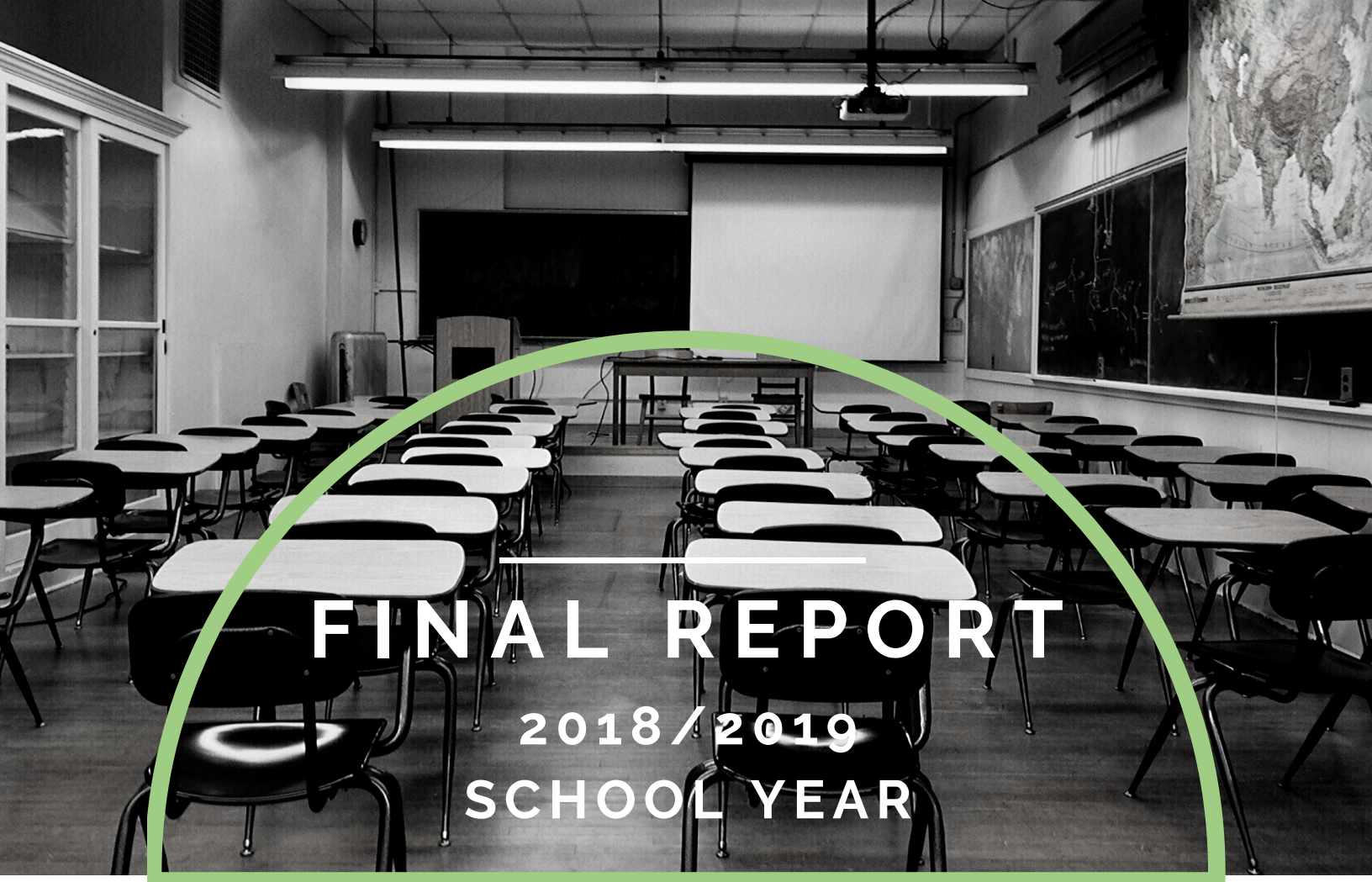

FINAL REPORT

2018/2019 SCHOOL YEAR

ADOLESCENT ORAL HEALTH CAMPAIGN

PREPARED BY

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UTAH DEPARTMENT OF HEALTH

TABLE OF CONTENTS

Report

Appendix

INTRODUCTION

During the 2018–2019 school year, the Oral Health Program (OHP) continued the Adolescent Oral Health Campaign, which initially launched during the 2016–2017 school year. This intervention, designed to educate middle school aged students about oral health care, works with the vision of encouraging positive oral health behaviors and increasing participation and utilization of preventive dental services. The campaign targeted middle school and high school health classes in schools along the Wasatch Front. The educational intervention consisted of a presentation given by the OHP Oral Health Educator, OHP interns, and volunteer dental hygiene students. Presentations were 45 to 60 minutes in length, and varied by school. Anonymous pre-test and post-tests were administered to all students before and after the educational intervention. These assessments asked knowledge-based questions about oral health topics addressed in the educational presentation. In addition, these assessments contained questions about students' demographics, such as age, ZIP code, race, and ethnicity. Questions about access to dental services, such as the last time the student saw a dentist or dental hygienist, were also included in the assessment. Completed surveys were entered into Survey Monkey and data were analyzed to evaluate the effectiveness of this oral health intervention. In addition, educational brochures with a list of local safety net dental clinics were made available to all students.

The OHP Oral Health Educator, along with interns, provided 126 presentations by visiting 18 schools, reaching 2,938 middle and high school students during the 2018–2019 school year. Through a partnership with the Utah Schools for the Deaf and the Blind, the campaign material was modified and presentations were offered to 94 students in special needs classrooms. Of those 94 students, 60 received the educational intervention but did not participate in the pre/post-test assessment. Toothbrushes, floss, and toothpaste were also passed out to all of the students in these special needs classrooms.

GOALS & OBJECTIVES

The primary goals of this intervention coincide with Healthy People 2020 guidelines to:

- Reduce the proportion of adolescents aged 13-15 years with dental caries experience in their permanent teeth (OH-1.3).
- Increase the proportion of children, adolescents, and adults who used the oral health care system in the past year (OH-2.3).
- Increase the proportion of low-income children and adolescents who received any preventive dental service during the past year (OH-7).

This aligns with Utah's MCH Block Grant national performance measure 13B, "Increase the percentage of children ages 1-17, who had a preventive dental visit in the last year."

One of the objectives of the Adolescent Oral Health Campaign is to increase oral health knowledge among youth. Topics include; healthy gums, bacteria-causing cavities, and tobacco use. The pre-test and post-test questions, completed by the students, cover each of these topics to measure the effectiveness of the intervention.

The other primary objective of this intervention is to increase positive oral health behaviors and healthy behaviors that adolescents have the ability to develop and control. These healthy behaviors include brushing teeth twice a day, flossing daily, limiting sugary drinks such as juice, soda, and energy drinks, and going to the dentist at least once a year for preventive services.

In order to meet these objectives, the presentation focuses on individual behaviors adolescents can control in their lives, as oral hygiene at home is a major behavior students can control and improve. This intervention is designed to increase the number of students accessing preventive dental services at least once a year. It encourages students to seek dental services and describes the benefits. Low cost dental resources are printed in an educational tri-fold handout and made available to all students. The resources are also available to the health teachers and school nurses.

METHODS

Intervention

A one-time oral health intervention was designed specifically for middle school aged students. The students completed a pre-test turned in to the oral health educator prior to the beginning of the intervention. The oral health presentation covered many topics including proper brushing and flossing habits, healthy nutrition choices (such as limiting sugary snacks and drinks), how a cavity is formed, how to prevent gum disease, how to properly clean braces and retainers, and the importance of regular dental care. After the educational segment, students immediately took the post-test assessment. The pre-test, educational intervention, and the post-test were all completed in one class period.

The Health Belief Model, a psychological health behavior change model, was used to address perceived barriers to optimal oral hygiene habits (1). These barriers were addressed during the educational portion and instructors provided solutions. In the presentation, the model encourages students to initiate and maintain healthy habits.

The effectiveness of the campaign was measured through pre- and post-tests completed by students in the classroom. If there is a 15% increase in students marking the right answer on the knowledge-based oral health questions between the pre- and post-test responses, the intervention is considered a success.

Students who received the modified presentation through the Utah Schools for the Deaf and the Blind, took the pre-test before to oral health educator arrived to allow them extra time to complete the pre-test.

METHODS

School Participation

In addition to public school involvement, two charter schools, the International Charter School and the Utah School for the Deaf and the Blind also received the intervention. The oral health educator contacted a number of middle school health teachers in school districts across the Wasatch Front. Scheduling for the educational intervention was based upon teacher response. The Oral Health Program focused its efforts along the Wasatch Front due to program constraints including travel time and funding. As a result, schools were not randomly selected for the campaign.

Analysis

The oral health educator and interns entered the completed pre- and post-tests into Survey Monkey. Complete response data was then downloaded from Survey Monkey to a Microsoft Excel file, and uploaded into SAS 9.4 for analysis. Average student age, distribution of student age, race, ethnicity, and responses to all survey questions were analyzed. Pre- and post-test responses to all survey questions were compared, and stratified analyses of specific oral health knowledge questions were conducted. All analyses were conducted in SAS 9.4.

RESULTS

Demographics

Demographics of students at participating schools are presented in Table 1. Distribution of ages and student gender were calculated based on pre-test responses. Of the 2,734 students who reported being between the ages of 11 and 20 years old, more than 99% of students reported being between the ages of 11 and 17 (n = 2,719). Average student age was 13.1 years (SD±1.4 years). There was no significant difference in student participation by gender: 48.4% of students identified as female in the pre-test (n = 1,340), compared with 51.6% of students who identified as male (n = 1,431).

The more than half of students (53.5%, n = 1,500) identified as White, while the remainder of students identified as persons who are non-White: 5.0% identified as persons who are Black/African American (n = 141), 2.9% identified as persons who are Asian (n = 84), 2.9% identified as persons who are American Indian/Native American (n = 77), 2.8% identified as persons who are Native Hawaiian/Pacific Islander (n = 81), and 15.7% identified as persons who are “Other” (n = 439). Finally, 17.1% of students selected multiple races and were re-categorized as being two or more races (n = 480).

Nearly three-fourths of students were classified as persons who are non-Hispanic (68.7%, n=1,886), and more than one-fourth were classified as persons who are Hispanic (31.3%, n =861).

