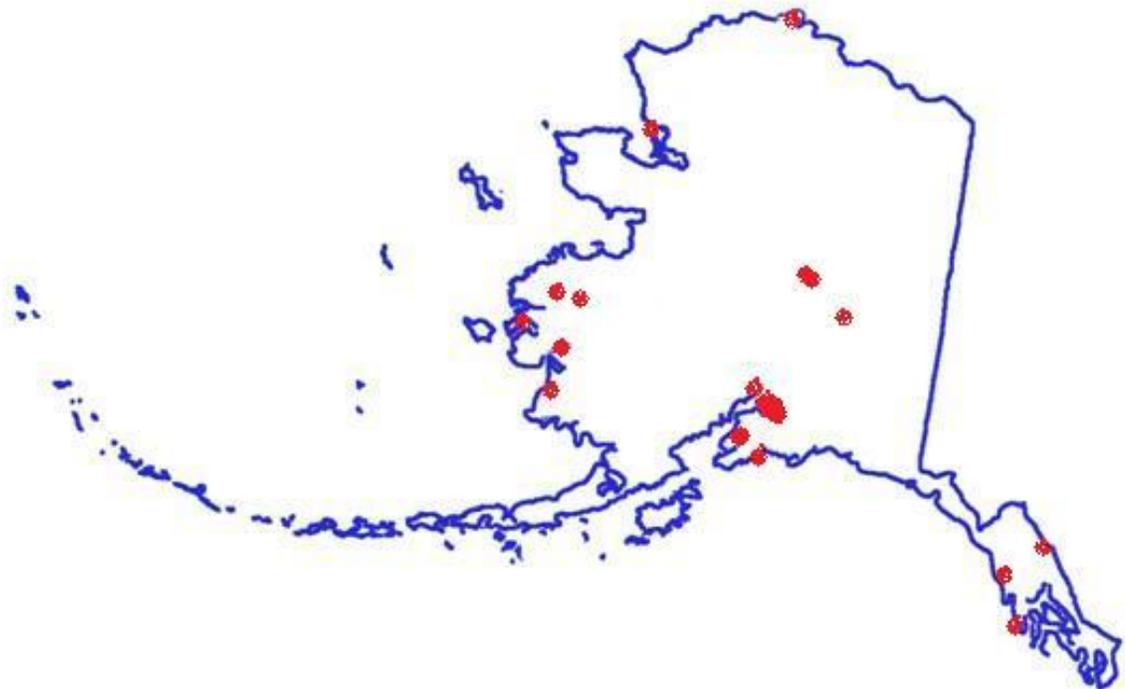


Results of the 2010/2011 Survey of Alaskan Kindergarten Children

Alaska Oral Health Basic Screening Survey



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2011 Alaska State Oral Health Assessment: Kindergarten Children

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Alaska State Oral Health Assessment, Kindergarten 2011

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 (3.3%) 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 (2.3%).

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

All analyses were performed using EpiInfo2000 software; confidence intervals for means were computed by hand using software tabulated variances. Calculations for BMI and BMI percentile for age were performed using the CDC's BMI tool for schools.

For these preliminary dataset calculations, sample weights were not available. Response rates were averaged at the School level.

Based on a very rough extrapolation of Year 2010 Census data, this sample comprises approximately 13.3 % of Alaskan kindergarten children. After factoring in response rates, approximately 6.3% of Alaskan kindergarten children ultimately represented their cohort in the questionnaire responses and 5.9% for questionnaire/screening responses.

Response Tables:

Table 1.

Percent of returned completed questionnaires to enrolled Alaskan kindergarten children at selected schools, 2011

Site	Number of students enrolled in grade	Number of returned completed questionnaires	Percent participation
Alpenglow Elementary	58	40	70.0
Baranoff Elementary	95	54	56.8
Big Lake Elementary	51	24	47.1
Delta Junction Elementary	67	25	37.3
Hunter Elementary	57	23	40.3
Ignatius Beans School	23	7	30.4
Fred Ipalook Elementary	87	27	31.0
Kake Elementary and High School	10	7	70.0
Kasuun Elementary	73	17	23.3
Kalifornski Beach Elementary	63	44	69.8
Kuinerrarmiat Elitnaurviat	20	8	40.0
Mountain View Elementary Anchorage	67	39	58.2
Mountain View Elementary Kenai	73	33	45.2
Northern Lights ABC School	62	42	67.7
June Nelson Elementary	70	25	35.7
Ayaprun School (Newtok)	8	6	75.0
Pilot Station School	15	4	26.7
Riverbend Elementary	55	10	18.2
Sand Lake Elementary	96	63	65.6
Seward Elementary	45	11	24.4
Susitna Elementary	83	28	33.7
Tikasuk Elementary	89	64	71.9
Tudor Elementary	52	22	42.3
Turnagain Elementary	66	31	47.0
Williwaw Elementary	65	34	52.3
Sample Total	1454	688	47.2

Response rates varied between sites, ranging from 18.2% to 75% for survey participation.

Table 2.**Percent of returned completed questionnaires and clinical screenings to enrolled Alaskan kindergarten children at selected schools, 2011**

Site	Number of Students enrolled in grade	Number of children screened	Percent participation questionnaire plus screening
Alpenglow Elementary	58	38	65.5
Baranoff Elementary	95	54	56.8
Big Lake Elementary	51	23	45.1
Delta Junction Elementary	67	21	31.3
Hunter Elementary	57	23	40.4
Ignatius Beans School	23	7	30.4
Fred Ipalook Elementary	87	26	30.2
Kake Elementary and High School	10	7	70.0
Kasuun Elementary	73	16	21.9
Kalifornski Beach Elementary	63	43	68.3
Kuinerrarmiut Elitnaurviat	20	8	40.0
Mountain View Elementary Anchorage	67	39	58.2
Mountain View Elementary Kenai	73	33	45.2
Northern Lights ABC School	62	37	59.7
June Nelson Elementary	70	24	34.3
Ayaprun School (Newtok)	8	5	62.5
Pilot Station School	15	4	26.7
Riverbend Elementary	55	10	18.2
Sand Lake Elementary	96	52	54.2
Seward Elementary	45	10	22.2
Susitna Elementary	83	24	28.9
Tikasuk Elementary	89	57	64.0
Tudor Elementary	52	22	42.3
Turnagain Elementary	66	31	47.0
Williwaw Elementary	65	34	52.3
Sample Total	1454	648	44.62

Response rates varied between sites, ranging from 18.2% to 68.3% for survey/screening participation.

Table 3.

Distribution of participants by screener, Alaskan kindergarten children, 2011

Screener	Number of participants	Percent of participants
AB	4	0.6
BSW	54	8.3
JCW	5	0.8
JEM	24	3.7
JLE	10	1.5
JT	177	27.3
KSM	26	4.0
PAB	8	1.2
RCM	256	39.5
RDB	7	1.1
SXE	70	10.8
TJ	7	1.1
Total	648	100.0

Twelve screeners collected data for this survey, providing between 4 and 256 exams each.

Demographic Variables:

Table 4.

Mean age (in months) of respondents participating in the clinical assessment by gender, Alaskan kindergarten children, 2011

Gender	Age in months (range)	Std. Deviation
Male (n=330)	69.1 (50-88)	4.7413
Female (n=318)	68.9 (49-89)	4.5376
Both (n=648)	69.0 (49-89)	4.6397

Age was computed only for children who participated in the clinical assessment. Girls were slightly younger than boys but this difference was not statistically or practically significant (P-Value=0.4540). Birthdates ranged from 5/9/2003 to 9/24/2006. This sample comprised children that were about the same age as Alaskan kindergartners surveyed in 2007, who had a mean age of 67.3 months (range 50-83).

Table 5.

Distribution of questionnaire respondents by gender, Alaskan kindergarten children, 2011

Gender	Number of respondents	Percent	95% CI
Male	347	50.4	(46.6, 54.2)
Female	341	49.6	(45.8, 53.4)
Total	688	100.0	

There were slightly more male questionnaire respondents but this difference was not statistically significant.

Table 6.

Distribution of screening participants by gender, Alaskan kindergarten children, 2011

Gender	Number of respondents	Percent	95% CI
Male	330	50.9	(47.0, 54.8)
Female	318	49.1	(45.2, 53.0)
Total	648	100.0	

There were slightly more male screening participants but this difference was also not statistically significant.

Table 7.

Distribution of respondents by race/ethnicity as reported by parent/guardian and corrected by examiner, Alaskan kindergarten children, 2011

Race/Ethnicity	Code	Number of respondents	Percent of respondents
White	1	315	45.8 (42.0, 49.6)
Black/African American	2	21	3.1 (1.9, 4.7)
Hispanic/Latino	3	23	3.3 (2.2, 5.1)
Asian	4	63	9.2 (7.2, 11.6)
American Indian/Alaskan Native	5	133	19.3 (16.5, 22.5)
Native Hawaiian/Pacific Islander	6	24	3.5 (2.3, 5.2)
Multi-Racial	7	90	13.1 (10.7, 15.9)
Unknown	9	19	2.8
Total		688	100.0

The children scored as “unknown” here by their parent/guardian were also scored as “unknown by the examining dentist. Of 10 children for whom Race/Ethnicity was not scored by their parent/guardian, all were present and had consent for a clinical exam. The examining dentists corrected this classification in conjunction with school records.

