first molars filled varied significantly by race ( $P=0.0197$ ). Children classified as “Native Hawaiian/Pacific Islander”, “American Indian/Alaskan Native” or “Black/African American” had the highest mean number of molars filled.



**Table 43.****Mean number of permanent molars with untreated decay by Race/Ethnicity, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Race/Ethnicity</b>	<b>n</b>	<b>Mean number of permanent molars untreated decay</b>	<b>Std. Dev.</b>
<b>White</b>	279	.06	.3234
<b>American Indian/Alaskan Native</b>	157	.53	1.0595
<b>All others</b>	192	.24	.7271
<b><i>Black/African American</i></b>	15	.00	.0000
<b><i>Hispanic/Latino</i></b>	43	.14	.4671
<b><i>Asian</i></b>	55	.25	.7257
<b><i>Native Hawaiian/Pacific Islander</i></b>	17	.65	1.2217
<b><i>Multi-racial</i></b>	58	.26	.7850
<b>All respondents</b>	<b>628</b>	<b>.23</b>	<b>.7227</b>

The mean number of permanent first molars with untreated decay varied significantly by race ( $P=0.0000$ ). Children classified as “Native Hawaiian/Pacific Islander” or “American Indian/Alaskan Native” had the highest mean number of molars with untreated decay, followed by those classified as “Asian” or “Multi-racial”.

**Table 44.**

**Race/Ethnicity (grouped variable) and treatment Urgency (grouped variable),  
Alaskan 3<sup>rd</sup> Graders, 2011**

Race		Treatment Urgency		
		No obvious problem	Early or urgent dental care needed	Total
<b>White</b>	n	244	35	279
	<b>row%</b>	<b>87.5</b>	<b>12.5</b>	<b>100.0</b>
	col%	51.3	23.0	44.4
<b>American Indian/Alaskan Native</b>	n	92	65	157
	<b>row%</b>	<b>58.6</b>	<b>41.4</b>	<b>100.0</b>
	col%	19.3	42.8	25.0
<b>All others</b>	n	140	52	192
	<b>row%</b>	<b>72.9</b>	<b>27.1</b>	<b>100.0</b>
	col%	29.4	34.2	30.6
<b>All Races</b>	n	476	152	628
	<b>row%</b>	<b>75.8</b>	<b>24.2</b>	<b>100.0</b>
	col%	100.0	100.0	100.0

There were significant differences in treatment urgency between Race/Ethnicity groupings (Chi-squared = 46.8507, 2 df, P=0.0000). The categories “early dental care” and “urgent dental care” were combined to allow adequate cell size for analysis. Children classified as “American Indian/Alaskan Native” were more likely to need some type of dental care than their peers classified as “White” or “All others”. Children classified as “White” were most likely to have “no obvious problem”.

**Table 45.**

**Proportion of participants needing treatment by Race/Ethnicity,  
Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Race/Ethnicity</b>	<b>n</b>	<b>Proportion of participants needing treatment</b>	<b>95% CI</b>
<b>White</b>	279	12.5	(8.9, 17.0)
<b>American Indian/Alaskan Native</b>	157	41.4	(23.6, 49.5)
<b>All others</b>	192	27.1	(20.9, 34.0)
<b><i>Black/African American</i></b>	15	13.3	(1.7, 40.5)
<b><i>Hispanic/Latino</i></b>	43	32.6	(19.1, 48.5)
<b><i>Asian</i></b>	55	36.4	(23.8, 50.4)
<b><i>Native Hawaiian/Pacific Islander</i></b>	17	35.3	(14.2, 61.7)
<b><i>Multi-racial</i></b>	58	17.2	(8.6, 29.4)
<b>All races</b>	<b>628</b>	<b>24.2</b>	<b>(20.9, 27.8)</b>

This is an alternative presentation to the data presented in Table 39, since with the collapse of the “urgency” groupings this can be presented as the proportion of participants needing treatment.

For those minority groups with a larger number of participants, the proportion with some type of dental treatment need is significantly greater than that of children classified as “White”. The smaller number of participants classified as “Black/African American” or “Native Hawaiian/Pacific Islander” yield broad confidence intervals, making it difficult to draw valid conclusions for these groups.



# Alaska State Oral Health Assessment 2011

## Response Differences by Dental Insurance Status

Gender and dental insurance status (Table 28) has already been assessed, and showed no statistically significant relationship to dental insurance status. The relationship between Race/Ethnicity and dental insurance status (Table 30) has also been previously presented and was expanded in Tables 32-35. Only responses that answered with either a “Yes” or “No” to the insurance question were tabulated; non-responders or respondents who answered “Don’t know” were excluded.

Individual tables are not reported for variables that revealed no statistical differences in results when compared by dental insurance status. These variables are listed in Table 46. For both questionnaire and clinical variables, only records with meaningful responses were tabulated (all “unknown” and “blank” responses were ignored). This yields varying numbers of records for different variables, as respondents were not required to answer all questions. P-values (Chi-square) are presented for multi-level variables and Odds Ratios (OR) with 95% Confidence Intervals for two-level variables. Insurance = “Yes” was placed in the default table position, as were “Yes” dependent variables.

