Sugary Drink Consumption in Colorado

What is a sugary drink?
Sodas, fruit drinks, energy and sports drinks, sweetened coffees and teas, and flavored milks contain added sugars. Most of these “sugary drinks” provide little or no nutritional value. 100% fruit juice is not included in the “sugary drink” data in this fact sheet.

In Colorado in 2013, 29.4% of adults and 18.9% of children consumed one or more sugary drinks per day.

Consumption of sugary drinks is an important contributor to the obesity epidemic.1 Sugary drinks contain the largest portion of added sugar in the American diet. Studies have shown that daily consumption of sugary drinks is linked to:

- Overall poor nutrition;
- Weight gain;
- Obesity;
- Type 2 diabetes;
- Metabolic syndrome;
- Heart disease, including heart attack;
- Poor oral health, including tooth decay; and
- Gout.

Reducing sugary drink consumption can lead to better weight control among those who are overweight.

The U.S. Department of Health and Human Services recommends that individuals consume less than 10% of their daily calories in added sugars.2

Nationally, among all adults:

- Total added sugars account for around 270 calories per day — 13.5% of the recommended calorie intake for a moderately active 26-50 year-old female.
- Of those 270 calories, 47% or about 127 calories comes from sugary drinks.

In Colorado, among daily consumers of sugary drinks:

- The average adult consumes 58,600 calories from sugary drinks alone every year — 160 calories every day on average.
- The average high school student consumes over 108,200 calories from sugary drinks every year — 54 days’ worth of calories for an average teen.
- Children receive a significant portion of their calories from sugary drinks — 1-to-14 year-olds consume 39,800 calories of sugar from sugary drinks alone every year on average.

Data Sources: Child Health Survey, Healthy Kids Colorado Survey, Behavioral Risk Factor Surveillance System.
Sugary drink consumption decreased significantly from 2009 to 2013, from 34.6% in 2009 to 29.4% in 2013.

Although most adult Coloradans consume less than one sugary drink per day, 29.4% consume one or more per day. Among those who consume one or more per day, most report consuming 1 per day on average.

The Eastern plains of Colorado have the highest prevalence of daily sugary drink consumption in the state.

The average adult who drinks one or more sugary drinks every day consumes 33 pounds of sugar every year from sugary drinks alone.
Many disparities exist in sugary drink consumption among adults.

- **By age:** Daily sugary drink consumption steadily declines with age — 54.9% of 18-24 year olds consume one or more sugary drinks per day, but 16.4% of those 65 or older do.

- **By sex:** Males are much more likely to consume sugary drinks daily than females (40.2% compared with 26.5%).

- **By race and ethnicity:** Hispanic Coloradans are significantly more likely to consume sugary drinks daily, compared with White and Asian or Pacific Islander Coloradans.

- **By income:** Adults who live in households earning less than $25,000 per year are most likely to consume sugary drinks daily, 44.7%, compared with 26.4% of those in households earning over $50,000.

- **By education:** Less educational attainment is related to higher sugary drink consumption — 51.4% of those with less than a high school diploma/GED consume sugary drinks daily, compared with 26.8% of those who attended at least some college.

- **By housing and food insecurity:** Adults who worry about affording food and housing are much more likely to consume sugary drinks daily — 38.4% of adults who worry about affording their rent or mortgage drink sugary drinks daily, compared to 24.4% of those who do not, and 40.8% of those who worry about affording nutritious food drink sugary drinks daily compared to 25.5% of those who do not.

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**Figure 4: Percent of adults aged 18+ who consumed one or more sugary drinks per day by demographic factors, Colorado, 2011 and 2013 combined.**

- **Education**
  - Some college or more: 26.8%
  - High school graduate: 43.6%
  - Less than high school: 51.4%

- **Household Income**
  - $50,000+: 26.4%
  - $25,000-49,999: 35.7%
  - <$25,000: 44.7%

- **Race/Ethnicity**
  - American Indian or Alaska Native: 43.2%
  - Asian or Pacific Islander: 24.6%
  - Black: 39.0%
  - Hispanic: 45.9%
  - White: 29.9%

- **Sex**
  - Female: 26.5%
  - Male: 40.2%

- **Age**
  - 65+: 16.4%
  - 55-64: 22.1%
  - 45-54: 29.7%
  - 35-44: 36.3%
  - 25-34: 43.5%
  - 18-24: 54.9%

Data source: Colorado Behavioral Risk Factor Surveillance System.
Adults who engage in other unhealthy behaviors, especially smoking, are much more likely to drink sugary drinks.