Based on rough extrapolation, again, of Alaska 2010 census data, this racial distribution crudely approximates reported Race/Ethnicity distributions for the state population of a whole (all ages). The confidence intervals for this sample did not include the census estimate for “Whites” (census estimate 66.7%), “American Indian/Alaskan Native” (census estimate 14.8), “Hispanic” (census estimate 5.5) “Asian” (census estimate 5.4%), “Native Hawaiian/Pacific Islander (census estimate 1.0%), and “Multi-Racial” (census estimate 7.3%). This sample somewhat under-represents the “White” race/ethnicity category and over-represents all minority classifications.

Table 8.**“Collapsed” distribution of respondents by race/ethnicity, Alaskan kindergarten children, 2011**

Race/Ethnicity	Code	Number of respondents	Percent of respondents	95% CI
White	1	315	45.8	(42.0, 49.6)
American Indian/Alaskan Native	5	133	19.3	(16.5, 22.5)
All others:		240	34.9	(31.3, 38.6)
Black/African American,	2			
Hispanic/Latino,	3			
Asian,	4			
Native Hawaiian/Pacific Islander,	6			
Multi-Racial,	7			
Unknown	9			
Total		688	100.0	

For some analyses, the sample size across the listed choices for Race/Ethnicity was small or non-existent, precluding valid analysis. 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”.

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 kindergarten children, 2011

	n	% Underweight (<5 th percentile)	% Normal BMI (5 th - 85 th percentile)	% Overweight (85 th - 95 th percentile)	% Obese (>95 th percentile)
Male	334	2	61	20	17
Female	316	2	66	17	15
Both	650¹	2	63	19	16

*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.

¹ Although only 648 children had dental screenings, some parents gave consent for height/weight screening but not dental screening.

Figure 1:

Prevalence of overweight and obese children, Alaskan kindergarten children, 2011

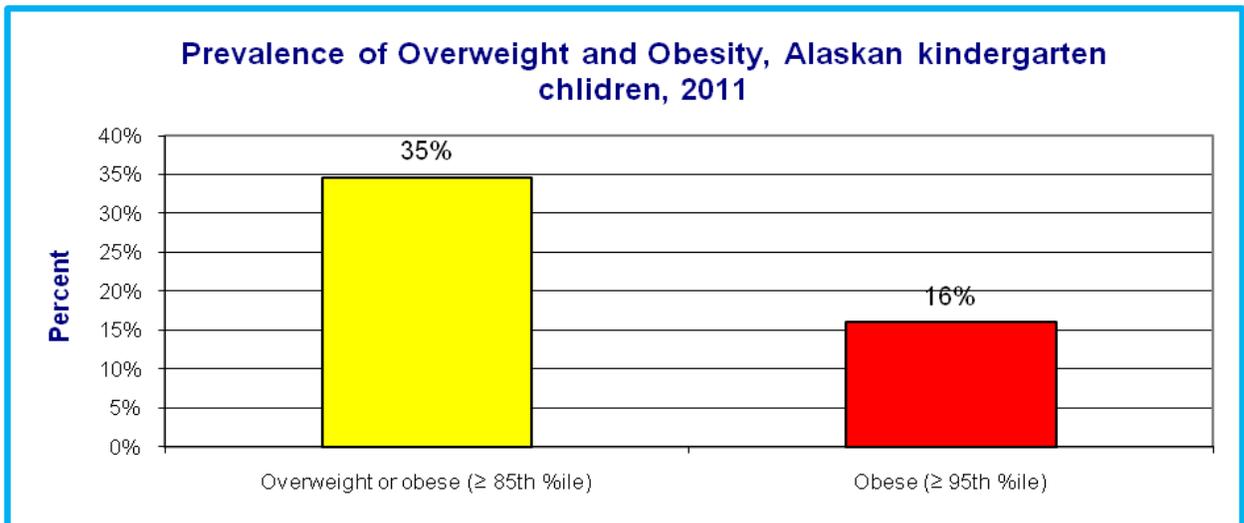
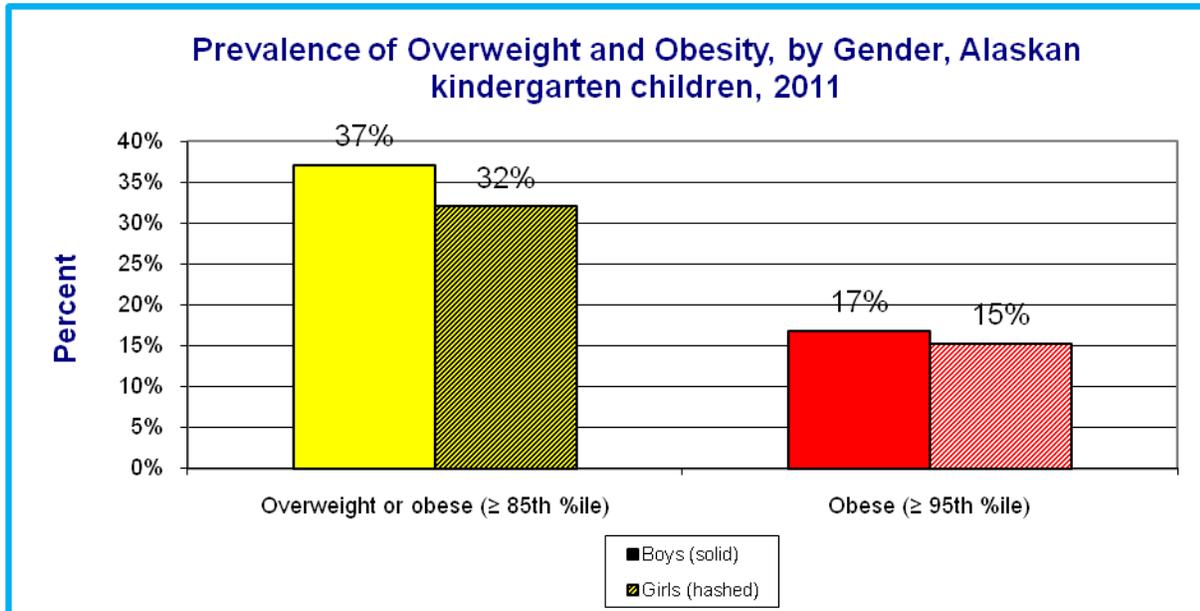


Figure 2:

Prevalence of overweight and obese children by gender, Alaskan kindergarten children, 2011



Questionnaire Variables:

Table 10.

Length of time since last reported dental visit, Alaskan kindergarten children, 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.)

Response	Number responding	Percent responding	95% CI
6 months or less	374	54.4	(50.6, 58.1)
More than 6 months, but not more than 1 year	109	15.8	(13.2, 18.8)
More than 1 year, but not more than 3 years ago	97	14.1	(11.6, 17.0)
More than 3 years ago	7	1.0	(0.4, 2.2)
Never has been to the dentist	72	10.5	(8.3, 13.1)
Don't know/don't remember	7	1.0	
(Blank)	22	3.2	
Total	688	100.0	

Over 70% of respondents reported that their child's last dental visit was within the past year, with most of these children visiting a dentist within the past six months. Over ten percent of parents responded that their child had never been to a dentist.

Table 11.**Main reason for last dental visit, Alaskan kindergarten children, 2011**

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

Response	Number responding	Percent responding	95% CI
Something was wrong, bothering or hurting	46	6.7	(5.0, 8.9)
Went for treatment of a condition that dentist discovered at earlier check-up or examination	66	9.6	(7.5, 12.1)
Went in on own for check-up, exam or cleaning	408	59.3	(55.5, 63.0)
Was called in by dentist for check-up, exam or cleaning	63	9.2	(7.2, 11.6)
Don't know	8	1.2	
(Blank)	97	14.1	
Total	688	100.0	

About 7% of respondents reported that their child's last dental visit was due to pain or discomfort. Nearly 70% went in for examination or cleaning, and about 10% 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.").

Table 12.

Inability to obtain dental care in past 12 months, Alaskan kindergarten children, 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?

Response	Number Responding	Percent Responding	95% CI
Yes	63	9.2	(7.2, 11.6)
No	570	82.8	(79.8, 85.5)
Don't Know	15	2.2	
(Blank)	40	5.8	
Total	688	688	

Sixty-three parents (9.2%) 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 kindergarten children, 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.)