**Table 46.**

### **Variables with insignificant differences between results when compared by dental insurance status, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Variable</b>	<b>P-Value</b>	<b>OR (95% CI)</b>
Tooth pain		0.80 (0.32, 1.96)
Receipt of care through a Native Health Corporation		0.61 (0.35, 1.05)
Mean number of permanent 1 <sup>st</sup> molars sealed	0.3726	
Mean number of permanent 1 <sup>st</sup> molars filled	0.1588	
Mean number of permanent 1 <sup>st</sup> molars with untreated decay	0.3322	

There were too few respondents (108) reporting on Question 3b, reasons for the inability to obtain care (eight choices), to make assessments by dental insurance status meaningful.

**Table 47.**

**Dental insurance status and length of time since last dental visit, Alaskan 3<sup>rd</sup> Graders, 2011**

Dental insurance status		Length of time since last dental visit				Total
		6 months or less	6 months to 1 year	1-3 years	> 3years or Never has been to dentist	
<b>Yes</b>	n	332	95	74	22	523
	row%	<b>63.5</b>	<b>18.2</b>	<b>14.1</b>	<b>4.2</b>	<b>100.0</b>
	col%	93.8	85.6	77.9	64.7	88.0
<b>No</b>	n	22	16	21	12	71
	row%	<b>31.0</b>	<b>22.5</b>	<b>29.6</b>	<b>16.9</b>	<b>100.0</b>
	col%	6.2	14.4	22.1	35.3	12.0
<b>All</b>	n	354	111	95	34	594
	row%	<b>59.6</b>	<b>18.7</b>	<b>16.0</b>	<b>5.7</b>	<b>100.0</b>
	col%	100.0	100.0	100.0	100.0	100.0

A grouped variable for length of time since last visit, as described in Table 29, was used in an attempt to yield adequate cell size for analysis; cell size remained too small and this table is included for informational purposes only. This table, however, is consistent with previous survey findings, which did achieve statistical significance. Children with dental insurance coverage were more apt to have had a dental visit within the past 6 months and less likely to have had a visit more than three years ago or never than children without dental insurance.

**Table 48.**

**Dental insurance status and reason for last dental visit last dental visit, Alaskan 3<sup>rd</sup> Graders, 2011**

Dental insurance status		Reason for last dental visit				
		Something was wrong	Went in for treatment	Went on own for checkup or cleaning	Was called in for checkup or cleaning	Total
<b>Yes</b>	n	37	67	333	68	505
	row%	7.3	13.3	65.9	13.5	100.0
	col%	80.4	80.7	91.5	87.2	88.4
<b>No</b>	n	9	16	31	10	66
	row%	13.6	24.2	47.0	15.2	100.0
	col%	19.6	19.3	8.5	12.8	11.6
<b>All</b>	n	46	83	364	78	571
	row%	8.1	14.5	63.7	13.7	100.0
	col%	100.0	100.0	100.0	100.0	100.0

There were significant differences between insured and uninsured respondents for the reason for their last dental visit (Chi-squared = 11.1385, 3 df, P=0.0110). A higher proportion of participants with dental insurance reported that their last dental visit as going in on their own for a checkup or cleaning. Children without dental insurance were more likely to report that their last visit was because something was wrong or that they went in for treatment.

**Table 49.**

**Dental insurance status and inability to obtain dental care, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Dental insurance status</b>	<b>Unable to obtain needed dental care in past 12 months</b>		<b>Total</b>
	<b>Yes</b>	<b>No</b>	
<b>Yes</b>	53	449	502
<b>No</b>	26	45	71
<b>Total</b>	79	494	573

Children who had dental insurance were a fifth less likely to have reported an inability to obtain care when needed in the past 12 months (OR=0.20, (0.12, 0.36)) than children without dental insurance.

**Table 50.**

**Dental insurance status and medical/Surgical insurance, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Dental insurance status</b>	<b>Medical Insurance Status</b>		<b>Total</b>
	<b>Yes</b>	<b>No</b>	
<b>Yes</b>	476	43	519
<b>No</b>	19	55	74
<b>Total</b>	495	98	593

Children who had dental insurance were far, far more likely to have medical/surgical insurance coverage (OR=32.0, (17.4, 58.8)) than children without dental insurance.



**Table 51.**

**Dental insurance status and untreated dental caries, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Dental insurance status</b>	<b>Untreated dental caries</b>		<b>Total</b>
	<b>Yes</b>	<b>No</b>	
<b>Yes</b>	393	109	502
<b>No</b>	47	25	72
<b>Total</b>	440	134	574

Children who had dental insurance were, half as likely to have untreated dental caries as their uninsured peers (OR=0.52, (0.31, 0.89)).