- 52.5% of current smokers consume sugary drinks daily, compared to 29.1% of non-smokers.
- 42.7% of those who have not exercised in the past month consume sugary drinks daily, compared to 31.3% of those who have exercised.
- Individuals who eat fruits or vegetables less than once per day are much more likely to consume sugary drinks—41.3% of those who don’t eat fruit consume sugary drinks, compared to 28.8% of those who do, and 47.2% of those who don’t eat vegetables consume sugary drinks, compared to 30.1% of those who do.
- More people who do not get adequate sleep consume sugary drinks daily—36.1% of adults who get less than 7 hours of sleep per night drink sugary drinks daily, compared to 27.0% of those who do get adequate sleep (at least 7 hours per night).

Figure 5: Percent of adults aged 18+ who consumed one or more sugary drinks per day, by other health-related behaviors, Colorado, 2011 and 2013 combined.

Data source: Behavioral Risk Factor Surveillance System.
Adults in poor physical and mental health consume more sugary drinks than healthy adults.

- 40.7% of adults who report fair or poor health consume sugary drinks daily, compared with 32.1% of those who report good or better health.
- People who report poor mental health are also more likely to consume sugary drinks daily — 40.5% of those who reported having 14 or more poor mental health days in the past 30 days drink sugary drinks daily, compared with 32.4% of those who had less than 14 poor mental health days.
- 37.2% of adults who have ever been told they have a depressive disorder consume sugary drinks daily compared with 32.4% of those who have not.
- 35.6% of obese adults consume sugary drinks daily, compared with 30.7% of adults with a healthy weight, but this difference was not statistically significant.

A recent study estimated that consumption of sugary drinks is associated with up to 26% increased risk of developing type 2 diabetes.3

Even though Coloradans with diagnosed diabetes are less likely than the general population to consume sugary drinks daily, 19.5% of adults with diabetes still consume one or more sugary drinks per day. The American Diabetes Association recommends that people with diabetes avoid all sugary drinks, since they can significantly increase blood glucose and have no nutritional value.4

Disparities in diabetes prevalence mirror those found in sugary drink consumption rates—adult diabetes prevalence is highest among Hispanic and Black Coloradans, those with less than a high school education, and those with lower household income.

High School Students

The prevalence of daily soda consumption has decreased from 2009 to 2013.

**Figure 6: Percent of high school students who consumed one or more sodas per day, Colorado, 2009-2013.**

![Bar chart showing the percentage of high school students who consumed one or more sodas per day]

Data source: Healthy Kids Colorado Survey.

**Figure 7: Sugary drink* consumption among high school students, Colorado, 2013.**

![Bar chart showing sugary drink consumption among high school students]


*“Sugary drinks” includes soda, sports and energy drinks, and other sugar-sweetened drinks.*
Daily sugary drink consumption varies across Colorado. **Northeastern Colorado and Pueblo County** had a significantly higher prevalence of daily sugary drink consumption than the state average in 2013, whereas Boulder County and the central mountain region that includes Park, Teller, Clear Creek, and Gilpin counties had a significantly lower prevalence.

**Figure 8:** Percent of high school students who consumed one or more sugary drinks per day, by health statistics region, Colorado, 2013.

Similar to adults, there are significant disparities in sugary drink consumption for high school students by sex and race/ethnicity. Students who identify as male are much more likely to consume sugary drinks daily — **63.1% of male students** reported consuming sugary drinks, compared to **48.4% of female students**. American Indian or Alaska Native, Hispanic, and Black students are more likely to drink sugary drinks daily than Asian, Native Hawaiian, or other Pacific Islander students.

**Figure 9:** Percent of high school students who consumed one or more sugary drink per day by race/ethnicity, Colorado, 2013.