Response	Number responding	Percent responding	95% CI
Dentist did not accept Denali KidCare/Medicaid Insurance	3	4.8	(1.0, 13.3)
No dentist available	3	4.8	(1.0, 13.3)
No way to get there	1	1.6	(0.0 , 8.5)
Difficulty in getting appointment	10	15.9	(7.9, 27.3)
Did not know where to go	3	4.8	(1.0, 13.3)
Not serious enough	2	3.2	(0.4, 11.0)
Don't like/trust/believe in dentists	1	1.6	(0.0, 9.6)
Could not afford	29	46.0	(33.4, 59.1)
Other reason (unspecified)	8	12.7	(5.6, 23.5)
Blank	2	1.6	
Don't Know	1	3.2	
Total	63	100.0	

Of those parents whose children needed care but could not get it, the most frequent reasons given were that they could not afford care (46%) or had difficulty in getting an appointment (15.9%).

Table 14.

Survey respondents reporting tooth pain, Alaskan kindergarten children, 2011

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

Response	Number responding	Percent responding	95% CI
Yes	49	7.1	(5.4, 9.4)
No	593	86.2	(83.3, 88.6)
Don't Know	24	3.5	
(Blank)	22	3.2	
Total	688	100.0	

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

Table 15.

Respondents with dental insurance, Alaskan kindergarten children, 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.)

Response	Number responding	Percent responding	95% CI
Yes	584	84.9	(81.9, 87.4)
No	71	10.3	(8.2, 12.9)
Don't Know	6	0.9	
(Blank)	27	3.9	
Total	688	100.0	

Almost 85% of respondents reported having some type of dental insurance.

Table 16.

Type of dental insurance coverage carried by respondents, Alaskan kindergarten children, 2011

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

Response	Number responding	Percent responding	95% CI
Commercial (provided by employer)	264	45.2	(41.1, 49.3)
Private (you bought yourself)	12	2.1	(1.1, 3.7)
Denali KidCare/Medicaid	208	35.6	(31.8, 39.7)
Military/Tricare (Champus)	64	11.0	(8.6, 13.8)
Native Health Corporation/Tribal Coverage	68	11.6	(9.2, 14.6)
Don't Know	7	1.2	(0.5, 2.6)
Multiple types of insurance selected	65	11.1	(8.8, 14.0)
At least one type of insurance selected	546	93.5	(91.1, 95.3)

Of those covered by some type of dental insurance, most (45%) reported having insurance through their employer. About 36% reported coverage by Denali KidCare or Medicaid. About 11% of children seemed to be covered by more than one type of policy.

Table 17.

Respondents receiving care through a Native Health Corporation, Alaskan kindergarten children, 2011

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

Response	Number Responding	Percent Responding	95% CI
Yes	117	17.0	(14.3, 20.1)
No	514	74.7	(71.3, 77.9)
Don't Know	25	3.6	
(Blank)	32	4.7	
Total	688	100.0	

Seventeen percent 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 kindergarten children, 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.)

Response	Number responding	Percent responding	95% CI
Yes	525	76.3	(72.9, 79.4)
No	107	15.6	(13.0, 18.5)
Don't Know	17	2.5	
(Blank)	39	5.9	
Total	688	100.0	

About 76% of respondents reported that they had some type of medical/surgical insurance for their child.

Screening Variables:

Parental consent was obtained to examine 665 of the 688 children who returned surveys. Of these, 16 children were absent on the day of exam, and one child was not willing to be examined. A few consents were returned giving permission for height and weight screening but not for a dental screening. 648 (94.2%) 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, treated decay, dental caries experience on primary maxillary anterior teeth, and treatment urgency. Only children who had parental consent, were present, and gave consent for an exam (n=648) were included in clinical response tabulations.

Assessments were performed between 21 September 2010 and 17 March 2011.

Frequencies of Screening Variables:

Table 19.

Untreated dental caries, Alaskan kindergarten children, 2011

Untreated Dental Caries	Number of participants	Percent of participants	95% CI
Yes	138	21.3	(18.2, 24.7)
No	510	78.7	(75.3, 81.8)
Total	648	100.0	

Almost 21% of children examined had cavitated carious lesions.

Table 20.

Dental caries experience, Alaskan kindergarten children, 2011

Dental Caries Experience	Number of participants	Percent of participants	95% CI
Yes	268	41.4	(37.6, 45.3)
No	380	58.6	(54.7, 62.4)
Total	648	100.0	

Of children examined, slightly over 40% had dental caries experience.

Table 21.

Dental caries experience on primary maxillary anterior teeth, Alaskan kindergarten children, 2011

Dental Caries Experience on Primary Anterior Teeth	Number of participants	Percent of participants	95% CI
Yes	123	19.0	(16.1, 22.3)
No	524	80.9	(77.6, 83.8)
Not scored	1	0.1	
Total	648	100.0	

Nineteen percent of children had a history of dental caries on their primary maxillary anterior teeth.

Table 22.

Urgency of dental treatment needs, Alaskan kindergarten children, 2011

Urgency of Treatment Need	Number of participants	Percent of participants	95% CI
No obvious problem	507	78.2	(74.8, 81.3)
Early dental care (within weeks)	135	20.8	(17.8, 24.2)
Urgent care (within 24 hours)	6	0.9	(0.4, 2.1)
Total	648	100.0	

Most children (78%) had no obvious treatment needs, about 21% needed routine care, and less than 1% needed urgent care.

Differences by BMI Percentile

Variables that revealed no statistical differences in results when stratified by BMI percentile are listed in Table 23. 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.

Clinical measures were assessed by broad BMI categorizations: normal weight, overweight, and obese. Underweight children were not addressed in most tables as they constituted only 2% of this sample, yielding insufficient cell size for statistical analysis.

Table 23.**Variables with insignificant differences between results when compared by BMI category, Alaskan kindergarten children, 2011**

Variable	P-Value
Length of time since last reported dental visit ¹	0.6417
Main reason for last dental visit	0.1469
Inability to get dental care in past 12 months	0.5372
Respondents reporting tooth pain	0.8093
Proportion of Respondents with dental insurance	0.1978
Proportion of Respondents with commercial dental insurance ²	0.1855
Proportion of Respondents with private dental insurance : unable to assess due to small expected cell sizes ²	
Proportion of Respondents with Military/Tricare (Champus) coverage ²	0.1683
Respondents with medical insurance	0.6677
Untreated dental caries	0.0757
Dental caries experience	0.0654
Dental caries experience on maxillary 1 ⁰ anteriors	0.5165
Treatment urgency (grouped) ³	0.2534

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

² only respondents with dental insurance were assessed

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

Table 24.

BMI category by Race/Ethnicity (grouped variable), Alaskan kindergarten children, 2011

Race		BMI Category			
		Normal weight	Overweight	Obese	Total
White	n	203	55	33	291
	row%	69.8	18.9	11.3	100.0
	col%	49.3	45.5	31.7	45.7
American Indian/Alaskan Native	n	77	18	31	126
	row%	61.1	14.3	24.6	100.0
	col%	18.7	14.9	29.8	19.8
All others	n	132	48	40	220
	row%	60.0	21.8	18.2	100.0
	col%	32.0	39.7	38.5	34.5
All Races	n	412	121	104	637
	row%	64.7	18.5	16.3	100.0
	col%	100.0	100.0	100	100.0

There were significant differences in the distribution of BMI categories between Race/Ethnicity groupings (Chi-square = 14.7316, 4 df, P=0.0053). Children classified as “White” were less likely to be in the obese classification than children in other race/ethnicity categories.

Table 25.**Percent participants in BMI category by Race/Ethnicity, Alaskan kindergarten children, 2011**

		Percent of participants in BMI Category			
		Under weight	Normal Weight	Over weight	Obese
Race/Ethnicity	n				
White	297	2.0 (.07, 4.3)	68.4 (62.7, 73.6)	18.5 (14.3, 23.4)	11.1 (7.8, 15.2)
American Indian/Alaskan Native	126	0	61.1 (52.0, 69.7)	14.3 (8.7, 21.6)	24.6 (17.4, 33.1)
All others	227	3.1 (1.2, 6.3)	58.1 (51.4, 64.6)	21.1 (16.0, 27.0)	17.6 (16.0, 27.0)
<i>Black/African American</i>	20	5.0 (0.1, 24.9)	65.0 (40.8, 84.6)	5.0 (0.1, 24.9)	25.0 (8.7, 49.1)
<i>Hispanic/Latino</i>	22	4.5 (0.1, 22.8)	54.5 (32.2, 75.6)	18.2 (5.2, 40.3)	22.7 (7.8, 45.4)
<i>Asian</i>	61	1.6 (0.0, 8.8)	65.6 (52.3, 77.3)	19.7 (10.6, 31.8)	13.1 (5.8, 24.2)
<i>Native Hawaiian/Pacific Islander</i>	21	0	38.1 (18.1, 61.6)	23.8 (8.2, 47.2)	38.1 (18.1, 61.6)
<i>Multi-racial</i>	86	4.7 (1.3, 11.5)	59.3 (48.2, 69.8)	22.1 (13.9, 32.3)	14.0 (7.4, 23.1)
All respondents	650	2.0 (1.1, 3.5)	63.4 (59.5, 67.1)	18.6 (15.7, 21.9)	16.0 (13.3, 19.1)

Children classified as “White” were less likely to be in the obese classification than children in other race/ethnicity categories. This difference is significant for minority children as a group and for those classified as “American Indian/Alaskan Native”. Although other individual minority groups also have higher proportions of children classified as obese, these differences are not statistically significant; larger sample sizes may show statistical differences with multiple minority groups.