**Table 52.**

**Dental insurance status and dental caries experience, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Dental insurance status</b>	<b>Dental caries experience</b>		<b>Total</b>
	<b>Yes</b>	<b>No</b>	
<b>Yes</b>	294	208	502
<b>No</b>	53	19	72
<b>Total</b>	347	227	574

Children who had dental insurance were, half as likely to have dental caries experience as their uninsured peers (OR=0.51, (0.29, 0.88)).

**Table 53.**

**Dental insurance status and treatment urgency, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Dental insurance status</b>	<b>Treatment Urgency</b>		<b>Total</b>
	<b>No obvious problem</b>	<b>Early dental care or Urgent care</b>	
<b>Yes</b>	392	110	502
<b>No</b>	47	25	72
<b>Total</b>	439	135	574

Category responses of “Early dental care” and “Urgent care” were combined to yield adequate cell size for analysis. A larger proportion of children with dental insurance (OR=1.90, 95% CI 1.12, 3.22) had no obvious dental care needs.

## Response Differences by Denali KidCare/Medicaid Status

For these comparisons, all valid responses were included and children with Denali KidCare were compared to all others, regardless of other insurance status.

Medicaid status and gender (Table 28) has already been assessed; this relationship was not statistically significant. The relationship between Race/Ethnicity and Medicaid status (Table 33) has also been previously presented; in this sample a lower proportion of “Whites” had Medicaid coverage than responding children as a whole. These tables are not re-presented.

Individual tables are not reported for variables that revealed no statistical differences in results when compared by dental insurance status. These variables are listed in Table 54. For both questionnaire and clinical variables, only records with meaningful responses were tabulated (all “unknown” and “blank” responses were ignored). This yields varying numbers of records for different variables, as respondents were not required to answer all questions. P-values (Chi-square) are presented for multi-level variables and Odds Ratios (OR) with 95% Confidence Intervals for two-level variables. Insurance = “Yes” was placed in the default table position, as were “Yes” dependent variables.

**Table 54.**

**Variables with insignificant differences between results when compared by Denali KidCare/Medicaid status, Alaskan 3<sup>rd</sup> Graders, 2011**

Variable	P-Value	OR (95% CI)
Length of time since last dental visit	.08332	
Inability to get needed dental care		1.06 (0.64, 1.75)
Receipt of care through Native Health Corporation		1.04 (0.68, 1.58)
Sealants on permanent molars (see also Table 5x)		0.85 (0.61, 1.20)

There were too few respondents (83) reporting on Question 3b, reasons for the inability to obtain care (eight choices), to make assessments by Denali KidCare/Medicaid status meaningful.

**Table 55.**

**Denali KidCare/Medicaid status and reason for last dental visit last dental visit, Alaskan 3<sup>rd</sup> Graders, 2011**

Denali KidCare/Medicaid Status		Reason for last dental visit				
		Something was wrong	Went in for treatment	Went on own for checkup or cleaning	Was called in for checkup or cleaning	Total
<b>Yes</b>	n	24	32	95	30	181
	<b>row%</b>	<b>13.3</b>	<b>17.7</b>	<b>52.5</b>	<b>16.6</b>	<b>100.0</b>
	col%	52.2	37.2	25.8	37.5	31.2
<b>No</b>	n	22	54	273	50	399
	<b>row%</b>	<b>5.5</b>	<b>13.5</b>	<b>68.4</b>	<b>12.5</b>	<b>100.0</b>
	col%	47.8	62.8	74.2	62.5	68.8
<b>All</b>	n	46	86	368	80	580
	<b>row%</b>	<b>7.9</b>	<b>14.8</b>	<b>63.4</b>	<b>13.8</b>	<b>100.0</b>
	col%	100.0	100.0	100.0	100.0	100.0

There were significant differences between respondents with and without Denali KidCare/Medicaid for the reason for their last dental visit (Chi-squared = 17.3219, 3 df, P=0.0006). A higher proportion of participants with Denali KidCare/Medicaid reported that their last dental visit as being because something was wrong, they went in for treatment, or because they were called in for a checkup or cleaning. Children without this coverage were more likely to report that their last visit as going in on their own for a checkup or cleaning.

**Table 56.**

**Denali KidCare/Medicaid status and report of toothache, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Denali KidCare/Medicaid Status</b>	<b>Report of toothache more than once when biting or chewing in past 6 months</b>		<b>Total</b>
	<b>Yes</b>	<b>No</b>	
<b>Yes</b>	23	166	189
<b>No</b>	21	386	407
<b>Total</b>	44	552	596

Respondents with Denali KidCare/Medicaid were more than two and a half times as likely to report that their child had a toothache more than once when biting or chewing as respondents without this coverage (OR=2.55, (1.37, 4.73)).

**Table 57.**

**Denali KidCare/Medicaid status and report of medical insurance coverage, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Denali KidCare/Medicaid Status</b>	<b>Report of medical insurance coverage</b>		<b>Total</b>
	<b>Yes</b>	<b>No</b>	
<b>Yes</b>	173	20	193
<b>No</b>	326	81	407
<b>Total</b>	499	101	600

Respondents with Denali KidCare/Medicaid were more than twice as likely to report that they also had medical insurance as respondents without this coverage (OR=2.15, (1.27, 3.63)).