STUDENT DEMOGRAPHICS

Student Demographics	Total Number of Students (n 2,910)	Percentage (%)
Age		
11	208	7.6
12	366	13.4
13	1,408	51.5
14	655	24.0
15	37	1.4
16	32	1.2
17	13	0.5
18	10	0.4
19	3	0.1
20	2	0.1
Gender		
Female	1,340	48.4
Male	1,431	51.6
Race		
American Indian/Native American	77	2.8
Asian	84	2.9
Black/African American	141	5.0
Native Hawaiian/Pacific Islander	81	2.9
White	1,500	53.5
Other	439	15.7
Two or More Races	480	17.1
Ethnicity		
Hispanic/Latino	861	31.3
Non-Hispanic/Latino	1,886	68.7

Table 1: Student Demographics

ORAL HEALTH BEHAVIOR QUESTIONS

As noted previously, the survey included questions aimed at better understanding students' oral health knowledge, as well as their individual oral health behaviors. Only pre-test responses to oral health behavior questions were analyzed for this report to minimize the risk that the intervention may have impacted students' responses in the post-test, thereby biasing results. The following questions were asked regarding students' oral health behaviors:

When was the last time you saw a dentist for a check-up, exam, teeth cleaning?

The question, "When was the last time you saw a dentist for a check-up, exam, teeth cleaning?," was modified from the 2016–2017 report to the 2017–2018 report. During the earlier campaign, the question asked, "When was the last time you saw a dentist for a check-up, exam, teeth cleaning, or other dental work?" This question was amended in 2017 and eliminated the phrase "other dental work." This was changed to place more focus on students' accessing preventive dental care. The modified question was retained for the 2018–2019 school year and will be used moving forward.

Interestingly the results of the Adolescent Oral Health Campaign Survey closely follow the state of Utah Youth Risk Behavior Survey (YRBS) Question 86 "When was the last time you saw a dentist for a check-up, exam, teeth cleaning, or other dental work?" In the YRBS survey, 1,377 students (76.8%) reported going to the dentist during the past 12 months. In the 2017–2018 OHP adolescent survey, 1,972 students (78.6%) reported going to the dentist during the past 12 months and during the 2018–2019 school year 2,289 students (79.3%) reported going to the dentist within the past 12 months. However, in the 2018–2019 school year 51 students reported they had never been to the dentist (1.8%).

Nonetheless, caution should be taken when comparing these results. The YRBS is a statewide survey primarily reaching 14–18 year old students and the question included "other dental work," which was eliminated from the 2017–2018 and the 2018–2019 adolescent collection instrument. The adolescent campaign also focused primarily on middle school students along the Wasatch Front and primarily surveyed 12–14 year old students.

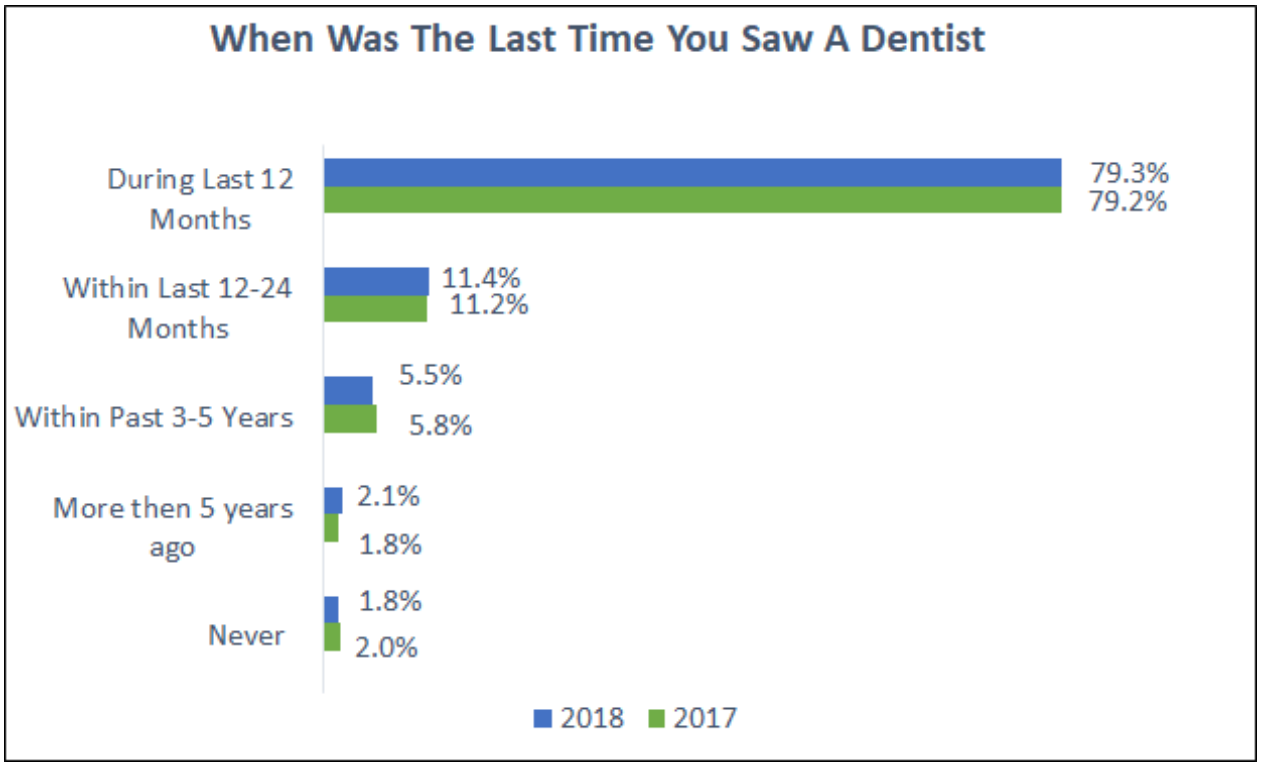

Figure 1: Student response to previous dentist visit, 2019 questionnaire

In summary, the majority of students surveyed in the 2018–2019 Adolescent Oral Health Campaign reported having a dental visit within the last 12 months (79.3%, n = 2,289). More than ten percent of students reported visiting a dentist between the last 12–24 months (11.4%, n = 329). A small number of students reported having a dental visit within the past three to five years (5.5%, n = 158), a few reported seeing a dentist more than five years ago (2.1%, n = 61), and some students indicated they had never been to the dentist (1.8%, n = 51).

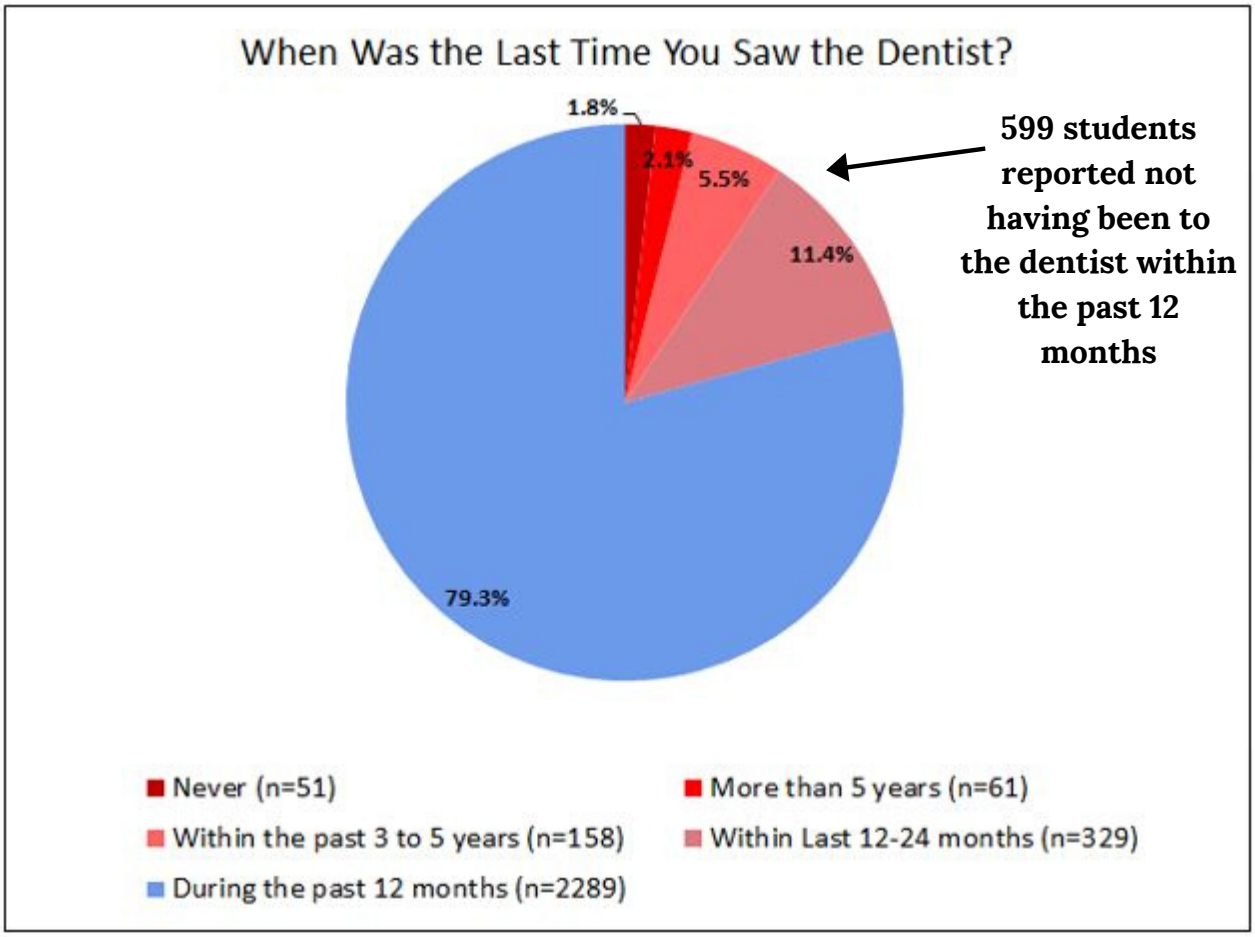

Figure 2: Student response to previous dentist visit, 2018 questionnaire

During the past 12 months, was there a time when you needed dental care but could not get it at that time?