Table 26.

BMI category and Native Health Corporation/Tribal dental coverage, Alaskan kindergarten children, 2011

Native Health Corporation/tribal dental health coverage		BMI Category			
		Normal weight	Overweight	Obese	Total
Yes	n	35	8	18	61
	row%	57.4	13.1	29.5	100.0
	col%	10.2	7.8	19.6	11.3
No	n	309	95	74	478
	row%	64.6	19.9	15.5	100.0
	col%	89.8	92.2	80.4	88.7
Total	n	344	103	92	539
	row%	63.8	19.1	17.1	100.0
	col%	100.0	100.0	100	100.0

Children with Native Health Corporation dental coverage were more likely to be in the obese classification than children without this coverage (Chi-square = 7.9771, 2 df, P=0.0185). Since this variable is strongly connected with racial status, this may merely reflect previously noted racial differences in BMI.

Table 27.

BMI category and Medicaid dental coverage, Alaskan kindergarten children, 2011

Medicaid dental coverage		BMI Category			
		Normal weight	Overweight	Obese	Total
Yes	n	105	48	49	197
	row%	53.3	21.8	24.9	100.0
	col%	30.5	41.7	53.5	36.5
No	n	239	60	43	342
	row%	69.9	17.5	12.6	100.0
	col%	69.5	58.3	46.7	63.5
Total	n	344	103	92	539
	row%	63.8	19.1	17.1	100.0
	col%	100.0	100.0	100	100.0

Children with Medicaid dental coverage were less likely to be in the normal weight classification and more likely to be in the obese classification than children without this coverage (Chi-square = 17.6659, 2 df, P=0.0001).

Differences by Gender

Only one variable revealed statistical differences in results stratified by gender; variables analyzed are listed in the table below. 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 occupied the default table position, as did “Yes” responses in the dependent variable field. 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.

Table 28.**Variables with insignificant differences between results when compared by gender, Alaskan kindergarten children, 2011**

Variable	P-Value	OR (95% CI)
Age (mean age in months)	0.4540	
Race/Ethnicity	0.8805	
Race/Ethnicity (grouped variable)	0.5479	
Length of time since last reported dental visit	0.2963	
Main reason for last dental visit	0.0805	
Inability to get dental care in past 12 months		0.94 (0.56, 1.59)
Respondents reporting tooth pain		1.37 (0.76, 2.48)
Proportion of Respondents with dental insurance		1.53 (0.93, 2.52)
Proportion of Respondents with commercial dental insurance ¹		1.16 (0.84, 1.61)
Proportion of Respondents with private dental insurance ¹		0.95 (0.30, 2.97)
Proportion of Respondents with Denali KidCare/Medicaid ¹		0.92 (0.65, 1.29)
Proportion of Respondents with Military/Tricare (Champus) coverage ¹		0.76 (0.45, 1.28)
Proportion of Respondents who receive care through a Native Health Corporation/tribal clinic or in a village based setting (school/clinic)		1.07 (0.65, 1.78)
Untreated dental caries		0.99 (0.68, 1.44)
Dental caries experience		1.09 (0.80, 1.50)
Dental caries experience on primary anterior teeth		0.83 (0.56, 1.23)
Treatment urgency		1.04 (0.72, 1.52)

¹ Only respondents who indicated that they had dental insurance were assessed.

Table 29.

Proportion of respondents with medical insurance by gender, Alaskan kindergarten children, 2011

Gender	n	Proportion of respondents who have medical insurance	95% CI
male	321	.875	(.834, .909)
female	311	.785	(.735, .829)
All respondents	632	.831	(.799, .859)

Medical insurance was reported for more boys than girls.

Differences by Race/Ethnicity

The Race/Ethnicity variable described in Table 7 was used for these analyses whenever possible; if cell sizes became too small to evaluate every racial/ethnic category, the “collapsed” Race/Ethnicity variable described in Table 8 was used.

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.

Table 30.

Variables with insignificant differences between results when compared by Race/Ethnicity, Alaskan kindergarten children, 2011

Variable	P-Value
Age (in months)	0.0826
Inability to get care when needed ¹	0.0950
Report of tooth pain ¹	0.2542
Proportion of respondents with dental insurance	0.1060
Proportion of Respondents with private dental insurance ^{1,2,3}	

¹ Grouped Race/Ethnicity variable used due to small cell sizes.

² Very few respondents (24) reported having private dental insurance, and cell sizes fell to 0 and 1 in some categories, precluding valid assumptions.

³ Only respondents who indicated that they had dental insurance were assessed.

Table 31.

Length of time since last dental visit (grouped variable) by Race/Ethnicity (grouped variable), Alaskan kindergarten children, 2011

Race		Length of time since last dental visit				Total
		<= 6 months	6-12 months	1-3 years	> 3 years or has never been to a dentist	
White	n	189	49	33	42	313
	row%	60.4	15.7	10.5	13.4	100.0
	col%	50.5	45.0	34.0	53.2	47.5
American Indian/Alaskan Native	n	59	28	32	7	126
	row%	46.8	22.2	25.4	5.6	100.0
	col%	15.8	25.7	33.0	8.9	19.1
All others	n	126	32	32	30	220
	row%	57.3	14.5	14.5	13.6	100.0
	col%	33.7	29.4	33.0	38.0	33.4
All Races	n	374	109	97	79	659
	row%	56.8	16.5	14.7	12.0	100.0
	col%	100.0	100.0	100	100.0	100.0

To obtain adequate cell size for analysis, both variables had to be grouped. There were significant differences in the length of time since the last dental visit between Race/Ethnicity groupings (Chi-squared = 24.9169, 6 df, P=0.0004). Children classified as “White” or “All others” were more likely to report that their last visit was less than six months ago than children classified as “American Indian/Alaskan Native”. However, a lower proportion of children that were classified as “American Indian/Alaskan Native” (5.6%), reported that their last visit was “more than three years ago” or “never” than children classified as “White” or “all others”.

Table 32.

**Reason for last dental visit by Race/Ethnicity (grouped variable),
Alaskan kindergarten children, 2011**

Race		Reason for last dental visit				Total
		Something was wrong	Went for treatment	Went on own for exam	Was called in for exam	
White	n	14	18	213	25	270
	row%	5.2	6.7	78.9	9.3	100.0
	col%	30.4	27.3	52.3	39.7	46.4
American Indian/Alaskan Native	n	14	22	68	16	120
	row%	11.7	18.3	56.7	13.3	100.0
	col%	30.4	33.3	16.7	25.4	20.6
All others	n	18	26	126	22	192
	row%	9.4	13.5	65.6	11.5	100.0
	col%	39.1	39.4	31.0	34.9	33.0
All Races	n	46	66	407	63	582
	row%	7.9	11.3	69.9	10.8	100.0
	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-squared = 24.4026, 6 df, P=0.0004). 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” (over 18%) reported that their last visit was for some type of treatment than “Whites” (6.7%) or “Others” (13.5%).

Table 33.**Proportion of respondents with “commercial” dental insurance by Race/Ethnicity, Alaskan kindergarten children, 2011**

Race/Ethnicity	n	Proportion of respondents who have “commercial” dental insurance	95% CI
White	282	.557	(.497, .616)
American Indian/Alaskan Native	104	.308	(.221, .406)
All others	198	.379	(.311, .450)
<i>Black/African American</i>	17	.176	(.038, .434)
<i>Hispanic/Latino</i>	22	.136	(.029, .349)
<i>Asian</i>	47	.511	(.361, .659)
<i>Native Hawaiian/Pacific Islander</i>	22	.227	(.078, .454)
<i>Multi-racial</i>	76	.434	(.321, .553)
All respondents	584	.452	(.411, .493)

Among those with dental insurance, there were significant differences in the proportion of children who had commercial dental insurance when compared by Race/Ethnicity. A larger proportion of children classified as “White” reported having commercial dental insurance than children classified as “Black/African American”, “Hispanic/Latino”, “Native Hawaiian/Pacific Islander” or “American Indian/Alaskan Native”.