**Table 58.**

**Denali KidCare/Medicaid status and untreated dental caries, Alaskan  
3<sup>rd</sup> Graders, 2011**

<b>Denali KidCare/Medicaid Status</b>	<b>Untreated dental caries</b>		<b>Total</b>
	<b>Yes</b>	<b>No</b>	
<b>Yes</b>	57	138	195
<b>No</b>	93	340	433
<b>Total</b>	150	478	628

Children who had Denali KidCare/Medicaid were more likely to have untreated dental caries (OR=1.51, 95%CI 1.03, 2.22) than children without this coverage.

**Table 59.**

**Proportion of respondents with Denali KidCare/Medicaid dental coverage who have untreated dental caries by Race/Ethnicity, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Race/Ethnicity</b>	<b>n</b>	<b>Proportion of respondents with Denali KidCare/Medicaid who have untreated dental caries</b>	<b>95% CI</b>
<b>White</b>	65	.138	(.065, .247)
<b>American Indian/Alaskan Native</b>	60	.467	(.337, .600)
<b>All Others</b>	70	.286	(.184, .406)
<b><i>Black/African American</i></b>	3	0	(0.70.8)
<b><i>Hispanic/Latino</i></b>	20	.450	(.231, .685)
<b><i>Asian</i></b>	16	.313	(.110, .587)
<b><i>Native Hawaiian/Pacific Islander</i></b>	8	.375	(.085, .755)
<b><i>Multi-racial</i></b>	22	.136	(.029, .349)
<b>All respondents</b>	<b>195</b>	<b>.292</b>	<b>(.230, .362)</b>

Of respondents with Denali KidCare/Medicaid coverage, a greater proportion of children classified as “American Indian/Alaskan Native” had untreated dental caries than children classified as “White”. Other differences are not statistically significant.

**Table 60.**

**Denali KidCare/Medicaid status and dental caries experience,  
Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Denali KidCare/Medicaid Status</b>	<b>Dental caries experience</b>		<b>Total</b>
	<b>Yes</b>	<b>No</b>	
<b>Yes</b>	139	56	195
<b>No</b>	248	185	433
<b>Total</b>	387	241	628

Children who had Denali KidCare/Medicaid were more likely to have dental caries experience (OR=1.85, 95% CI 1.29, 2.66) than children without this coverage.



**Table 61.**

**Proportion of respondents with Denali KidCare/Medicaid dental coverage who have dental caries experience by Race/Ethnicity, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Race/Ethnicity</b>	<b>n</b>	<b>Proportion of respondents with Denali KidCare/Medicaid who have dental caries experience</b>	<b>95% CI</b>
<b>White</b>	65	.631	(.502, .747)
<b>American Indian/Alaskan Native</b>	60	.883	(.774, .952)
<b>All Others</b>	70	.634	(.519, .754)
<b><i>Black/African American</i></b>	3	.667	(.094, .992)
<b><i>Hispanic/Latino</i></b>	20	.750	(.509, .913)
<b><i>Asian</i></b>	16	.750	(.476, .927)
<b><i>Native Hawaiian/Pacific Islander</i></b>	8	.625	(.245, .915)
<b><i>Multi-racial</i></b>	22	.500	(.282, .718)
<b>All respondents</b>	<b>195</b>	<b>.713</b>	<b>(.644, .775)</b>

Of respondents with Denali KidCare/Medicaid coverage, a greater proportion of children classified as “American Indian/Alaskan Native” had dental caries experience than children classified as “White”. Other differences are not statistically significant.

**Table 62.**

**Denali KidCare/Medicaid status and sealants on permanent molars,  
Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Denali KidCare/Medicaid Status</b>	<b>Sealants present on at least one permanent 1<sup>st</sup> molar</b>		<b>Total</b>
	<b>Yes</b>	<b>No</b>	
<b>Yes</b>	86	109	195
<b>No</b>	208	225	433
<b>Total</b>	294	334	628

There does not appear to be a strong or statistically significant relationship between sealants and Denali KidCare/Medicaid status (OR 0.85, 95% Confidence Interval 0.61, 1.20).

**Table 63.**

**Proportion of respondents with Denali KidCare/Medicaid dental coverage who have at least one permanent 1<sup>st</sup> molar sealed by Race/Ethnicity, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Race/Ethnicity</b>	<b>n</b>	<b>Proportion of respondents with Denali KidCare/Medicaid who have at least one permanent 1<sup>st</sup> molar sealed</b>	<b>95% CI</b>
<b>White</b>	65	47.7	(35.1, 60.5)
<b>American Indian/Alaskan Native</b>	60	46.7	(33.7, 60.0)
<b>All Others</b>	70	38.6	(27.2, 51.0)
<b><i>Black/African American</i></b>	3	0	(0, 70.8)
<b><i>Hispanic/Latino</i></b>	20	25.0	(8.7, 49.1)
<b><i>Asian</i></b>	16	37.5	(15.2, 64.6)
<b><i>Native Hawaiian/Pacific Islander</i></b>	8	25.0	(3.2, 65.1)
<b><i>Multi-racial</i></b>	22	63.6	(40.7, 82.8)
<b>All respondents</b>	<b>195</b>	<b>44.1</b>	<b>(37.0, 51.4)</b>

There are no significant differences between racial categories in the presence of sealants on at least one permanent 1<sup>st</sup> molar.