In 2018, 460 students reported needing some form of dental care but not being able to get the care they needed, making up 16.0% of the students who responded to this question. Of those who responded, the other 84.0% of students responded 'No' indicating they either did not perceive a need for dental care in the past 12 months, or they were able to access the care that they needed. These findings are similar to the 2017–2018 school year, with 18.2% percent of students self-reporting they needed care and were unable to get it and 81.8% of the students self-reporting they were able to get the care they needed.

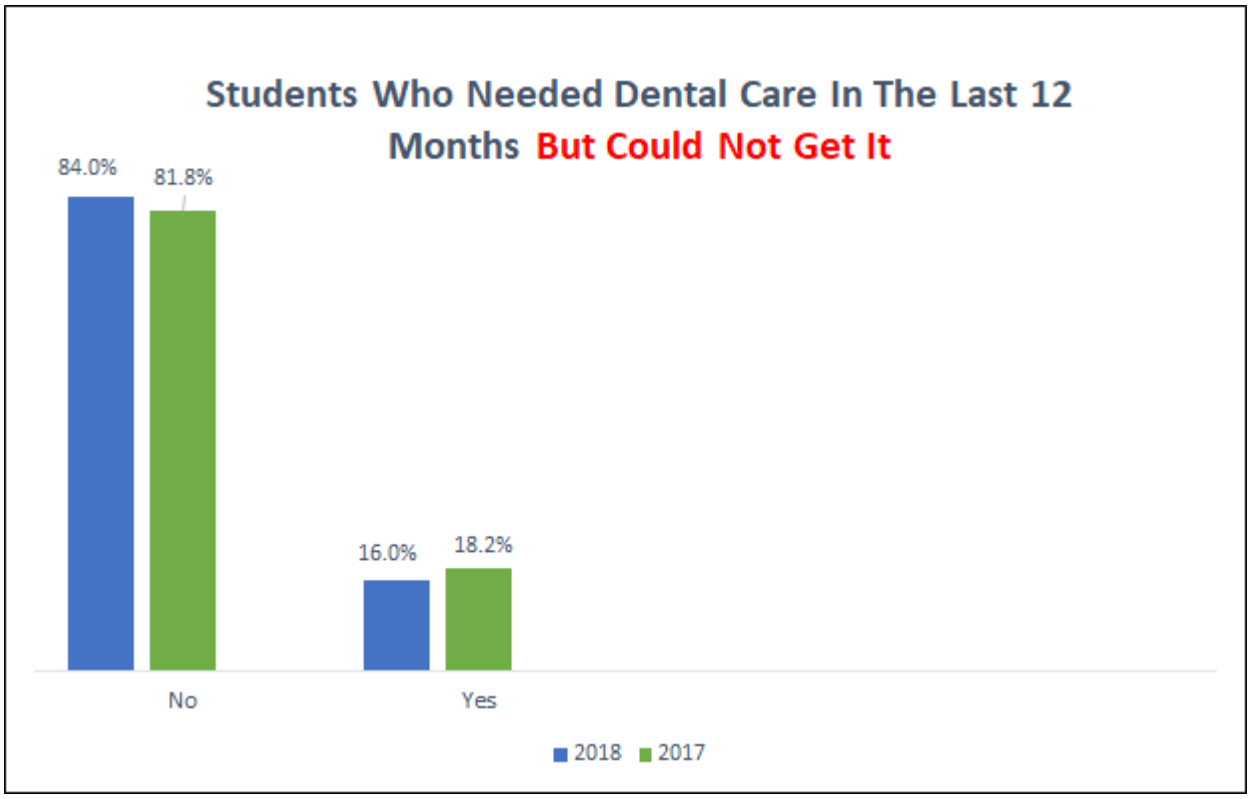

Figure 3: Students who could not get dental care in the past 12 months

It is very concerning that in 2018, 20.8% of students in this intervention self-reported they had not been to the dentist in the past 12 months and 16.0% reported needing dental care but were unable to access the care they needed. We know preventive dental visits are imperative for optimal oral health. There are many barriers for these teenagers accessing dental care. Scheduling conflicts for the adolescent, parents, and dental clinic can all be a barrier to receiving care. Insurance coverage and income is also a major barrier for many adolescents when it comes to accessing care. Data available on the Utah Public Health Indicator Based Information System (IBIS) displays an association between income and visiting the dentist. In the state of Utah in 2016, 53% of adults visited the dentist when their income was less than $25,000 a year, whereas 85% of adults visited the dentist when their annual income was $75,000 or more (2). While parental income was not studied as part of this intervention, it may contribute to whether the adolescents were able to receive the care they needed.

Other barriers to accessing care include, but are not limited to; a lack of after hours dental clinics, transportation, lack of providers, language, and other systemic constraints. The benefits of going to the dentist are addressed in the intervention and low cost safety net clinic offices included in resources available to all students. This provides students and families with low cost options for care removing one of the barriers that exist.

Overall, how would you rate the health of your teeth and gums?

Students were asked to rate the health of their teeth and gums, allowing us to assess students' perception of their own oral health. One in ten adolescents rated their oral health as being excellent (7.7%, n = 223). The majority of students rated their oral health as either very good (27.3%, n = 791) or good (45.5%, n = 1319). Fewer than 16% of students rated their oral health as fair (13.9%, n = 403) or poor (2.1%, n = 62). The remaining 3.6 % of students who responded to this question reported they did not know how they would rate their oral health.

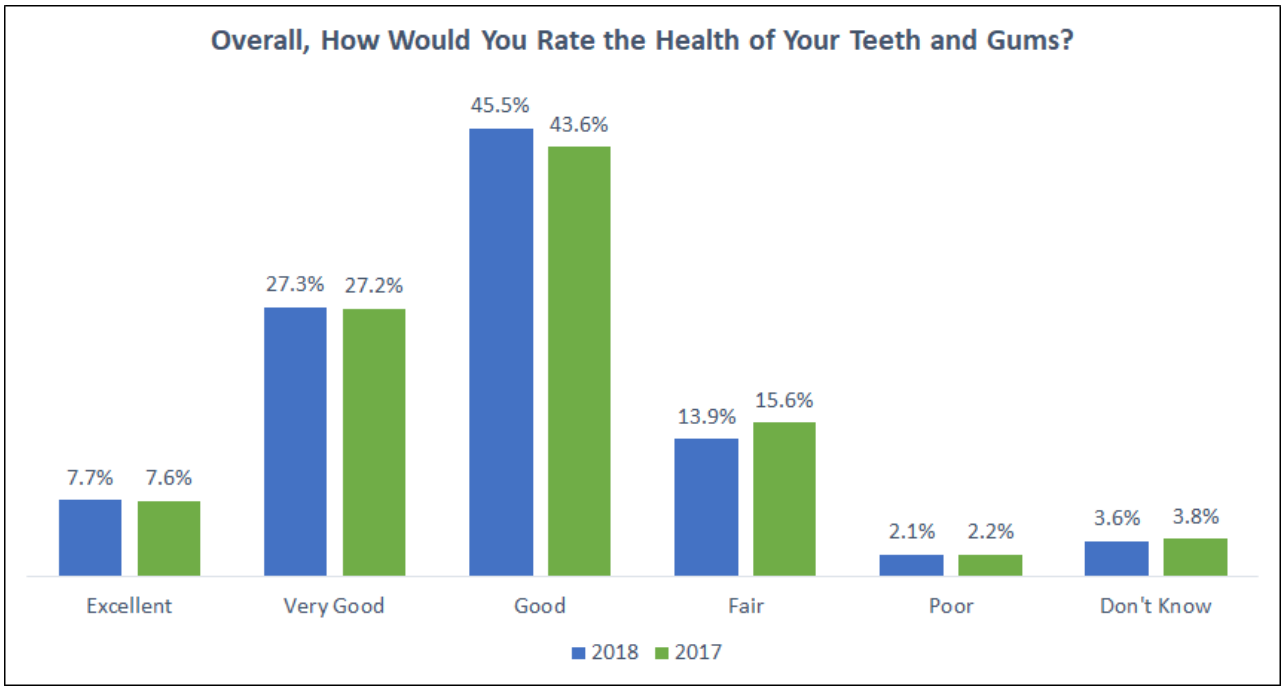

Figure 4: Students rate the health of their own teeth and gums

Poor oral health can lead to impaired speech development, and reduced self-esteem (U.S. Department of Health and Human Services, 2000). It can also contribute to shyness, unhappiness, feelings of worthlessness, and reduced friendliness (3). Students' perception of the health of their teeth and gums could affect their self-image. During the 2019–2020 school year, the following pilot question will be asked to explore this connection further, “How often during the last year have you been self-conscious or embarrassed because of your teeth, mouth? Would you say . . .” (4).

During the past 7 days, how many times did you drink a can, bottle, or glass of soda pop, such as Coke, Pepsi or Sprite? (No including diet soda or diet pop)

On the pre-test assessment, just under half of the students reported consuming one to three sodas over the course of the previous week (42.2%, n = 1205), and nearly one-third of students reported not consuming any soda during the previous week (37.9%, n = 1082). Fewer than ten percent of the students reported consuming soda at least once per day (6.3%, n = 180), or consuming soda four to six times a week (8.1%, n = 232).