Table 34.**Proportion of respondents with “Denali KidCare/Medicaid” coverage by Race/Ethnicity, Alaskan kindergarten children, 2011**

Race/Ethnicity	n	Proportion of respondents who have “Denali KidCare/Medicaid” coverage	95% CI
White	282	.248	(.199, .303)
American Indian/Alaskan Native	104	.481	(.382, .581)
All others	198	.444	(.374, .517)
<i>Black/African American</i>	17	.588	(.329, .816)
<i>Hispanic/Latino</i>	22	.500	(.282, .718)
<i>Asian</i>	47	.489	(.341, .639)
<i>Native Hawaiian/Pacific Islander</i>	22	.591	(.364, .793)
<i>Multi-racial</i>	76	.342	(.237, .460)
All respondents	584	.356	(.318, .397)

Among those with dental insurance, there were significant differences in the proportion of children who had “Denali KidCare/Medicaid” coverage when compared by Race/Ethnicity. A lower proportion of children classified as “White” reported having “Denali KidCare/Medicaid” coverage than Alaskan kindergarten children as a whole and than children classified as “Black/African American”, “Asian”, “American Indian/Alaskan Native”, or “Native Hawaiian/Pacific Islander”.

Table 35.**Proportion of respondents with “Military” dental insurance by Race/Ethnicity, Alaskan kindergarten children, 2011**

Race/Ethnicity	n	Proportion of respondents who have “Military” dental coverage	95% CI
White	282	.138	(.100 .184)
American Indian/Alaskan Native	104	.038	(.011, .096)
All others	198	.106	(.067, .158)
<i>Black/African American</i>	17	.176	(.038, .434)
<i>Hispanic/Latino</i>	22	.227	(.078, .454)
<i>Asian</i>	47	.043	(.005, .145)
<i>Native Hawaiian/Pacific Islander</i>	22	.045	(.001, .228)
<i>Multi-racial</i>	76	.105	(.047, .197)
All respondents	584	.110	(.086, .138)

A lower proportion of respondents classified as “American Indian/Alaskan Native” had “Military” dental insurance than children classified as “White”.

Table 36.

Proportion of respondents receiving care through an IHS/Native Health Corporation/tribal clinic by Race/Ethnicity, Alaskan kindergarten children, 2011

Race/Ethnicity	n	Proportion of respondents who receive care through an IHS/Native Health Corporation/tribal dental clinic	95% CI
White	310	.032	(.016, .060)
American Indian/Alaskan Native	111	.757	(.666, .833)
All Others	210	.110	(.071, .160)
All respondents	631	.185	(.156, .218)

In other reports, less than one-third of American Indian/Alaskan Native respondents indicated that they have IHS/Native Health Corporation coverage, although all were eligible. It was proposed that these respondents may not consider IHS coverage to be “insurance”, or they may not utilize these services. In this survey the question was reframed. A significantly greater proportion of children classified as “American Indian/Alaskan Native” reported receiving care at Native Health Corporation/tribal clinics than “Whites” and “all others”, and children classified as “all others” utilized these clinics more than “Whites”, as might be expected.

Table 37.**Proportion of respondents with medical insurance by Race/Ethnicity,
Alaskan kindergarten children, 2011**

Race/Ethnicity	n	Proportion of respondents who have medical insurance	95% CI
White	302	.904	(.865, .935)
American Indian/Alaskan Native	117	.718	(.627, .797)
All others	213	.789	(.728, .842)
<i>Black/African American</i>	17	.882	(.636, .985)
<i>Hispanic/Latino</i>	20	.900	(.683, .988)
<i>Asian</i>	54	.648	(.506, .773)
<i>Native Hawaiian/Pacific Islander</i>	24	.750	(.533, .902)
<i>Multi-racial</i>	82	.829	(.730, .903)
All respondents	632	.831	(.799, .859)

A significantly smaller proportion of parents/guardians of children classified as “American Indian/Alaskan Native” reported having medical insurance than those of children classified as “Whites”. A smaller proportion of “Other” minorities, when grouped, also report having medical insurance. Small sample sizes and resultant broad confidence intervals within these individual groups preclude conclusions of statistical significance.

Table 38.**Proportion of participants with untreated dental caries by Race/Ethnicity, Alaskan kindergarten children, 2011**

Race/Ethnicity	n	Proportion of participants who have untreated dental caries	95% CI
White	293	.126	(.090, .170)
American Indian/Alaskan Native	128	.297	(.219, .384)
All others	227	.278	(.220, .341)
<i>Black/African American</i>	19	.105	(.013, .331)
<i>Hispanic/Latino</i>	23	.174	(.050, .388)
<i>Asian</i>	62	.355	(.237, .487)
<i>Native Hawaiian/Pacific Islander</i>	21	.381	(.181, .616)
<i>Multi-racial</i>	85	.282	(.190, .390)
All respondents	648	.213	(.182, .247)

A higher proportion of participating “American Indian/Alaska Native” kindergartners had untreated dental caries than those classified as “White”. When “Other” minorities are grouped, a higher proportion of minority children have untreated dental caries than their peers classified as “White”. Small sample sizes and resultant broad confidence intervals within these individual groups preclude conclusions of statistical significance for minority groups with small samples (“Black/African American”, “Hispanic/Latino”, and “Native Hawaiian/Pacific Islander”).

Table 39.**Proportion of participants with dental caries experience by Race/Ethnicity, Alaskan kindergarten children, 2011**

Race/Ethnicity	n	Proportion of participants who have dental caries experience	95% CI
White	293	.280	(.229, .335)
American Indian/Alaskan Native	128	.633	(.543, .716)
All others	227	.463	(.396, .530)
<i>Black/African American</i>	19	.368	(.163, .616)
<i>Hispanic/Latino</i>	23	.217	(.075, .437)
<i>Asian</i>	62	.565	(.433, .690)
<i>Native Hawaiian/Pacific Islander</i>	21	.667	(.430, .854)
<i>Multi-racial</i>	85	.447	(.339, .559)
All respondents	648	.414	(.376, .453)

A lower proportion of “Whites” (28%) had dental caries experience than participating children in Alaska as a whole. A higher proportion of “American Indian/Alaskan Natives” (63%) Alaskan children as a whole and those classified as “White”. The proportions of children classified as “Black/African American” and “Hispanic/Latino” were similar to the proportions of children classified as “White” with respect to dental caries experience; the proportions of children with dental caries experience in all other minority categories exceeded the proportion of children classified as “White”.

Table 40.

Proportion of participants with dental caries experience on primary maxillary anterior teeth by Race/Ethnicity, Alaskan kindergarten children, 2011

Race/Ethnicity	n	Proportion of participants who have dental caries experience on primary maxillary anterior teeth	95% CI
White	293	.096	(.064, .135)
American Indian/Alaskan Native	127	.409	(.323, .500)
All others	227	.189	(.141, .247)
<i>Black/African American</i>	19	.105	(.013, .331)
<i>Hispanic/Latino</i>	23	.043	(.001, .219)
<i>Asian</i>	62	.323	(.209, .453)
<i>Native Hawaiian/Pacific Islander</i>	21	.190	(.054, .419)
<i>Multi-racial</i>	85	.141	(.075, .234)
All respondents	647	.190	(.161, .223)

A higher proportion of participating “American Indian/Alaskan Native” children (41%) had dental caries experience on primary anterior teeth than those classified as “White” or than Alaskan kindergarten children in other minority classifications combined.

Table 41.

Treatment urgency (grouped variable) by Race/Ethnicity (grouped variable), Alaskan kindergarten children, 2011

Race		Treatment Urgency		
		No obvious problem	Early dental care or urgent care	Total
White	n	253	40	293
	row%	86.3	13.7	100.0
	col%	49.9	28.4	45.2
American Indian/Alaskan Native	n	89	39	128
	row%	69.5	30.5	100.0
	col%	17.6	27.7	19.8
All others	n	165	62	227
	row%	72.7	27.3	100.0
	col%	32.5	44.0	35.0
All Races	n	507	141	648
	row%	78.2	21.8	100.0
	col%	100.0	100.0	100.0

There was insufficient cell size to assess even the combined race/ethnicity groupings in all categories of treatment urgency; those needing urgent care were combined with those needing early dental care.

That done, there were significant differences in treatment urgency between Race/Ethnicity groupings (Chi-squared = 21.1278, 2 df, P=0.0000). Children classified as “American Indian/Alaskan Native” or “All others” were more likely to have treatment needs than children classified as “White”.

Table 42.

**Proportion of participants needing treatment by Race/Ethnicity,
Alaskan kindergarten children, 2011**

Race/Ethnicity	N	Proportion of participants needing treatment	95% CI
White	293	.137	(.099, .181)
American Indian/Alaskan Native	128	.305	(.226, .392)
All others	227	.273	(.216, .336)
<i>Black/African American</i>	19	.105	(.013, .331)
<i>Hispanic/Latino</i>	23	.130	(.028, .336)
<i>Asian</i>	62	.371	(.252, .503)
<i>Native Hawaiian/Pacific Islander</i>	21	.381	(.181, .616)
<i>Multi-racial</i>	85	.271	(.180, .378)
All races	648	.218	(.187, .252)

This is an alternative presentation to the data presented in Table 34, since with the collapse of the “urgency” groupings this can be presented as the proportion of participants needing treatment.

A significantly larger proportion of “American Indian/Alaskan Native” children responding needed some type of dental treatment when compared to those classified as “White”.

Response Differences by Dental Insurance Status

Tables addressing gender (Table 28) and Race/Ethnicity (Table 30) and insurance status have already been presented and are not repeated here.