**Table 64.**

**Mean number of permanent 1<sup>st</sup> molars sealed in respondents with Denali KidCare/Medicaid dental coverage by Race/Ethnicity, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Race/Ethnicity</b>	<b>n</b>	<b>Mean number of permanent 1<sup>st</sup> molars sealed in respondents with Denali KidCare/Medicaid</b>	<b>Std. Dev.</b>
<b>White</b>	65	1.2	1.5761
<b>American Indian/Alaskan Native</b>	60	1.4	1.6803
<b>All Others</b>	70	1.2	1.6119
<b><i>Black/African American</i></b>	3	0	0
<b><i>Hispanic/Latino</i></b>	20	0.6	1.2732
<b><i>Asian</i></b>	16	1.1	1.6279
<b><i>Native Hawaiian/Pacific Islander</i></b>	8	0.9	1.6421
<b><i>Multi-racial</i></b>	22	2.0	1.7182
<b>All respondents</b>	<b>195</b>	<b>1.3</b>	<b>1.6169</b>

Of respondents with Denali KidCare/Medicaid coverage, there is a suggestion of differences in the mean number of permanent first molars sealed by race/ethnicity, but this difference is not statistically significant ( $P=0.1077$ ). A larger sample size may substantiate actual differences.

**Table 65.**

**Mean number of permanent 1<sup>st</sup> molars filled in respondents with Denali KidCare/Medicaid dental coverage by Race/Ethnicity, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Race/Ethnicity</b>	<b>n</b>	<b>Mean number of permanent 1<sup>st</sup> molars sealed in respondents with Denali KidCare/Medicaid</b>	<b>Std. Dev.</b>
<b>White</b>	65	.2	.5993
<b>American Indian/Alaskan Native</b>	60	.5	1.1423
<b>All Others</b>	70	.1	.5967
<b><i>Black/African American</i></b>	3	0	0
<b><i>Hispanic/Latino</i></b>	20	.1	.2236
<b><i>Asian</i></b>	16	0	0
<b><i>Native Hawaiian/Pacific Islander</i></b>	8	.9	1.4577
<b><i>Multi-racial</i></b>	22	.1	.4264
<b>All respondents</b>	<b>195</b>	<b>.3</b>	<b>.8170</b>

Of respondents with Denali KidCare/Medicaid coverage, there is a difference in the mean number of permanent first molars filled by race/ethnicity which is statistically significant (P=0.0356). The small sample size for Native Hawaiian/Pacific Islanders makes this estimate unreliable, but children classified as Native American/Alaskan Native appear to have more filled permanent molars than children in other racial classifications.

**Table 66.**

**Mean number of permanent 1<sup>st</sup> molars with untreated decay in respondents with Denali KidCare/Medicaid dental coverage by Race/Ethnicity, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Race/Ethnicity</b>	<b>n</b>	<b>Mean number of permanent 1<sup>st</sup> molars with untreated decay in respondents with Denali KidCare/Medicaid</b>	<b>Std. Dev.</b>
<b>White</b>	65	.1	.2685
<b>American Indian/Alaskan Native</b>	60	.7	1.1423
<b>All Others</b>	70	.2	.5799
<b><i>Black/African American</i></b>	3	0	0
<b><i>Hispanic/Latino</i></b>	20	.2	.6156
<b><i>Asian</i></b>	16	.1	.5000
<b><i>Native Hawaiian/Pacific Islander</i></b>	8	.5	.7559
<b><i>Multi-racial</i></b>	22	.2	.5885
<b>All respondents</b>	<b>195</b>	<b>0.3</b>	<b>.7784</b>

Of respondents with Denali KidCare/Medicaid coverage, there is a difference in the mean number of permanent first molars with untreated decay by race/ethnicity which is statistically significant (P=0.0014). The small sample size for Native Hawaiian/Pacific Islanders makes this estimate unreliable, but children classified as Native American/Alaskan Native appear to have more untreated permanent molars than children in other racial classifications.

**Table 67.**

**Denali KidCare/Medicaid status and treatment urgency, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Denali KidCare/Medicaid status</b>	<b>Treatment Urgency</b>		<b>Total</b>
	<b>No obvious problem</b>	<b>Early dental care or Urgent Care</b>	
<b>Yes</b>	138	57	195
<b>No</b>	338	95	433
<b>Total</b>	476	152	628

Category responses of “Early dental care” and “Urgent care” were combined to yield adequate cell size for analysis. When compared with respondents without such coverage, a larger proportion of children with Denali KidCare/Medicaid (OR=0.68, 95% CI 0.46, 0.99) needed some type of dental treatment.