67.7% of high school students consume water 2 or more times per day and 35.4% consume water 4 or more times per day. Those who consume water 1 time or less per day are more likely to consume sugary drinks daily. For example, among those who consume water 1 time per day 70.4% consume sugary drinks daily, while among those who consume water 4 or more times per day 48.9% consume sugary drinks daily.

**Figure 10:** Frequency of water consumption among high school students, Colorado, 2013.

**Diet Soda**

The CDC estimates that 1 in 5 U.S. adults consume diet drinks on any given day. In Colorado, **5.7% of high school students consume diet sodas daily**. Colorado data is not available for adults. Diet drinks typically have no caloric content, and may be considered a good short-term alternative to regular soda for those looking to lose weight. However, diet drinks have also been linked to obesity.5 Just like regular soda, diet soda has no nutritional value.
Similar to adults, high school students who engage in other unhealthy behaviors, especially cigarette smoking, are much more likely to consume sugary drinks daily.

- 61.5% of obese students and 56.5% of overweight students consume sugary drinks daily, compared to 54.8% of students at a healthy weight — this difference was not statistically significant.
- 77.4% of students who smoke consume sugary drinks daily, compared to 53.1% of students who do not smoke.
- 64.7% of students who drink alcohol consume sugary drinks, compared to 50.8% of students who do not drink.
- 56.5% of students who do not get adequate sleep consume sugary drinks, compared to 53.8% of students who do get adequate sleep.

**Figure 11:** Percent of high school students who consumed one or more sugary drinks per day by other health-related behaviors, Colorado, 2013.

Data source: Healthy Kids Colorado Survey.

**Children**

14.4% of children ages 1-14 consume sugary drinks daily, with 11.1% consuming 1 per day and 3.3% consuming 2 or more per day. Daily sugary drink consumption increases with age.

**Figure 12:** Percent of children ages 1-14 who consumed one or more sugary drinks per day, by age group, Colorado, 2012-2014.

Children ages 1-14 who drank sugary drinks daily consumed 22.4 pounds of sugar:

- 1-4 year olds consumed **21.5 pounds of sugar**
- 5-11 year olds consumed **21.6 pounds of sugar**
- 12-14 year olds consumed **23.8 pounds of sugar**

...per year, from sugary drinks alone.

Data source: Colorado Child Health Survey.
There was no statistically significant change in sugary drink consumption for children from 2004 to 2013. The prevalence in 2014 was not significantly lower than in 2013 but was significantly lower than in 2004.

**Figure 13: Percent of children ages 1-14 who consumed one or more sugary drinks per day, Colorado, 2004-2014.**

Data source: Colorado Child Health Survey.  
Note: Data unavailable in 2009.  
Survey methodology changed in 2011 — trend data should be interpreted with caution.

Similar to adults, daily sugary drink consumption for children is highest in northeastern Colorado. However, where adults’ consumption is lowest in the central mountain region, consumption for children in these areas is much higher.

**Figure 14: Percent of children ages 1-14 who consumed one or more sugary drinks per day, by region Colorado, 2012-2014.**

Data source: Colorado Child Health Survey, 2014.

Tooth decay is the most common chronic disease in children.

Sugary drinks, including fruit juices, are significant contributors to tooth decay and enamel erosion. Many sodas contain acids like phosphoric acid, which also erode tooth enamel. Diet drinks cause decay through a similar mechanism—they produce acids in the mouth which wear down teeth, allowing cavities to develop.

- In 2011-2012, 55% of third grade students in Colorado had developed cavities, with 14% of those children at risk for toothaches due to untreated cavities.

Children ages 1-14 years whose teeth are in fair or poor condition as determined by parent report, are more likely to consume sugary drinks.

- 21.5% of children whose teeth are in fair or poor condition consume sugary drinks daily, compared to 14.1% of children whose teeth are in good condition.

18.1% of children who have delayed dental care consume sugary drinks daily, compared to 14.3% of children who have not delayed dental care.

Data sources: Oral Health Basic Screening Survey, Colorado Child Health Survey.

**Daily consumption of 100% fruit juice is more common than daily consumption of the other sugary drinks described in this fact sheet.**

31.0% of children aged 1-14 years consumed one or more glasses of 100% fruit juice every day.