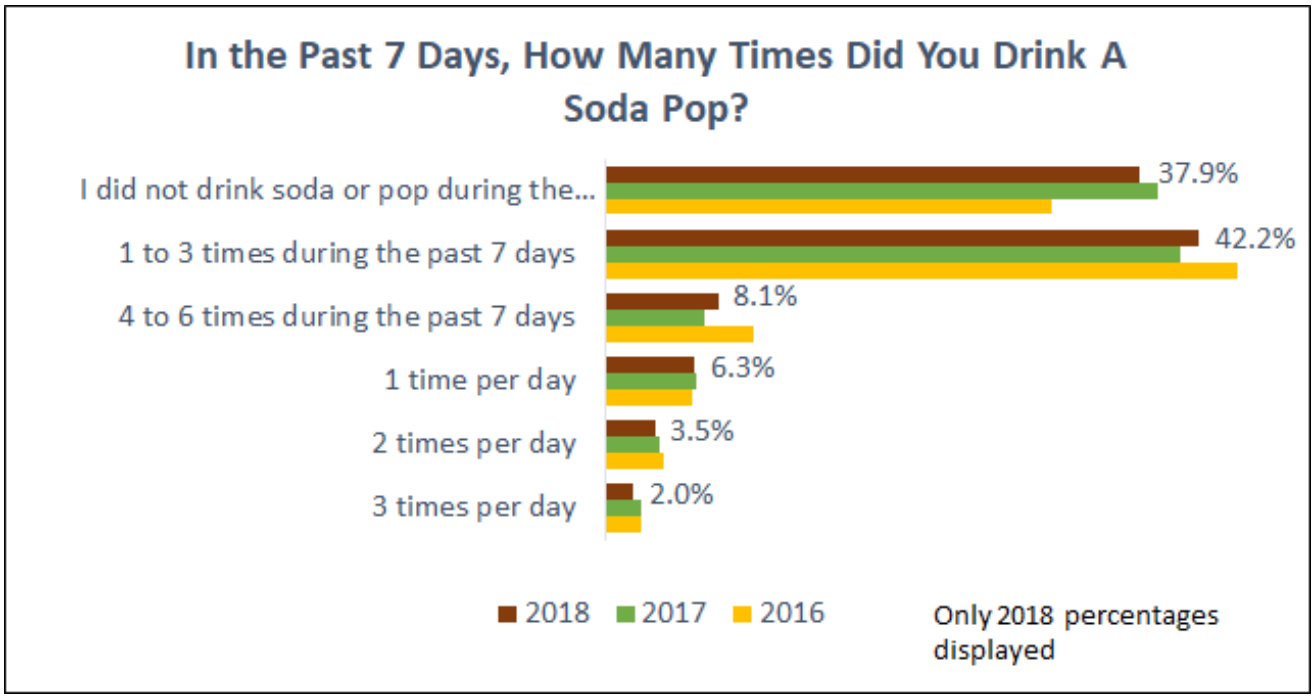

Figure 5: Student response to drinking soda pop in the past 7 days

Soda is a highly acidic and sugary drink, making it especially damaging to tooth structure and leading to tooth decay. Each time we eat food or have a drink that contains sugar, the bacteria (primarily strep mutans) in our mouths eat the sucrose in our diet and release acid. The human mouth becomes acidic for 20-40 minutes after each time it's exposed to food or drinks. During this time the pH of the mouth often drops to a level where the tooth starts to demineralize, meaning the tooth can start decaying. The more frequently these acid attacks occur the higher the risk of dental decay. That's why the question asking about soda drinking habits is broken down into so many frequency categories (5).

Have you ever smoked an electronic cigarettte or vaped?

Results from surveyed sixth and seventh grade students show the majority of students (88.0%, n = 2507) have not smoked an electronic cigarette or vaped. About ten percent (10.3%, n = 294) reported trying or experimenting with electronic devices, and 1.7% (n = 48) teens reported using these products regularly.

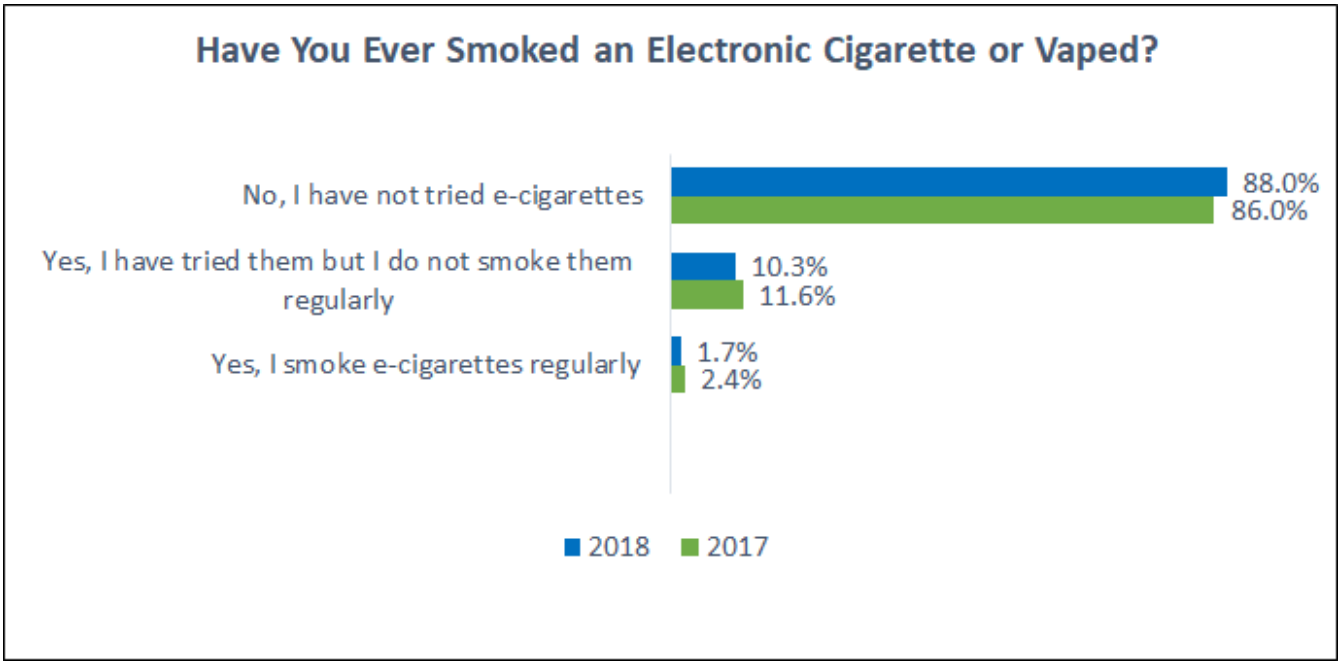

Figure 6: Students respond if they have every smoked an electronic cigarette or vaped

The OHP recognizes the increasing popularity of electronic cigarette usage among teens and young adults in Utah. According to the Vape Product Experimentation and Use Fact Sheet found in Utah's Indicator-Based Information System (IBIS), "In 2013, 2015, and 2017 Utah students were more likely to report use of electronic cigarettes or vape products than any other tobacco or nicotine products." The report also found that, "In 2017, nearly one-fourth of Utah students in grades 8, 10, and 12 reported they had tried vape products (also known as electronic cigarettes, e-cigarettes, vape pens, or mods) and 11% reported current use." (6). Due to this staggering rise in popularity of vaping products, the OHP decided to address the consequences of vaping and other tobacco products on the teeth, gums, and mucosal tissues, in this campaign.

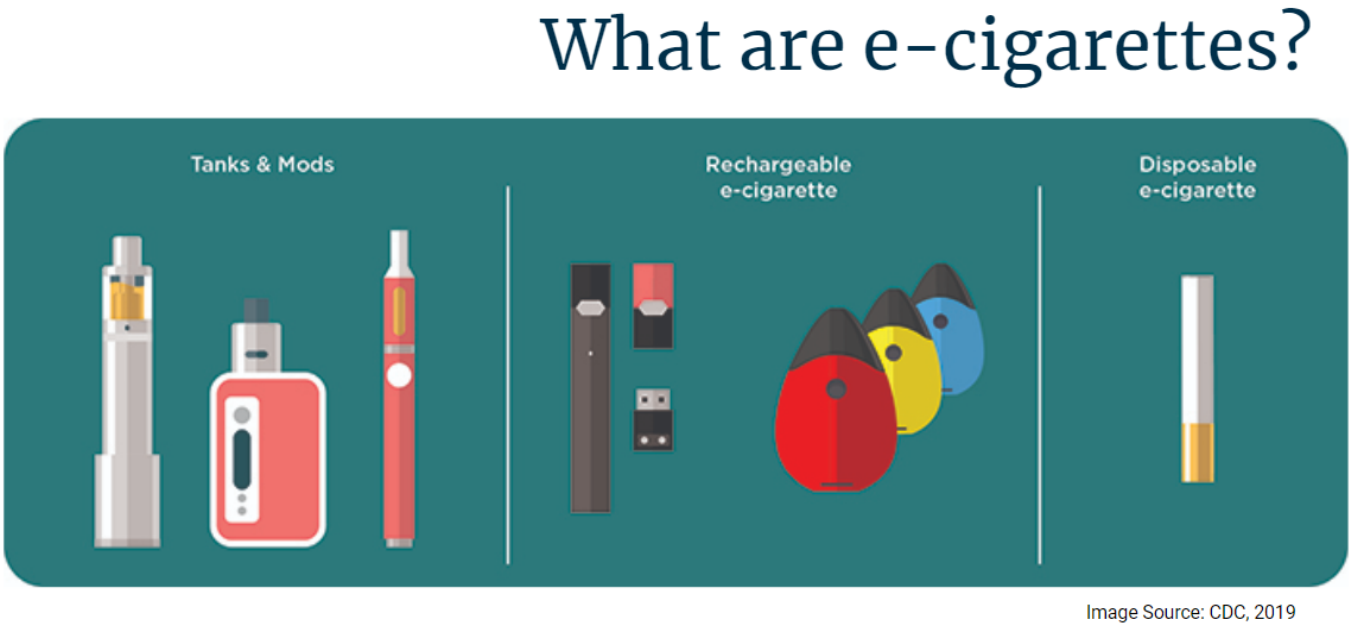

Image Source: CDC, 2019

"E-cigarettes are electronic devices that heat a liquid and produce an aerosol, or mix of small particles in the air." CDC, 2019

ORAL HEALTH KNOWLEDGE QUESTIONS

Topics covered in the educational intervention included cavities, gum disease, nutrition (with an emphasis on soda consumption), braces, and the importance of mouth guards while engaging in athletic activities. Questions geared toward assessing students' understanding of specific topics were asked in both the pre- and post-tests. A comparison of pre- and post-test responses for each of these questions is presented below. As stated in the Intervention section of this report, the OHP considers the intervention a success if there is a 15% increase in students marking the correct answer between the completed pre- and post-tests. A table (see Table 2) of all questions asked and the number and frequency of responses given for each answer choice is presented at the end of this report.

Is it common for healthy gums to bleed with brushing/flossing?