**Table 68.**

**Proportion of respondents with Denali KidCare/Medicaid dental coverage needing treatment by Race/Ethnicity, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Race/Ethnicity</b>	<b>n</b>	<b>Proportion of respondents with Denali KidCare/Medicaid needing treatment</b>	<b>95% CI</b>
<b>White</b>	65	.138	(.065, .247)
<b>American Indian/Alaskan Native</b>	60	.483	(.352, .616)
<b>All Others</b>	70	.271	(.172, .391)
<i><b>Black/African American</b></i>	3	0	(0, .708)
<i><b>Hispanic/Latino</b></i>	20	.400	(.191, .639)
<i><b>Asian</b></i>	16	.313	(.110, .587)
<i><b>Native Hawaiian/Pacific Islander</b></i>	8	.375	(.085, .755)
<i><b>Multi-racial</b></i>	22	.136	(.029, .349)
<b>All respondents</b>	<b>195</b>	<b>.292</b>	<b>(.230, .362)</b>

Children who were classified as “American Indian/Alaskan Native” who reported that they had Denali Kid Care/Medicaid were more likely than children classified as “White” to need some type of dental treatment.



## Differences by Clinical Variables:

### Untreated Dental Caries

Individual tables are not reported for variables that revealed no statistical differences in results when compared by untreated dental caries status. These variables are listed in Table 68. For both questionnaire and clinical variables, only records with meaningful responses were tabulated (all “unknown” and “blank” responses were ignored). This yields varying numbers of records for different variables, as respondents were not required to answer all questions. P-values (Chi-square) are presented for multi-level variables and Odds Ratios (OR) with 95% Confidence Intervals for two-level variables. ANOVA tests for population means were used for continuous variables.

The relationship between untreated dental caries and gender (Table 28) has already been assessed and showed not statistically significant relationship and untreated dental caries. Dental insurance status and untreated dental caries has already been reported in Table 51 and is not re-presented here. Relationships with Race/Ethnicity are presented in Table 38; and with Denali KidCare/Medicaid status in Tables 58 and 59; these tables will not be repeated here.

#### Table 69.

#### Variables with insignificant differences between results when compared by the presence/absence of untreated dental caries, Alaskan 3<sup>rd</sup> Graders, 2011

Variable	P-Value
Mean Age (in months)	0.9316

There were too few respondents (103) reporting on Question 3b, reasons for the inability to obtain care (eight choices), to make assessments by Untreated Dental Caries status meaningful.

**Table 70.**

**Untreated dental caries and length of time since last dental visit, Alaskan 3<sup>rd</sup> Graders, 2011**

Untreated Dental Caries Status		Length of time since last dental visit				Total
		6 months or less	6 months to 1 yr	Between 1-3 years	More than 3 yrs or Never	
<b>Untreated Dental Caries</b>	n	56	23	33	18	130
	row%	<b>43.1</b>	<b>17.7</b>	<b>25.4</b>	<b>13.8</b>	<b>100.0</b>
	col%	16.7	21.7	35.5	52.9	22.8
<b>No Untreated Dental Caries</b>	n	280	83	60	16	439
	row%	<b>63.8</b>	<b>18.9</b>	<b>13.7</b>	<b>3.6</b>	<b>100.0</b>
	col%	83.3	78.3	64.5	47.1	77.2
<b>Total</b>	n	336	106	93	34	569
	row%	<b>59.1</b>	<b>18.6</b>	<b>16.3</b>	<b>6.0</b>	<b>100.0</b>
	col%	100.0	100.0	100.0	100.0	100.0

There were significant differences in the length of time since the last reported dental visit and untreated dental caries status (Chi-squared = 33.2541, 3 df, P=0.0000). Cell sizes were small and the categories of “More than 3 years and “Never” were combined to permit valid analysis. A lower proportion of children with untreated dental caries had their last dental visit within the past 6 months than children with no untreated dental caries. A greater proportion of children with untreated dental caries had their last visit more than one year previous to the survey.

**Table 71.**

**Untreated dental caries and reason for last dental visit, Alaskan 3<sup>rd</sup> Graders, 2011**

Untreated Dental Caries Status		Reason for last Dental Visit				Total
		Something was wrong	Went for routine treatment	Went on own for exam	Called in for exam	
<b>Untreated Dental Caries</b>	n	16	26	62	18	122
	row%	<b>13.0</b>	<b>21.3</b>	<b>50.8</b>	<b>14.8</b>	<b>100.0</b>
	col%	37.2	31.0	18.1	23.2	22.4
<b>No Untreated Dental Caries</b>	n	27	58	280	58	423
	row%	<b>6.4</b>	<b>13.7</b>	<b>66.2</b>	<b>13.7</b>	<b>100.0</b>
	col%	62.8	69.0	81.9	76.3	77.6
<b>Total</b>	n	43	84	342	76	545
	row%	<b>7.9</b>	<b>15.4</b>	<b>62.8</b>	<b>13.9</b>	<b>100.0</b>
	col%	100.0	100.0	100.0	100.0	100.0

There were significant differences in the reason for the last reported dental visit and untreated dental caries status (Chi-squared = 12.6275, 3 df, P=0.0055). A greater proportion of children with no untreated caries had their last visit for an exam that they (or their parent/guardian) had initiated than children who had untreated caries. A greater proportion of children with untreated dental caries had their last visit because something was wrong or for routine treatment, as might be expected.