100% fruit juice is frequently thought of as a healthy choice and included in total fruit consumption guidelines. Unlike other sugary drinks, juices contain some nutrients. However, many nutrients, especially fiber, are removed from the fruit in the juice making process. An eight ounce glass of 100% apple juice contains 24 grams of sugar, only slightly less than the 26 grams of sugar found in the same amount of cola.

Juice drinks that contain less than 100% juice have very little nutritional value, and are included as a sugary drink in this fact sheet. These fruit drinks, and other sugary drinks including soda, sports drinks, and flavored milks, are now banned at licensed early childhood education centers in Colorado. 100% fruit juice has also been limited to twice per week.
Sugary drink consumption among children ages 1-14 years is linked to parent consumption. 25.5% of children who had a parent who consumed sugary drinks daily also consumed sugary drinks every day, compared to 14.7% of children whose parents did not drink sugary drinks daily.

Children who drink sugary drinks are more likely to live in households with food insecurity and have poorer nutrition overall. Food insecurity was defined as sometimes or often relying on only a few kinds of low-cost food because of running out of money to buy food in the past year.

- 26.6% of children who live in households with food insecurity consume one or more sugary drinks per day, compared to 14.4% of those who do not.
- Sugary drink consumption is highest for children who live in households that earn less than $25,000 annually (27.7%).
- 25.9% of children do not eat vegetables every day. 27.7% of these children drink sugary drinks every day, compared to 14.5% of those who do eat vegetables at least once per day. Similarly, among children who do not eat fruit every day, 26.6% drink sugary drinks every day, compared to 15.1% of children who do eat fruit at least once per day.
- 21.3% of children who do not get adequate sleep drink sugary drinks, compared to 8.6% of those who do get adequate sleep.
- 21.3% of obese children and 18.4% of overweight children consume sugary drinks daily, compared to 12.7% of children who are healthy weight, however, this was not statistically significant.

**Figure 15: Percent of children ages 1-14 who consumed at least one sugary drink per day, by household income, Colorado, 2012-2014.**

<table>
<thead>
<tr>
<th>Household Income</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;$25,000</td>
<td>27.7%</td>
</tr>
<tr>
<td>$25,000-$49,999</td>
<td>24.6%</td>
</tr>
<tr>
<td>$50,000+</td>
<td>13.8%</td>
</tr>
</tbody>
</table>

Data source: Colorado Child Health Survey.

**Figure 16: Percent of children ages 1-14 years who consumed one or more sugary drinks per day, by other health-related behaviors, Colorado, 2012-2014.**

<table>
<thead>
<tr>
<th>Health Behavior</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eats fruit less than once per day</td>
<td>26.6%</td>
</tr>
<tr>
<td>Eats fruit at least once per day</td>
<td>15.1%</td>
</tr>
<tr>
<td>Eats vegetables less than once per day</td>
<td>27.7%</td>
</tr>
<tr>
<td>Eats vegetables at least once per day</td>
<td>14.5%</td>
</tr>
<tr>
<td>Does not get adequate sleep</td>
<td>21.3%</td>
</tr>
<tr>
<td>Gets adequate sleep</td>
<td>8.6%</td>
</tr>
</tbody>
</table>

Data source: Colorado Child Health Survey.

**Caffeine**

Many sugary drinks, including soda, coffee drinks, and teas, contain caffeine. Caffeine is classified by the Food and Drug Administration as both a drug and a food additive. The FDA has not yet released recommendations for children’s caffeine consumption, but the American Academy of Pediatrics recommends that children and adolescents never drink energy drinks and avoid other caffeine-containing drinks.

Evidence about caffeine consumption and its link to other health problems is mixed. Caffeine has been linked to a number of harmful effects in children, including effects on the developing neurologic and cardiovascular systems. Some studies argue that caffeine consumption increases insulin resistance and can disrupt sleep, contributing to the risk of obesity and diabetes. It is also dependence forming, and can induce withdrawal symptoms.
End Notes


8 American Academy of Sleep Medicine’s recommendations for sleep are as follows: 11+ hours for toddlers (1-2 year olds), 10+ hours for preschoolers (3-5 year olds), 9+ hours for school-aged children (6-12 year olds), 8+ hours for teenagers (13-17 year olds).