For the assessment, when asked if it is healthy for gums to bleed with brushing/flossing, the correct response is, "No, bleeding gums is not normal." A little more than half of the students selected the correct response during the pre-test (59.3%, n = 1713), compared with 89.2% (n = 2512) who selected this response during the post-test. It is important for students to know that bleeding gums is not normal. The absolute percentage change between correct answers from the pre- to post-test was 29.9%, representing a success in the intervention. According to the American Dental Association (ADA), "In some cases, bleeding gums can be a sign of gingivitis, the early stages of periodontal disease. If your gums bleed easily or bleed when you brush, talk to your dentist about your oral health. Gingivitis is preventable" (7). It is especially important for adolescents to know the signs and symptoms of gum disease. "Hormonal changes related to puberty can put teens at greater risk for getting periodontal disease. During puberty, an increased level of hormones, such as progesterone and possibly estrogen, cause increased blood circulation to the gums. This may cause an increase in the gum's sensitivity and lead to a greater reaction to any irritation, including food particles and plaque" (8).

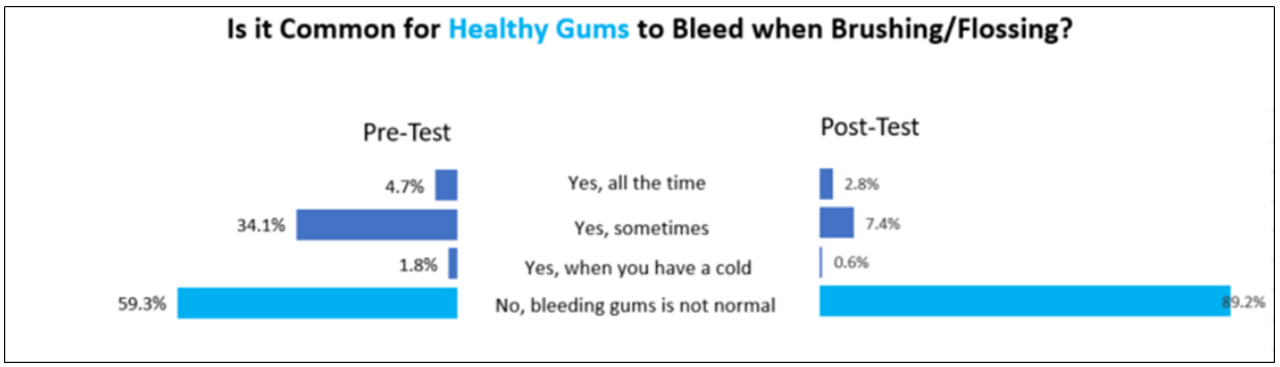

Figure 7: Pre-test and post-test responses on healthy gums

Can toothpaste clear up pimples?

There is no scientific evidence that toothpaste will help with pimples. More than half of the students selected the correct answer in the pre-test (71.6%, n = 2,040), and nearly all students selected the correct response on the post-test (93.7%, n = 2,585). The absolute percentage change between correct answers from the pre- to post-test was 22.1%, representing a success in the intervention.

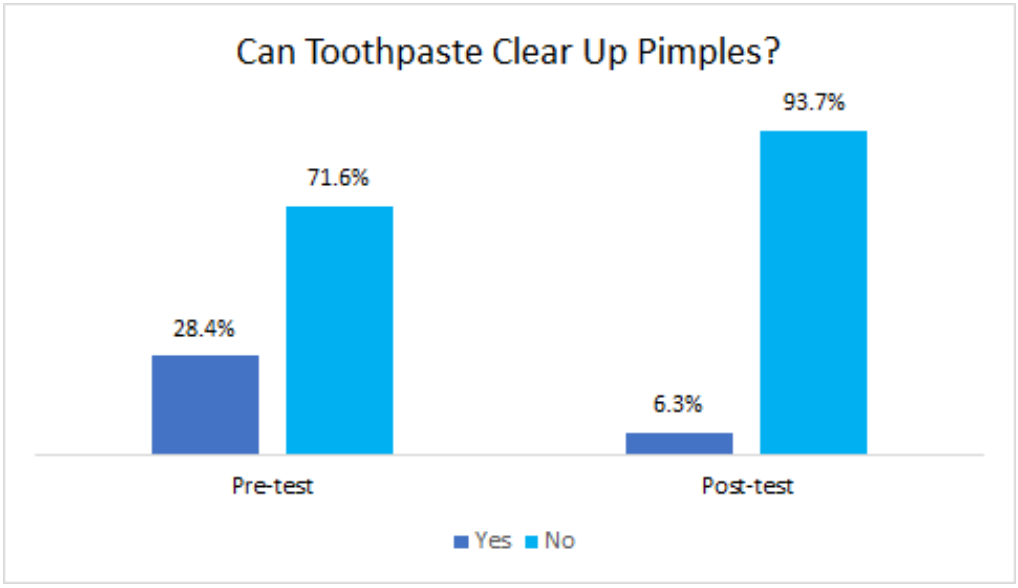

Figure 8: Pre-test and post-test responses on if toothpaste clears pimples

This question, can toothpaste clear up pimples, was used to spark a conversation that products should only be used as directed. There are many false claims on social media and other illegitimate sources youth look to for advice. It is recommended that if students have questions about oral health products or homemade dental products to talk to their dentist or dental hygienist or contact the Utah Department of Health: Oral Health Program.

Which of the following chronic diseases is most common among children/teens?

Tooth decay is the most common chronic disease among children/teens. In fact, the Surgeon General in Oral Health: The Silent Epidemic stated, “Although largely preventable, dental caries and periodontal disease are the two biggest threats to oral health, and are among the most common chronic diseases in the United States. Dental caries is the most common chronic disease in children: it is about five times as common as asthma and seven times as common as hay fever” (9).

The National Center of Health Statistics, reported, “Among adolescents aged 12–19, 58% had experienced dental caries in permanent teeth in 2011–2012” (10). Tooth decay is largely preventable. This educational intervention works to help students understand they can prevent tooth decay. The question was used to determine whether students understood the significant effect that poor oral health has on a population level, in addition to an individual level.

More than half of the students selected the correct response on the pre-test (71.5%, n = 2061). Nearly all the students selected the correct response on the post-test (96.3%, n = 2711). This resulted in a 24.8% increase in students marking the correct answer from the pre-test to the post-test assessment and is considered a success.

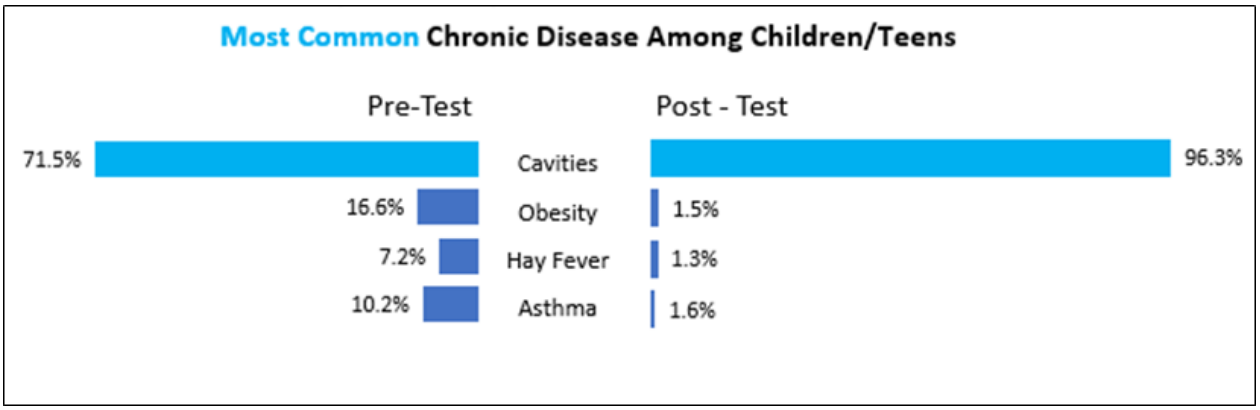

Figure 9: Pre-test and post-test responses on most common chronic diseases

All of the following statements are true about cavities except for one. Mark the statement as false.

“Everyone gets cavities” is the false statement students should have selected out of several statements provided. Cavities are largely preventable and not everyone gets cavities. Individual choices and behaviors largely influence the risk of dental decay. The majority of students incorrectly chose “Cavities can spread from person-to-person” as being false on the pre-test when in fact, cavities are transmissible. In the publication, Pediatric Dentistry 2006, it states, “Dental caries is an infectious and transmissible disease" (11).

On the pre-test, 15.3% of students selected the correct answer. On the post-test, 78.5% of students marked the correct answer. This resulted in a 63.2% increase in students choosing the correct answer on the post -test. This is considered successful.

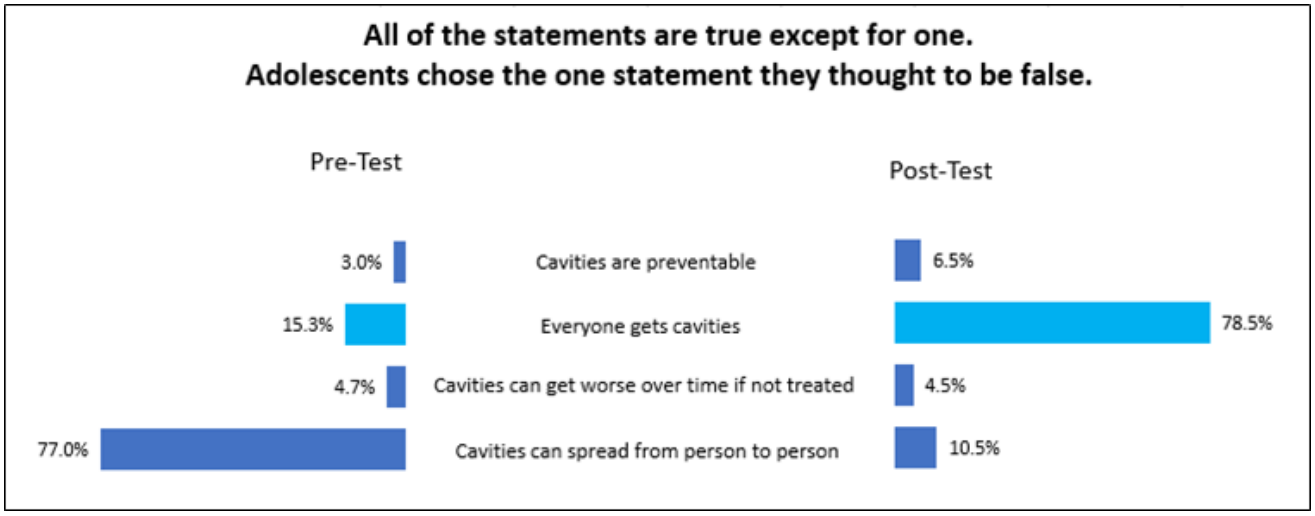

Figure 10: Pre-test and post-test response on selecting the false statement

How often is it recommended that you brush your teeth?