**Table 72.**

**Untreated dental caries and ability to obtain needed dental care in the past 12 months, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Untreated Dental Caries Status</b>	<b>Unable to obtain needed dental care in the past 12 months</b>		<b>Total</b>
	<b>Yes</b>	<b>No</b>	
<b>Untreated Dental Caries</b>	30	94	124
<b>No Untreated Dental Caries</b>	44	375	419
<b>Total</b>	74	469	543

Parents/guardians of children who had untreated dental caries were almost three times as likely to have reported difficulty in obtaining dental care when their child needed it in the past 12 months as those of children with no untreated dental caries (OR=2.72, 95% confidence interval 1.62, 4.56).

**Table 73.**

**Untreated dental caries and report of tooth pain, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Untreated Dental Caries Status</b>	<b>Child reported toothache &gt;1 time in past 6 months</b>		<b>Total</b>
	<b>Yes</b>	<b>No</b>	
<b>Untreated Dental Caries</b>	16	118	134
<b>No Untreated Dental Caries</b>	27	399	426
<b>Total</b>	43	517	560

Children who had untreated dental caries were 4 times as likely to have reported tooth pain more than once in the past 6 months than children with no untreated dental caries (OR=2.00, 95% confidence interval 1.04, 3.84).

**Table 74.**

**Caries experience of participants with no untreated caries, Alaskan 3<sup>rd</sup> Graders, 2011**

	<b>Frequency</b>	<b>Percent</b>	<b>95% CI</b>
<b>Caries Experience</b>	237	49.6	(45.0, 54.2)
<b>Caries Free</b>	241	50.4	(45.8, 55.0)
<b>Total</b>	<b>478</b>	<b>100.0</b>	

This table is presented only for informational purposes. About 76% of children assessed (478 of 628) had no untreated caries. It is interesting to note, that half of these (about 38% of the 628 children scored) were caries free (never had a cavity).

**Table 75.**

**Untreated dental caries and sealants on permanent molars, Alaskan  
3<sup>rd</sup> Graders, 2011**

<b>Untreated Dental Caries Status</b>	<b>Sealants on permanent molars</b>		<b>Total</b>
	<b>Yes</b>	<b>No</b>	
<b>Untreated Dental Caries</b>	49	101	150
<b>No Untreated Dental Caries</b>	245	233	478
<b>Total</b>	294	334	628

Participants who had untreated dental caries were less than half as likely (OR 0.46 95% CI 0.31, 0.68) to have sealants than those with no untreated dental caries; conversely, participants who had no untreated dental caries were more than twice as likely to have dental sealants on permanent molars as children with untreated dental caries.

**Table 76.**

**Untreated dental caries and treatment urgency, Alaskan 3<sup>rd</sup> Graders, 2011**

Untreated Dental Caries Status		Treatment Urgency			Total
		No obvious problem	Early dental care	Urgent care	
<b>Untreated Dental Caries</b>	n	3	140	7	150
	row%	<b>2.0</b>	<b>93.3</b>	<b>4.7</b>	<b>100.0</b>
	col%	0.6	96.6	100.0	26.2
<b>No Untreated Dental Caries</b>	n	473	5	0	478
	row%	<b>99.0</b>	<b>1.0</b>	<b>0.0</b>	<b>100.0</b>
	col%	99.4	3.4	0.0	76.1
<b>Total</b>	n	476	145	7	628
	row%	<b>75.8</b>	<b>23.1</b>	<b>1.1</b>	<b>100.0</b>
	col%	100.0	100.0	100.0	100.0

Statistical tests are not warranted when there are expected cell counts of 5 or less, which is the case for urgent care. Although there are some treatment needs not dictated by dental caries (space maintenance/ management, periodontics, orthodontics, failure of teeth to exfoliate, pathology), most urgent needs in this age group are dictated by dental caries, which is the driver of this table. What is of note is that screeners identified about 1% of participants as needing “early dental care” that was obviously not related to dental caries per se. Those with untreated caries scored as “no obvious problem” were likely children with caries in primary teeth that will exfoliate. When the categories “early dental care” and “urgent care” are collapsed, odds ratios (0.0002, (95% CI 0.0001, 0.0009)) show that untreated caries is indeed the driver of dental care needs in this age group.





## Dental Caries Experience

Individual tables are not reported for variables that revealed no statistical differences in results when compared by untreated dental caries status. These variables are listed in Table 76. For both questionnaire and clinical variables, only records with meaningful responses were tabulated (all “unknown” and “blank” responses were ignored). This yields varying numbers of records for different variables, as respondents were not required to answer all questions. P-values (Chi-square) are presented for multi-level variables and Odds Ratios (OR) with 95% Confidence Intervals for two-level variables. ANOVA tests for population means were used for continuous variables.