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 43. 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” and the “Yes” dependent response (when applicable) were placed in the default table positions.

There was insufficient sample size to effectively evaluate reason for last dental visit and insurance status.

Table 43.

Variables with insignificant differences between results when compared by dental insurance status, Alaskan kindergarten children, 2011

Variable	P-Value	OR (95% CI)
Age (in months)	0.1965	
Receipt of care through Native Health Corporation/Tribal clinic		0.63 (0.34, 1.16)
Untreated Dental Caries		0.98 (0.53, 1.84)
Dental Caries Experience		0.66 (0.40, 1.11)
Dental Caries Experience on maxillary primary anterior teeth		0.74 (0.40, 1.37)
Treatment Urgency ¹		1.08 (0.59, 2.00)

¹ Urgency categories “early dental care” and “urgent care” were combined due to small sample size

Table 44.

Length of time since last dental visit and dental insurance status, Alaskan kindergarten children 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	
Yes	n	345	85	85	62	577
	row%	59.8	14.7	14.7	10.7	100.0
	col%	94.0	80.2	88.5	81.6	89.5
No	n	22	21	11	14	68
	row%	32.4	30.9	16.2	20.6	100.0
	col%	6.0	19.8	11.5	18.4	10.5
All	n	367	106	96	76	645
	row%	56.9	16.4	14.9	11.8	100.0
	col%	100.0	100.0	100.0	100.0	100.0

Due to small cell sizes, responses for “More than 3 years ago” and “Never has been to the dentist” were combined.

There were significant differences in the length of time since the last dental visit by insurance status (Chi-squared = 22.7920, 3 df, P=0.0000). Children with dental insurance coverage were more apt to have had a dental visit within the past six months than children without insurance, and less likely to have had their last visit in each greater time period than their peers without dental insurance.

Table 45.

Dental insurance status and inability to obtain needed dental care, Alaskan kindergarten children, 2011

Dental insurance status	Unable to obtain needed dental care in past 12 months		
	Yes	No	Total
Yes	49	508	557
No	13	54	67
Total	62	562	624

Responding children who had dental insurance were less than half as likely to have reported an inability to obtain needed care in the past 12 months (OR=0.40, 95% Confidence Interval 0.20, 0.79) than their peers without dental insurance.

Table 46.

Dental insurance status and report of tooth pain, Alaskan kindergarten children, 2011

Dental insurance status	Report of toothache more than once in past 6 months		
	Yes	No	Total
Yes	38	524	562
No	10	60	72
Total	48	584	632

Responding children who had dental insurance were less than half as likely to have reported toothache more than once to biting or chewing in the past 6 months (OR=0.44, 95% Confidence Interval 0.21, 0.92) than their peers without dental insurance.

Table 47.

Dental insurance and medical/surgical insurance status, Alaskan kindergarten children, 2011

Dental Insurance Status	Medical Insurance Status		Total
	Yes	No	
Yes	499	57	556
No	21	48	69
Total	520	105	625

Children who had dental insurance were far, far more likely to have medical/surgical insurance coverage (OR=20.0, 95% Confidence Interval 11.2, 37.8) than children without dental insurance.

Response Differences by Denali KidCare/Medicaid Status

In previous tables, differences by Denali KidCare/Medicaid status were based upon responses from the subset of participants that indicated that they had some type of dental insurance. For this group of analyses, the entire sample was used for comparisons: children who reported that they had Denali KidCare/Medicaid were compared to all others, regardless of reported status for “insurance”. Since the analytical sample was slightly different, results may be slightly skewed as well.

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 48. 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. Denali KidCare/Medicaid = “Yes” and “Yes” responses to dependent variables, where appropriate, were placed in the default table positions.

Table 48.

Variables with insignificant differences between results when compared by Denali KidCare/Medicaid status, Alaskan kindergarten children, 2011

Variable	P-Value	OR (95% CI)
Age (in months)	0.3355	
Length of time since last reported dental visit (grouped variable)	0.6364	
Reason for last dental visit	0.0612	
Inability to obtain needed dental care		1.13 (0.65, 1.96)
Tooth pain		1.25 (0.68, 2.31)
Receipt of care through a Native Health Corporation/Tribal dental clinic		0.97 (0.63, 1.50)
Untreated dental caries		0.93 (0.62, 1.41)
Dental caries experience		1.28 (0.91, 1.79)
Dental caries experience on 1 ⁰ anterior teeth		1.39 (0.92, 2.09)
Treatment urgency (grouped variable)		1.05 (0.70, 1.57)

Table 49.

Proportion of participants with Denali KidCare/Medicaid coverage and untreated dental caries by race/ethnicity, Alaskan kindergarten children, 2011

Race/Ethnicity	n	Proportion of participants with Denali KidCare/Medicaid who have untreated dental caries	95% CI
White	67	.119	(.053, .222)
American Indian/Alaskan Native	49	.265	(.149, .411)
All others	84	.238	(.152, .343)
<i>Black/African American</i>	8	0	(.0, .369)
<i>Hispanic/Latino</i>	11	.182	(.023, .518)
<i>Asian</i>	23	.304	(.132, .529)
<i>Native Hawaiian/Pacific Islander</i>	13	.308	(.091, .614)
<i>Multi-racial</i>	24	.292	(.126, .511)
All respondents	200	.205	(.151, .268)

Of respondents with Denali KidCare/Medicaid coverage, there is a suggestion of differences in the proportion of children with untreated dental caries by race/ethnicity, but this difference is not statistically significant. A larger sample size may substantiate actual differences.

Table 50.

Proportion of participants with Denali KidCare/Medicaid coverage and dental caries experience by race/ethnicity, Alaskan kindergarten children, 2011

Race/Ethnicity	n	Proportion of participants with Denali KidCare/Medicaid who have dental caries experience	95% CI
White	67	.299	(.193, .423)
American Indian/Alaskan Native	49	.694	(.546, .817)
All others	84	.440	(.332, .553)
<i>Black/African American</i>	8	.375	(.085, .755)
<i>Hispanic/Latino</i>	11	.182	(.023, .518)
<i>Asian</i>	23	.478	(.268, .694)
<i>Native Hawaiian/Pacific Islander</i>	13	.692	(.386, .909)
<i>Multi-racial</i>	24	.417	(.221, .634)
All respondents	200	.455	(.385, .527)

Of respondents with Denali KidCare/Medicaid coverage, a higher proportion of children classified as “American Indian/Alaskan Native” had dental caries experience than children classified as “White”, “All Others”, or participants with this coverage as a group. There is a suggestion of differences in the proportion of children with dental caries experience by race/ethnicity for other groupings, but these differences are not statistically significant. A larger sample size may substantiate actual differences between other race/ethnicity classifications.

Table 51.

Proportion of participants with Denali KidCare/Medicaid coverage and dental caries experience on primary maxillary anterior teeth by Race/Ethnicity, Alaskan kindergarten children, 2011

Race/Ethnicity	n	Proportion of participants with Denali KidCare/Medicaid who have dental caries experience on primary maxillary anterior teeth	95% CI
White	67	.104	(.043, .203)
American Indian/Alaskan Native	48	.521	(.372, .667)
All others	84	.155	(.085, .250)
<i>Black/African American</i>	8	0	(.0, .369)
<i>Hispanic/Latino</i>	11	0	(.0, .285)
<i>Asian</i>	23	.348	(.164, .573)
<i>Native Hawaiian/Pacific Islander</i>	13	.154	(.019, .454)
<i>Multi-racial</i>	24	.042	(.001, .211)
All respondents	199	.226	(.170, .291)

Of respondents with Denali KidCare/Medicaid coverage, a higher proportion of children classified as “American Indian/Alaskan Native” had dental caries experience on primary anterior teeth than children classified as “White”, or “All Others”. The proportion of children classified as “American Indian/Alaskan Native” with dental caries experience on primary anterior teeth also exceed that of children classified as “Black/African American”, Hispanic/Latino” or “Multi-racial”.

Table 52.

Proportion of participants with Denali KidCare/Medicaid coverage needing treatment by Race/Ethnicity, Alaskan kindergarten children, 2011

Race/Ethnicity	n	Proportion of participants with Denali KidCare/Medicaid needing dental treatment	95% CI
White	67	.119	(.053, .222)
American Indian/Alaskan Native	49	.306	(.183, .454)
All others	84	.238	(.152, .343)
<i>Black/African American</i>	8	0	(.0, .369)
<i>Hispanic/Latino</i>	11	.091	(.002, .413)
<i>Asian</i>	23	.348	(.164, .573)
<i>Native Hawaiian/Pacific Islander</i>	13	.308	(.091, .614)
<i>Multi-racial</i>	24	.292	(.126, .511)
All respondents	200	.215	(.160, .278)

Of respondents with Denali KidCare/Medicaid coverage, there is a suggestion of differences in the proportion of children needing dental treatment by race/ethnicity, but this difference is not statistically significant. A larger sample size may substantiate actual differences.