This question, “How often is it recommended that you brush your teeth?,” sought to provoke students to think about the importance of dental hygiene at home in overall oral health. Pre-test results indicate the majority of the students (72.1%, n = 2,085) were already aware that brushing twice a day is recommended. This recommendation is from the American Dental Association (ADA). One quarter of students indicated on the pre-test that brushing after every meal was preferred (25.0%, n = 724). Although the ADA recommends this frequency for certain cases, such as individuals who wear orthodontic appliances, the recommendation for the general public is to brush teeth twice a day for two minutes (12). The post-test demonstrated a clear shift in students’ knowledge, with a majority of students (90.3%, n = 2,541) marking the correct answer that brushing twice a day is recommended. This resulted in an 18.2% increase in students marking the correct answer from the pre-test to the post-test assessment and is considered a success.

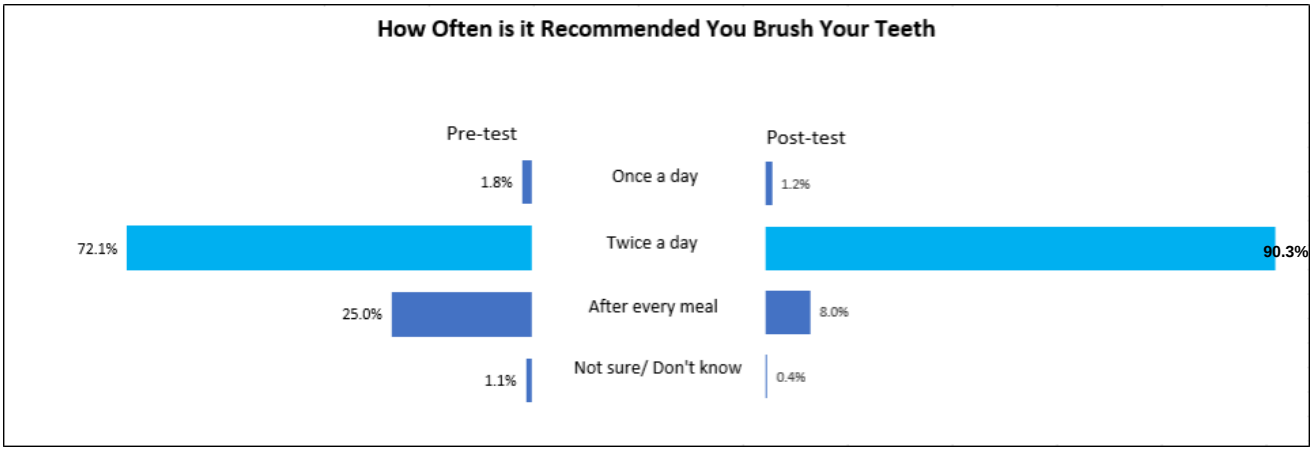

Figure 11: Pre-test and post-test response for recommended teeth brushing

POST TEST QUALITATIVE QUESTIONS

In 2017, the OHP, in collaboration with the Data Resources Program, decided to add two additional questions to determine students' subjective opinions regarding the relevance of the oral health information discussed in the intervention. This feedback will allow the OHP to adjust future presentations. There is one limitation in these questions. There is not an option for students to pick all of the topics as being helpful. In other words, we force students to pick a least helpful topic even if the students found all the topics helpful. In the 2019–2020 post-test, this will be changed to include a response that all topics were helpful. This will give the OHP a clearer picture of each topic.