The relationship between dental caries experience and gender (Table 28) and Race/Ethnicity (Table 30) have already been assessed and showed no statistically significant relationship to dental caries experience. Dental insurance status and dental caries experience is reported in Table 52, and with Denali KidCare/Medicaid status in Tables 60 and 61; these tables will not be repeated here.

When reviewing these tables, it is important to remember that this variable is inclusive of children with untreated dental caries, which may mask findings for the subset of children who have dental caries experience but no untreated dental caries. Future analyses may choose to focus on this group of children compared to children who are caries free (“Dental Caries Experience” = No)

There were no children with no caries experience with a treatment urgency score of “2”, and only one respondent with a treatment urgency score of “1”, which made statistical analysis of this relationship questionable.

**Table 77.**

**Variables with insignificant differences between results when compared by dental caries experience, Alaskan 3<sup>rd</sup> Graders, 2011**

<b>Variable</b>	<b>P-Value</b>	<b>OR (95% CI)</b>
Mean Age (in months)	0.9215	
Length of time since last dental visit	0.1036	
Sealants on permanent molars		1.34 (0.997, 1.91)
Mean number of sealants needed on permanent molars	0.1728	

There were too few respondents (83) reporting on Question 3b, reasons for the inability to obtain care (eight choices), to make assessments by Dental Caries Experience meaningful.

**Table 78.**

**Dental caries experience and reason for last dental visit, Alaskan 3<sup>rd</sup> Graders, 2011**

Dental Caries Experience		Reason for last dental visit				Total
		Something was wrong	Went for routine treatment	Went on own for exam	Called in for exam	
<b>Yes</b>	n	37	71	175	49	332
	row%	<b>11.1</b>	<b>21.4</b>	<b>52.7</b>	<b>14.8</b>	<b>100.0</b>
	col%	86.0	84.5	51.2	64.5	60.9
<b>No</b>	n	6	13	167	27	213
	row%	<b>2.8</b>	<b>6.1</b>	<b>78.4</b>	<b>12.7</b>	<b>100.0</b>
	col%	14.0	15.5	48.8	35.5	39.1
<b>Total</b>	n	43	84	342	76	545
	row%	<b>7.9</b>	<b>15.4</b>	<b>62.8</b>	<b>13.9</b>	<b>100.0</b>
	col%	100.0	100.0	100.0	100.0	100.0

There were significant differences in the length of time since the last reported dental visit and untreated dental caries status (Chi-squared = 45.1197, 3 df, P=0.0000). A higher proportion of children with dental caries experience had their last dental visit for treatment of symptoms or for routine treatment than their peers who had no dental caries experience. Due to the overlap of this measure and untreated dental caries, the driver for this table may be the untreated caries component.

**Table 79.**

**Dental caries experience and inability to obtain needed dental care in last 12 months, Alaskan 3<sup>rd</sup> Graders, 2011**

Dental Caries Experience		Unable to obtain needed dental care in last 12 months		Total
		Yes	No	
<b>Yes</b>	n	58	268	326
	row%	<b>17.8</b>	<b>82.2</b>	<b>100.0</b>
	col%	78.4	57.1	60
<b>No</b>	n	16	201	217
	row%	<b>7.4</b>	<b>92.6</b>	<b>100.0</b>
	col%	21.6	42.9	40.0
<b>Total</b>	n	74	469	543
	row%	<b>13.6</b>	<b>86.4</b>	<b>100.0</b>
	col%	100.0	100.0	100.0

Children who had dental caries experience were nearly three times as likely to have reported an inability to obtain needed care in the past 12 months as children with no dental caries experience (OR=2.72, 95% confidence interval 1.52, 4.87). It is again important to remember that this category is inclusive of children with untreated caries, which may influence conclusions based upon this finding.

**Table 80.**

**Dental caries experience and report of tooth pain, Alaskan 3<sup>rd</sup> Graders, 2011**

Dental Caries Experience		Child reported toothache >1 time in past 6 months		Total
		Yes	No	
<b>Yes</b>	n	36	303	339
	<b>row%</b>	<b>10.6</b>	<b>89.4</b>	<b>100.0</b>
	col%	83.7	58.6	60.5
<b>No</b>	n	7	214	221
	<b>row%</b>	<b>3.2</b>	<b>96.8</b>	<b>100.0</b>
	col%	16.3	41.4	39.5
<b>Total</b>	n	43	517	560
	<b>row%</b>	<b>7.7</b>	<b>92.3</b>	<b>100.0</b>
	col%	100.0	100.0	100.0

Children who had dental caries experience were more than three and a half times as likely to have reported tooth pain more than once in the past 6 months as children that were caries-free (OR=3.63, 95% confidence interval 1.59, 8.32). It is important to remember that dental caries experience="yes" category is inclusive of children with untreated caries, which may influence conclusions based upon this finding.