Alaska State Oral Health Assessment, 2011 Kindergarten Data

Differences by Clinical Variables:

Untreated Dental Caries

The relationships between untreated dental caries and gender (Table 28), race/ethnicity (Table 38), dental insurance status (Table 43), and Denali KidCare/Medicaid status (Table 49) have already been presented and are not repeated here.

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 53. 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. Untreated dental caries = “Yes” and “Yes” responses to dependent variables, where appropriate, were placed in the default table positions.

Table 53.

Variables with insignificant differences between results when compared by the presence/absence of untreated dental caries, Alaskan kindergarten children, 2011

Variable*	P-Value	OR (95% CI)
Age (mean age in months)	0.8172	
Respondents with medical insurance		

Table 54.

Length of time since last dental visit and untreated dental caries status, Alaskan kindergarten children, 2011

Untreated dental caries		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	
Yes	n	54	23	31	21	129
	row%	41.9	17.8	24.0	16.3	100.0
	col%	15.7	21.9	33.0	27.6	20.8
No	n	290	82	63	55	490
	row%	59.2	16.7	12.9	11.2	100.0
	col%	84.3	78.1	67.0	72.4	79.2
All	n	344	105	94	76	619
	row%	55.6	17.0	15.2	12.3	100.0
	col%	100.0	100.0	100.0	100.0	100.0

Due to small cell sizes, responses for “More than 3 years ago” and “Never has been to the dentist” were combined.

There were significant differences in the length of time since the last dental visit by untreated dental caries status (Chi-squared = 16.1070, 3 df, P=0.0011). Children with untreated dental caries were less apt to have had a dental visit within the past six months than children without untreated caries, and more likely to have had their last visit more than one year previously and every other greater category than participants with no untreated dental caries.

Table 55.

Reason for last dental visit and untreated dental caries status, Alaskan kindergarten children, 2011

Untreated Dental Caries		Reason for Last Dental Visit				Total
		Something was wrong	Went for routine treatment	Went on own for exam	Called in for exam	
Yes	n	18	24	58	11	111
	row%	16.2	21.6	52.3	9.9	100.0
	col%	40.9	38.1	15.4	17.7	20.4
No	n	26	39	318	51	434
	row%	6.0	9.0	73.3	11.8	100.0
	col%	59.1	61.9	84.6	82.3	79.6
Total	n	44	63	376	62	545
	row%	8.1	11.6	69.0	11.4	100.0
	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 = 29.5803, 3 df, P=0.0000). 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. A greater proportion of children with no untreated caries had their last visit for an exam that they (or their parent/guardian) had initiated when compared to children who had untreated dental caries.

Table 56.

Inability to obtain needed dental care in the past 12 months and untreated dental caries status, Alaskan kindergarten children, 2011

Untreated dental caries	Unable to obtain needed dental care in the past 12 months		Total
	Yes	No	
Yes	24	98	122
No	38	435	473
Total	62	533	595

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=2.80, 95% Confidence Interval 1.61, 4.89).

Table 57.

Respondents reporting tooth pain and untreated dental caries status, Alaskan kindergarten children, 2011

Untreated Dental Caries Status	Child reported toothache >1 time in past 6 months		Total
	Yes	No	
Untreated Dental Caries	22	104	126
No Untreated Dental Caries	23	454	477
Total	45	558	603

Participants who had untreated dental caries were more four times as likely to have reported tooth pain more than once in the past six months as children with no untreated dental caries (OR=4.48, 95% confidence interval 2.24, 7.78).

Table 58.

Untreated dental caries and Native Health Corporation/Tribal care, Alaskan kindergarten children, 2011

Untreated Dental Caries	Receipt of care through a Native Health Corporation/Tribal clinic		
	Yes	No	Total
Yes	34	86	120
No	76	396	472
Total	110	482	592

Participants with untreated dental caries were more likely to have reported obtaining care at a Native Health Corporation/Tribal clinic (OR=2.06, 95% Confidence Interval 1.29, 3.29) than children without untreated dental caries.

This table should be viewed with caution, as the primary recipients of care at these clinics are “American Indian/Alaskan Natives”. If this table is generated using only respondents classified as “American Indian/Alaskan Native”, the OR, while similar, loses statistical significance (OR=1.30, (0.49, 3.47)), indicating that Race/Ethnicity may confound this measure.

Table 59.

Caries experience of participants with no untreated dental caries, Alaskan kindergarten children, 2011

	Frequency	Percent	95% CI
Caries Experience	130	25.5	(21.8, 29.5)
Caries Free	380	74.5	(70.5, 78.2)
Total	510		

This table is presented only for informational purposes. About 79% of children assessed (510 of 648) had no untreated caries. It is interesting to note that almost three-quarters of these children (and almost 60% of the 648 children scored) were caries free (never had a cavity).

Table 60.

Untreated dental caries status and caries experience on primary maxillary anterior teeth, Alaskan kindergarten children, 2011

Untreated Dental Caries Status	Caries Experience on Primary Maxillary Anterior Teeth		Total
	Yes	No	
Untreated Dental Caries	68	69	137
No Untreated Dental Caries	55	455	510
Total	123	524	647

Participants who had untreated dental caries were eight times more likely to have caries experience on maxillary anterior teeth than those with no untreated dental caries (OR 8.15 95% Confidence Interval 5.27, 12.61).

Table 61.

Treatment urgency among children with untreated dental caries, Alaskan kindergarten children, 2011

Treatment Urgency	Number of Respondents	Percent	95% CI
No obvious problem	6	4.3	(1.6,
Early dental care (within weeks)	126	91.3	(85.3, 95.4)
Urgent care (within 24 hours)	6	4.3	(1.6, 9.2)
Total	138	100.0	

Of the 138 children with untreated dental caries, 6 (less than 5%) required urgent dental care. The vast majority (over 90%) required more routine care.

The children scored as having “no obvious problem” likely had untreated caries in teeth that were ready to exfoliate.

Dental Caries Experience

Dental caries experience and Gender (Table 28), Race/Ethnicity (Table 39), insurance status (Table 43), Denali KidCare/Medicaid status (Table 50) and untreated dental caries (Table 59) have already been presented and are not duplicated here.

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 62. 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. Untreated dental caries = “Yes” and “Yes” responses to dependent variables, where appropriate, were placed in the default table positions.

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)

Table 62.

Variables with insignificant differences between results when compared by the presence/absence of dental caries experience, Alaskan kindergarten children, 2011

Variable	P-Value	OR (95% CI)
Age (in months)	0.9930	
Length of time since last dental visit	0.0518	

Table 63.

Reason for last dental visit and dental caries experience, Alaskan kindergarten children, 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	
Yes	n	33	52	117	26	228
	row%	14.5	22.8	51.3	11.4	100.0
	col%	75.0	82.5	31.1	41.9	41.8
No	n	11	11	259	36	317
	row%	3.5	3.5	81.7	11.4	100.0
	col%	25.0	17.5	68.9	58.1	58.2
Total	n	44	63	376	62	545
	row%	8.1	11.6	69.0	11.4	100.0
	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 dental caries experience (Chi-squared = 80.5369, 3 df, P=0.0000). A greater proportion of children with dental caries experience had their last visit because “Something was wrong” or for “routine treatment”. A greater proportion of children with no dental caries experience had their last visit for an exam that they (or their parent/guardian) had initiated when compared to children who had dental caries experience.

Table 64.

Reason for last dental visit and dental caries experience among children with no untreated caries, Alaskan kindergarten children, 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	
Yes	n	15	28	59	15	117
	row%	12.8	23.9	50.4	12.8	100.0
	col%	57.7	71.8	18.6	29.4	27.0
No	n	11	11	259	36	317
	row%	3.5	3.5	81.7	11.4	100.0
	col%	42.3	28.2	81.4	70.6	73.0
Total	n	26	39	318	51	434
	row%	6.0	9.0	73.3	11.8	100.0
	col%	100.0	100.0	100.0	100.0	100.0

When controlling for children with untreated dental caries, there were still significant differences in the reason for the last reported dental visit and dental caries experience (Chi-squared = 68.8530, 3 df, P=0.0000). A greater proportion of children with dental caries experience had their last visit because “Something was wrong” or for routine treatment even when they had had no untreated caries at their screening exam. A greater proportion of children with no dental caries experience had their last visit for an exam that they (or their parent/guardian) had initiated when compared to children who had dental caries experience.

Table 65.

Inability to obtain needed dental care in the past 12 months and dental caries experience, Alaskan kindergarten children, 2011

Dental Caries Experience	Unable to obtain needed dental care in the past 12 months		Total
	Yes	No	
Yes	37	206	243
No	25	327	352
Total	62	533	595

Parents/guardians of children who had dental caries experience were more than twice as likely to have reported difficulty in obtaining dental care when their child needed it in the past 12 months as those of children who were caries free (OR=2.40, 95% Confidence Interval 1.37, 4.02). It is again important to remember that children with dental caries experience are inclusive of children with untreated caries, which may influence conclusions based upon this finding.