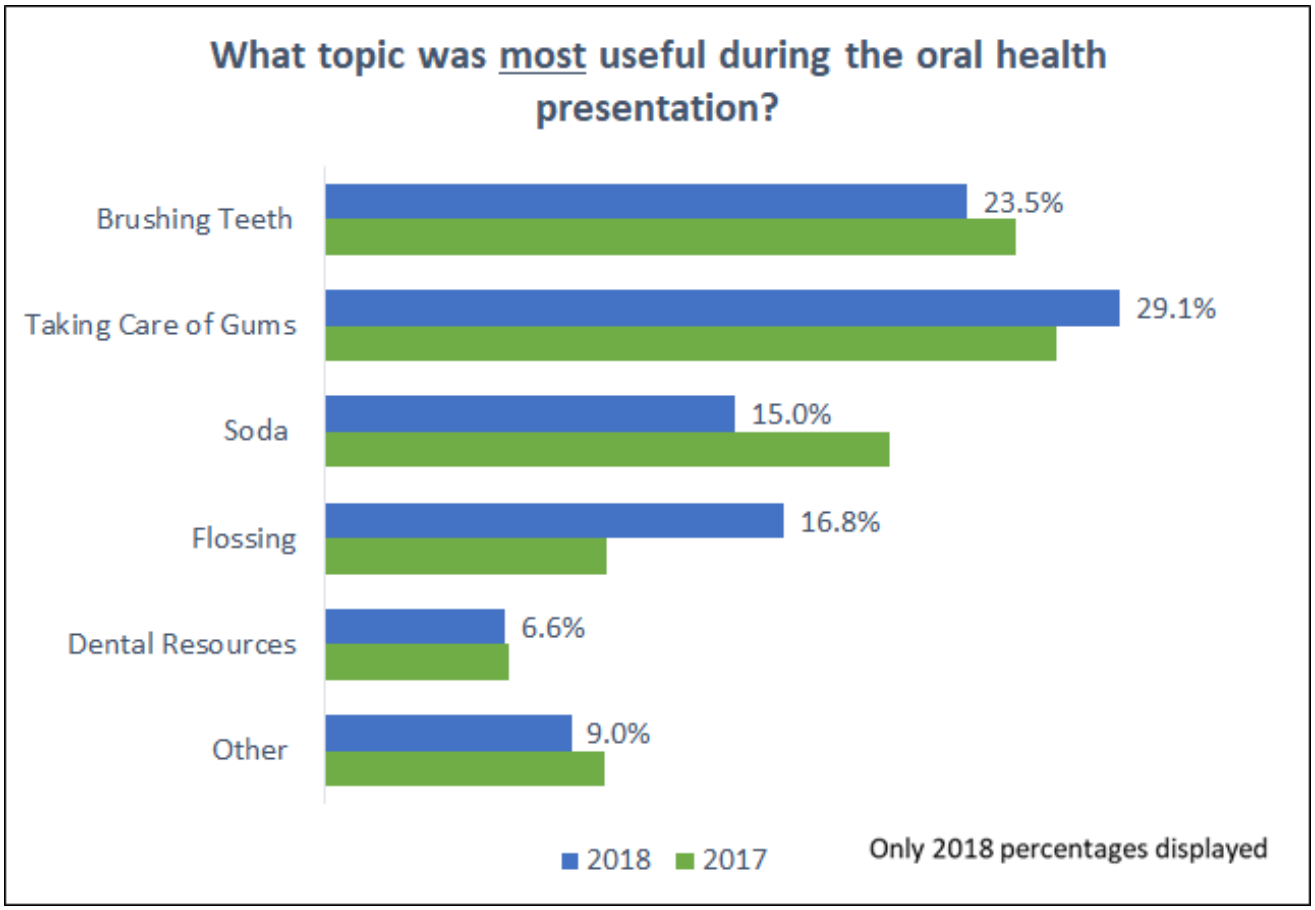

Figure 12: Student responses of most useful topic from the presentation

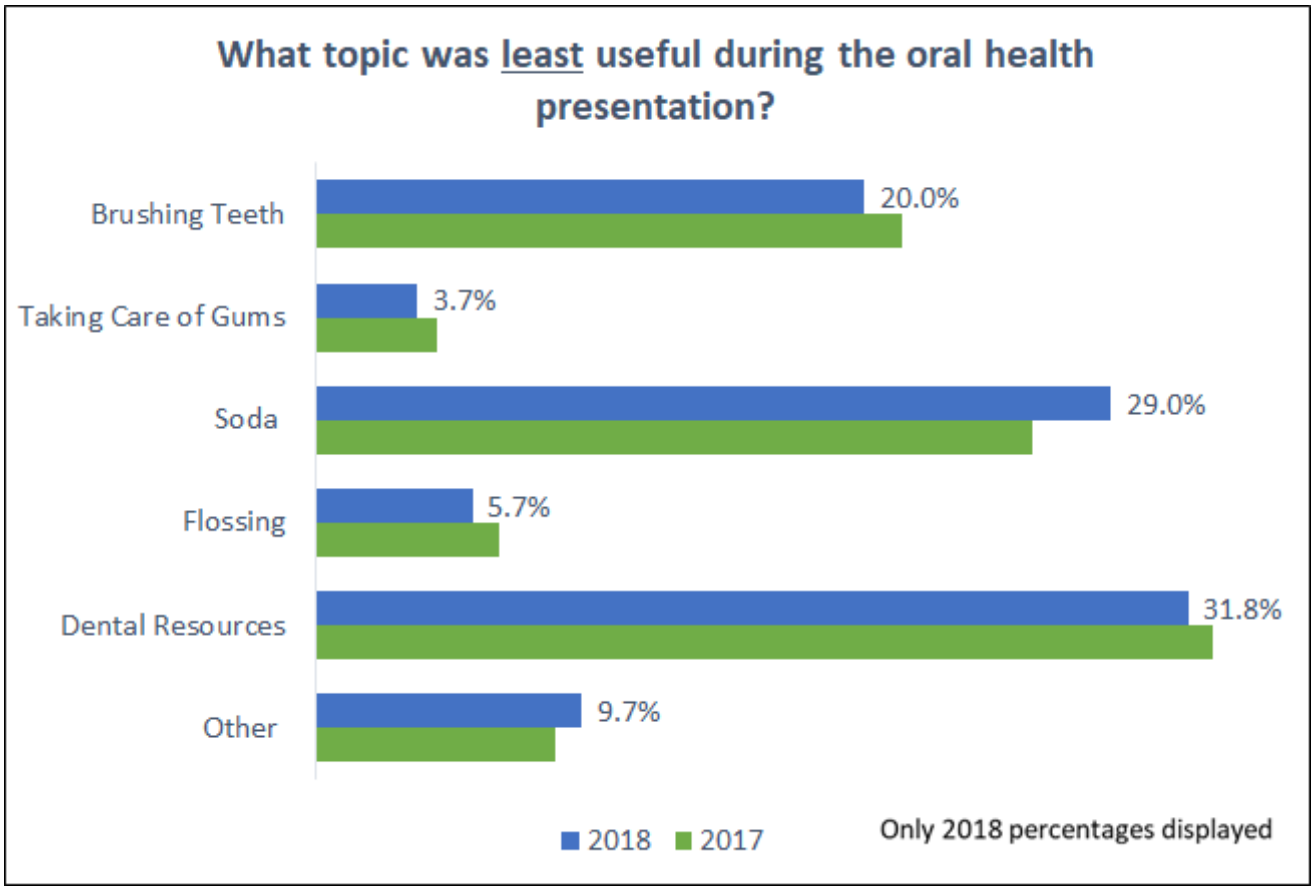

Figure 13: Student responses of least useful topic from the presentation

LIMITATIONS

Some limitations should be noted. The first limitation relates to school selection. OHP's Oral Health Educator contacted specific schools and school districts based on their geographical location. If the school's health teacher agreed to the presentation, OHP presented at that school. As a result, schools were not randomly selected to participate in the intervention, and the students who received the intervention program may not be representative of all of Utah's adolescents. There was also a discrepancy between the number of completed pre-tests and post-tests that were returned to the oral health educator. While 2,910 pre-tests were completed by students, only 2,826 completed post-tests were returned.

Pre-tests and post-tests are not linked due to classroom restraints. As a result, the findings of this educational intervention are the averages of all the pre-tests and all the post-tests. Therefore we are unable to see if a student marks a correct answer on a pre-test and then marks a false answer on a post-test. We also cannot account for questions being left blank on a pre-test and then completed by a student on the post-test.

It should also be noted that bias due to self-reporting is always present—it is therefore possible the results of health behavior questions, such as questions about soda consumption or last dental visit, are not entirely accurate. Additionally, since the surveys were self-reported, some students returned incomplete pre-tests and post-tests.

CONCLUSIONS

The Adolescent Oral Health Campaign is an effective way to assess and increase adolescents' knowledge of oral health topics. Offering this intervention on a yearly basis will allow OHP to track trends in changes in knowledge on oral health topics among Utah adolescents. These findings will continue to be used to modify information presented in subsequent campaigns.

Survey Question Responses (correct answer choice in **bold**)		
	Pre-Test	**Post-Test**
Survey Question	N *(%)*	N *(%)*
Is it common for healthy gums to bleed when brushing/flossing?		
No, bleeding gums is not normal	**1,713 *(59.3)***	**2,512 *(89.2)***
Yes, when you have a cold	53 *(1.8)*	18 *(0.6)*
Yes, sometimes	985 *(34.1)*	208 *(7.4)*
Yes, all the time	137 *(4.7)*	78 *(2.8)*
Missing*	22	10
Can toothpaste clear up pimples?		
Yes	808 *(28.4)*	174 *(6.3)*
No	2,040 *(71.6)*	2,585 *(93.7)*
Missing*	62	67
Which of the following chronic diseases is most common among children/teens?		
Asthma	295 *(10.2)*	25 *(0.9)*
Cavities	2,061 *(71.5)*	2,711 *(96.3)*
Hay fever	208 *(7.2)*	36 *(1.3)*
Obesity	317 *(11.0)*	43 *(1.5)*
Missing*	29	11
All of the following statements are true about cavities except for one. Mark the statement that is false.		
Cavities can spread from person to person	2,217 *(77.0)*	293 *(10.5)*
Cavities can get worse over time if not treated	135 *(4.7)*	126 *(4.5)*
Everyone gets cavities	439 *(15.3)*	2,195 *(78.5)*
Cavities are preventable	87 *(3.0)*	181 *(6.5)*
Missing*	32	31
How often is it recommended that you brush your teeth?		
Once a day	52 *(1.8)*	35 *(1.2)*
Twice a day	2,085 *(72.1)*	2,541 *(90.3)*
After every meal	724 *(25.0)*	226 *(8.0)*
Not sure/Don't know	33 *(1.1)*	12 *(0.4)*
Missing*	16	12
Note. * Missing not calculated into percentages		

Table 2: Survey Questions Responses

ACKNOWLEDGEMENTS

This report is a result of collaboration between the Oral Health Program and the Data Resources Program within the Bureau of Maternal and Child Health at the Utah Department of Health.

We would like to thank school administrators, teachers, and students for their participation in the Adolescent Oral Health Campaign. In addition, we would like to thank the Oral Health Program Educator, Lauren Neufeld, for designing this intervention and offering the presentation to participating schools. A special thank you to OHP interns Tyler Black and Elisa Martinez for presenting at participating schools.

APPENDIX A: CITATIONS

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APPENDIX B: PRE-TEST & POST-TEST ASSESSMENT TOOLS

PRE- Test

Survey Number:

Age: **Gender: Male or Female** **Home Zip Code:**

1. Is it common for healthy gums to bleed when brushing / flossing? (select one)
   A) Yes, all the time
   B) Yes, sometimes
   C) Yes, when you have a cold
   D) No, bleeding gums is not normal

2. Can toothpaste clear up pimples? (select one)
   Yes No

3. Which one of the following chronic diseases is **most** common among children / teens? (select one)
   A) Obesity
   B) Hay Fever
   C) Cavities
   D) Asthma

4. All of the following statements are true about cavities except for one. Mark the statement that is **false**. (select one)
   A) Cavities are preventable
   B) Cavities can spread from person to person
   C) Everyone gets cavities
   D) Cavities can get worse over time if they are not treated by a dentist

5. How often is it recommended that you brush your teeth? (select one)
   A) One time a day
   B) Two times a day
   C) After every meal
   D) Not Sure / Don't Know

6. Overall, how would you rate the health of your teeth and gums?
   A) Excellent
   B) Very Good
   C) Good
   D) Fair
   E) Poor
   F) Don't Know

7. When was the last time you saw a dentist for a check-up, exam, teeth cleaning? (select one)
   A) During the past 12 months
   B) Between 12 months and 24 months ago
   C) Within the past 3 to 5 years
   D) More than 5 years ago
   E) Never

8. During the past 12 months, was there a time when you needed dental care but could not get it at that time?
   Yes No

MORE ON BACK

9. During the past 7 days, how many times did you drink a can, bottle, or glass of soda or pop, such as Coke, Pepsi, or Sprite? (**Do not include diet soda or diet pop.**) (select one)
   A) I did not drink soda or pop during the past 7 days
   B) 1 to 3 times during the past 7 days
   C) 4 to 6 times during the past 7 days
   D) 1 time per day
   E) 2 times per day
   F) 3 times per day

10. Have you ever smoked an electronic cigarette or vaped?
   A) No
   B) Yes, I have tried them but do not smoke them regularly
   C) Yes, I smoke e-cigarettes regularly

11. What is your Ethnicity: (select one)
   A) Hispanic / Latino
   B) Non-Hispanic / Latino

12. What is your Race? (select one)
A) American Indian or Alaska Native
B) Asian
C) Black or African American
D) Native Hawaiian or Other Pacific Islander
E) White
F) Mixed Race / two or more
G) Other _____

POST - Test

Survey Number:

Age: **Gender: Male or Female** **Home Zip Code:**

1. Is it common for healthy gums to bleed when brushing / flossing? (select one)
   A) Yes, all the time
   B) Yes, sometimes
   C) Yes, when you have a cold
   D) No, bleeding gums is not normal

2. Can toothpaste clear up pimples? (select one)
   Yes No

3. Which one of the following chronic diseases is **most** common among children / teens? (select one)
   A) Obesity
   B) Hay Fever
   C) Cavities
   D) Asthma

4. All of the following statements are true about cavities except for one. Mark the statement that is **false**. (select one)
   A) Cavities are preventable
   B) Cavities can spread from person to person
   C) Everyone gets cavities
   D) Cavities can get worse over time if they are not treated by a dentist

5. How often is it recommended that you brush your teeth? (select one)
   A) One time a day
   B) Two times a day
   C) After every meal
   D) Not Sure / Don't Know

6. Overall, how would you rate the health of your teeth and gums?
   A) Excellent
   B) Very Good
   C) Good
   D) Fair
   E) Poor
   F) Don't Know

7. When was the last time you saw a dentist for a check-up, exam, teeth cleaning? (select one)
   A) During the past 12 months
   B) Between 12 months and 24 months ago
   C) Within the past 3 to 5 years
   D) More than 5 years ago
   E) Never

8. During the past 12 months, was there a time when you needed dental care but could not get it at that time?
   Yes No

(MORE ON BACK)

9. During the past 7 days, how many times did you drink a can, bottle, or glass of soda or pop, such as Coke, Pepsi, or Sprite? (**Do not include diet soda or diet pop.**) (select one)
   A) I did not drink soda or pop during the past 7 days
   B) 1 to 3 times during the past 7 days
   C) 4 to 6 times during the past 7 days
   D) 1 time per day
   E) 2 times per day
   F) 3 times per day

10. Have you ever smoked an electronic cigarette or vaped?
   A) No
   B) Yes, I have tried them but do not smoke them regularly
   C) Yes, I smoke e-cigarettes regularly

11. Ethnicity: (select one)
   A) Hispanic / Latino
   B) Non-Hispanic / Latino

12. What is your Race? (select one)
A) American Indian or Alaska Native
B) Asian
C) Black or African American
D) Native Hawaiian or Other Pacific Islander
E) White
F) Mixed Race / two or more
A) Other _____

And finally...