When children with untreated caries are eliminated from this table, the findings lose statistical significance (OR 1.57 (0.78, 3.19)), indicating that the driver for this table is, indeed, untreated caries.

Table 66.

Dental caries experience and tooth pain, Alaskan kindergarten children, 2011

Dental Caries Experience	Child reported toothache >1 time in past 6 months		Total
	Yes	No	
Yes	33	214	247
No	12	344	356
Total	45	558	603

Children who had dental caries experience were more than four times as likely to have reported tooth pain more than once in the past six months as children that were caries-free (OR=4.42, 95% confidence interval 2.23, 8.75). 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.

Table 67.

Dental caries experience and tooth pain among those with no untreated dental caries, Alaskan kindergarten children, 2011

Dental Caries Experience		Child reported toothache >1 time in past 6 months		Total
		Yes	No	
Yes	n	11	110	121
	row%	9.1	90.9	100.0
	col%	47.8	24.2	25.4
No	n	12	344	356
	row%	3.4	96.6	100.0
	col%	52.2	75.8	74.6
Total	n	23	454	477
	row%	4.8	95.2	100.0
	col%	100.0	100.0	100.0

When the 190 children with no untreated dental caries are removed from this analysis, the odds ratio declines, suggesting that current untreated caries is only a partial driver for this relationship. Children who had dental caries experience but no untreated dental caries were nearly three times as likely to have reported tooth pain more than once in the past six months as children that were caries-free (OR=2.87, 95% confidence interval 1.23, 6.68).

Table 68.

Dental caries experience and Native Health Corporation/Tribal care, Alaskan kindergarten children, 2011

Dental Caries Experience	Receipt of care through a Native Health Corporation/Tribal clinic		
	Yes	No	Total
Yes	59	173	232
No	51	309	360
Total	110	482	592

Participants with dental caries experience were more likely to have reported obtaining care at a Native Health Corporation/Tribal clinic (OR=2.07 95% Confidence Interval 1.36, 3.14) than children without dental insurance.

This table should be viewed with caution, as the primary recipients of care at these clinics are “American Indian/Alaskan Natives”. If this table is generated using only respondents classified as “American Indian/Alaskan Native”, the OR reverses and loses statistical significance (OR=0.45, (0.17, 1.18)), indicating that Race/Ethnicity does not confound this measure.

Table 69.**Dental caries experience on primary maxillary anterior teeth and dental caries experience, Alaskan kindergarten children, 2011**

Dental Caries Experience on Primary Maxillary Anterior Teeth	Number of respondents	Percent	95% CI
Yes	115	43.1	(37.1, 49.2)
No	152	56.9	(50.8, 62.9)
Total	267	100.0	

By definition, children who had dental caries experience on maxillary primary teeth also had to have dental caries experience on any teeth, so only the 267 children with any caries experience were assessed. Of those children with any dental caries experience, 43% experienced dental caries on maxillary primary teeth. These 115 children represent about 18% of all clinical assessment respondents (n=647) for this question.

Table 70.**Dental caries experience and treatment urgency, Alaskan kindergarten children, 2011**

Treatment Urgency	Number of respondents	Percent	95% CI
No obvious problem	130	45.8	(42.4, 54.7)
Early dental care (within weeks)	132	49.3	(43.1, 55.4)
Urgent care (within 24 hours)	6	2.2	(0.8, 4.8)
Total	268	100.0	

For this question, few children that were caries-free required treatment. This table presents the proportion of children with dental caries experience in each “Urgency” grouping.

Dental Caries Experience on Primary Maxillary Anterior Teeth

Dental caries experience on primary maxillary anterior teeth and gender (Table 28), Race/Ethnicity (Table 40), dental insurance status (Table 43), Denali KidCare/Medicaid status (Table 51), untreated dental caries (Table 60) and dental caries experience (Table 69) have already been presented and are not duplicated here.

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 71. 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. Dental caries experience on primary maxillary anterior teeth= “Yes” and “Yes” responses to dependent variables, where appropriate, were placed in the default table positions.

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.

Table 71.

Variables with insignificant differences between results when compared by the presence/absence of dental caries experience on primary maxillary anterior teeth, Alaskan kindergarten children, 2011

Variable	P-Value	OR (95% CI)
Mean age in months	0.7751	

Table 72.

Dental caries experience on primary maxillary anterior teeth and length of time since last dental visit, Alaskan kindergarten children 2011

Dental Caries Experience on Primary Maxillary Anterior Teeth		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	
Yes	n	50	20	32	13	115
	row%	43.5	17.4	27.8	11.3	100.0
	col%	14.5	19.2	34.0	17.1	18.6
No	n	294	84	62	63	503
	row%	58.4	16.7	12.3	12.5	100.0
	col%	85.5	80.8	66.0	82.9	81.4
All	n	344	104	94	76	618
	row%	55.7	16.8	15.2	12.3	100.0
	col%	100.0	100.0	100.0	100.0	100.0

Due to small cell sizes, responses for “More than 3 years ago” and “Never has been to the dentist” were combined.

There were significant differences in the length of time since the last dental visit by dental caries experience on primary maxillary anterior teeth (Chi-squared = 18.6933, 3 df, P=0.0003). Children with this history were less likely to have had a dental visit within the past six months than children without this experience, and more likely to have had their last visit between one and three years previously.

Table 73.

Dental caries experience on primary maxillary anterior teeth and reason for last dental visit, Alaskan kindergarten children, 2011

Dental Caries Experience on Primary Maxillary Anterior Teeth		Reason for Last Dental Visit				Total
		Something was wrong	Went for routine treatment	Went on own for exam	Called in for exam	
Yes	n	20	28	44	14	106
	row%	18.9	26.4	41.5	13.2	100.0
	col%	46.5	44.4	11.7	22.6	19.5
No	n	23	35	332	48	438
	row%	5.3	8.0	75.8	11.0	100.0
	col%	53.5	55.6	88.3	77.4	80.5
Total	n	43	63	376	62	544
	row%	7.9	11.6	69.1	11.4	100.0
	col%	100.0	100.0	100.0	100.0	100.0

There were significant differences in the reason given for the last reported dental visit and dental caries experience on primary maxillary anterior teeth (Chi-squared = 59.9329, 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 in this tooth group.

Table 74.

Dental caries experience on primary maxillary anterior teeth and inability to obtain needed dental care in last 12 months, Alaskan kindergarten children, 2011

Dental Caries Experience on Primary Maxillary Anterior Teeth	Unable to Obtain Needed Dental Care in Last 12 months		Total
	Yes	No	
Yes	20	85	105
No	42	447	489
Total	62	532	594

Children who had dental caries experience on primary maxillary anterior teeth were almost two and a half 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=2.50, 95% confidence interval 1.40, 4.48) in this tooth group.

Table 75.

Dental caries experience on primary maxillary anterior teeth and tooth pain, Alaskan kindergarten children, 2011

Dental Caries Experience on Primary Maxillary Anterior Teeth	Child reported toothache >1 time in past 6 months		Total
	Yes	No	
Yes	15	98	113
No	30	459	489
Total	45	557	602

Children who had dental caries experience on primary maxillary anterior teeth were more than twice as likely to have reported tooth pain more than once in the past six months as children that did not have caries experience in this tooth group (OR=2.34, 95% Confidence Interval 1.21, 4.52).

Table 76.

Dental caries experience on primary maxillary anterior teeth and Native Health Corporation/Tribal care, Alaskan kindergarten children, 2011

Dental Caries Experience on Primary Maxillary Anterior Teeth	Receipt of care through a Native Health Corporation/Tribal clinic		
	Yes	No	Total
Yes	34	70	104
No	76	411	487
Total	110	481	591

Participants with dental caries experience on primary maxillary anterior teeth were more likely to have reported obtaining care at a Native Health Corporation/Tribal clinic (OR=2.63, 95% Confidence Interval 1.63, 4.23) than children without dental insurance.

This table should be viewed with caution, as the primary recipients of care at these clinics are “American Indian/Alaskan Natives”. If this table is generated using only respondents classified as “American Indian/Alaskan Native”, the OR reverses and loses statistical significance (OR=0.59, (0.24, 1.46)), indicating that Race/Ethnicity does not confound this measure.

Table 77.

Dental caries experience on primary maxillary anterior teeth and treatment urgency, Alaskan kindergarten children, 2011

Dental Caries Experience on Primary Maxillary Anterior Teeth	Treatment Urgency		
	No obvious problem	Early dental care or urgent care	Total
Yes	48	75	123
No	459	65	524
Total	507	140	647

Again, there was insufficient cell size to assess even the combined race/ethnicity groupings in all categories of treatment urgency; those needing urgent care were combined with those needing early dental care.

That done, there were significant differences in treatment urgency between children who did and did not have dental caries experience in maxillary anterior teeth (OR = 0.09, 95% Confidence Interval 0.06, 0.14). Children who had this history were 11 times as likely to need care as those who did not.