13. What topics were the **MOST** useful to you during the oral health presentation? (select one)
   A) Information on brushing your teeth
   B) Information on flossing your teeth
   C) Information about soda
   D) Information about taking care of your gums
   E) Information about dental resources
   F) Other (specify) _____

14. What topics were the **LEAST** useful to you during the oral health presentation? (select one)
   A) Information on brushing your teeth
   B) Information on flossing your teeth
   C) Information about soda
   D) Information about taking care of your gums
   E) Information about dental resources
   F) Other (specify) _____

APPENDIX C: REFERENCES FOR PRE-TEST & POST-TEST ASSESSMENT TOOLS

Question 3. Which of the following chronic diseases is most common among children/teens? "Tooth decay is one of the most common diseases of childhood—5 times as common as asthma, and 7 times as common as hay fever" CDC - The oral health educator created this question from the statistics to show the students the prevalence of dental decay. https://www.cdc.gov/chronicdisease/pdf/2009-power-of-prevention.pdf (Page 5) Accessed on 07.17.2019

Question 6. Overall, how would you rate the health of your teeth and gums? OHQ.845 https://wwwn.cdc.gov/nchs/data/nhanes/2017-2018/questionnaires/OHQ_J.pdf NHANES 2017-2018 Oral Health Questions
Accessed on 07.17.2019

Question 7. When was the last time you saw a dentist for a check-up, exam, teeth cleaning? Taken from the 2019 Standard High School YRBS Question 86. With the omission of "other dental work" Accessed on 07.23.2019

Question 8. During the past 12 months, was there a time when you needed dental care but could not get it at that time?
OHQ.770 https://wwwn.cdc.gov/nchs/data/nhanes/2017-2018/questionnaires/OHQ_J.pdf NHANES 2017- 2018 Oral Health Questions Accessed on 07.17.2019

Question 9. During the past 7 days, how many times did you drink a can, bottle, or glass of soda or pop, such as Coke, Pepsi, or Sprite? (Do not include diet soda or diet pop.)
Question 76. Standard Youth Risk Behavior Survey (YRBS) 2017 page 18 https://www.cdc.gov/healthyyouth/data/yrbs/pdf/2017/2017_yrbs_standard_hs_questionnaire.pdf Accessed on 07.23.2019

Questions 11 & 12. What is your race? What is your ethnicity?
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Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity Office of Management and Budget https://www.govinfo.gov/content/pkg/FR-1997-10-30/pdf/97-28653.pdf Accessed on 07.17.2019

APPENDIX D: EDUCATIONAL MATERIALS

The Tri-fold local resource portion is specific to each county. Currently we have created tri-folds for Davis, Salt Lake, Summit, Tooele, Utah, Weber, and Morgan counties.

Important Questions

What if I don't have healthy food at home?

Make sure that you are making healthy food choices at school.

What if I don't have a toothbrush, toothpaste or floss?

Discuss this with a trusted adult. There are many organizations that give out free toothbrushes, toothpaste, and floss. If you don't have toothpaste brush your teeth with water until you are able to get more toothpaste.

LEARN MORE

There are some great websites with more oral health information.

http://health.utah.gov/oralhealth/

www.ilikemyteeth.org

www.mouthhealthy.org

GET INVOLVED

If you want to get involved in your community promoting good oral health here are some websites to get you started.

www.mysmilematters.org

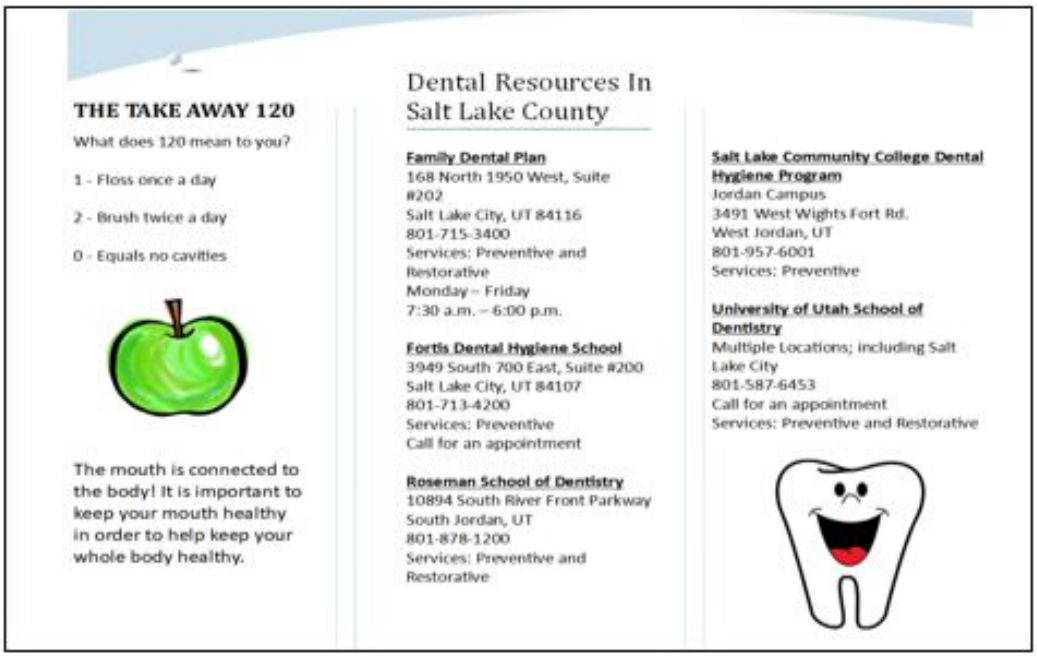
www.americastoothfairy.org

UTAH DEPARTMENT OF HEALTH

Keeping Your Mouth Healthy

Utah Department of Health
Oral Health Program
3760 S. Highland Drive
Salt Lake City, Ut 84114

Phone: 801.273.2995
E-mail: lneufeld@utah.gov



THE TAKE AWAY 120

What does 120 mean to you?

1 - Floss once a day

2 - Brush twice a day

0 - Equals no cavities

The mouth is connected to the body! It is important to keep your mouth healthy in order to help keep your whole body healthy.

Dental Resources In Salt Lake County

Family Dental Plan
168 North 1950 West, Suite #202
Salt Lake City, UT 84116
801-715-3400
Services: Preventive and Restorative
Monday – Friday
7:30 a.m. – 6:00 p.m.

Fortis Dental Hygiene School
3949 South 700 East, Suite #200
Salt Lake City, UT 84107
801-713-4200
Services: Preventive
Call for an appointment

Roseman School of Dentistry
10894 South River Front Parkway
South Jordan, UT
801-878-1200
Services: Preventive and Restorative

Salt Lake Community College Dental Hygiene Program
Jordan Campus
3491 West Wights Fort Rd.
West Jordan, UT
801-957-6001
Services: Preventive

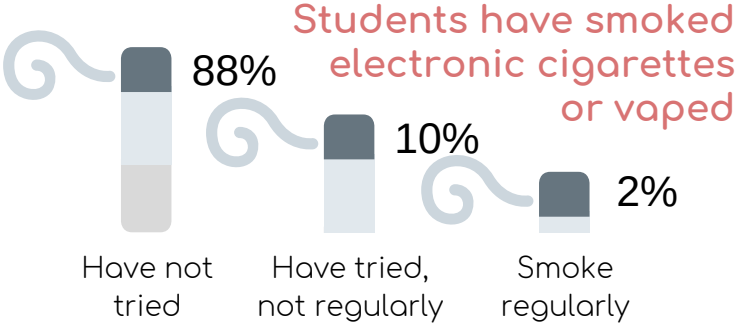
University of Utah School of Dentistry
Multiple Locations; including Salt Lake City
801-587-6453
Call for an appointment
Services: Preventive and Restorative

ADOLESCENT ORAL HEALTH CAMPAIGN 2018 2019

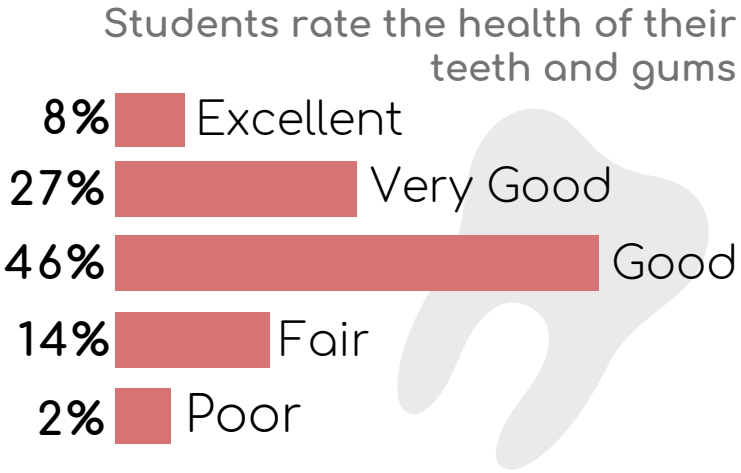
A one-time intervention encouraging positive adolescent oral health behaviors

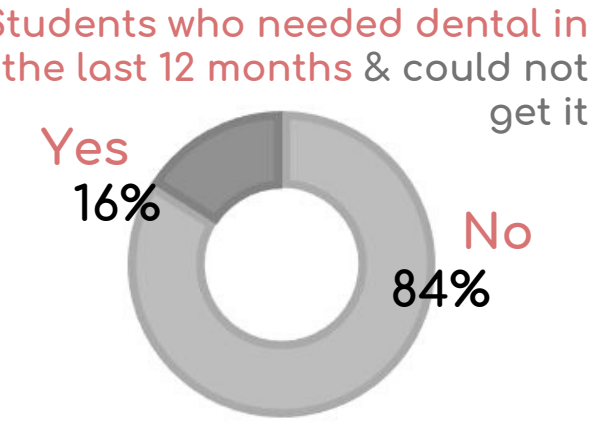
Educational Topics:

- Proper brushing & flossing
- Gum disease
- Cavities
- Braces Care
- Nutrition

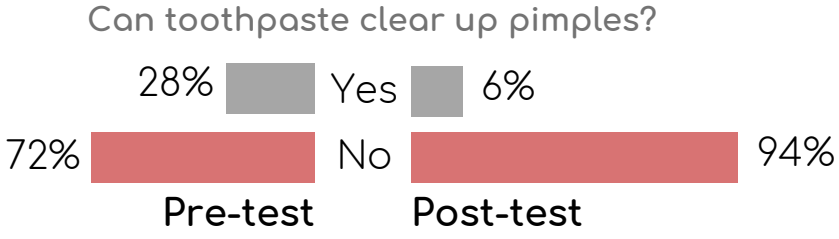


1 in 5 students did NOT visit the dentist in the past 12 months





Students' survey responses before and after educational intervention



How many times in the past 7 days have students had soda pop?

38% do not drink soda pop

12% drink soda pop at least once a day

Data displayed are results of surveys from Adolescent Oral Health Campaign 2018-2019 educational intervention