

Technical Information

SAMHSA

Substance Abuse and Mental Health
Services Administration

This training was developed under the Substance Abuse and Mental Health Services Administration's **Addiction** and **Prevention** Technology Transfer Center task orders.

For training use only.

Funding for this presentation was made possible by SAMHSA grant no. 1H79TI080210 and 1H79SP081018. The views expressed by speakers and moderators do not necessarily reflect the official policies of HHS; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

LIVE

This webinar is now live.



It is being recorded.



Please remain muted.



Central East (HHS Region 3)

ATTC



Central East (HHS Region 3)

PTTC

Welcome

Central East ATTC and PTTC Webinar

The 5 C's (not D's) of Data



*The Central East ATTC, MHTTC, and PTTC are housed at
the Danya Institute in Silver Spring, MD*

Renata Henry
Executive Director



Central East (HHS Region 3)
ATTC



Central East (HHS Region 3)
PTTC

Each TTC Network includes 13 centers.*



Network Coordinating Office

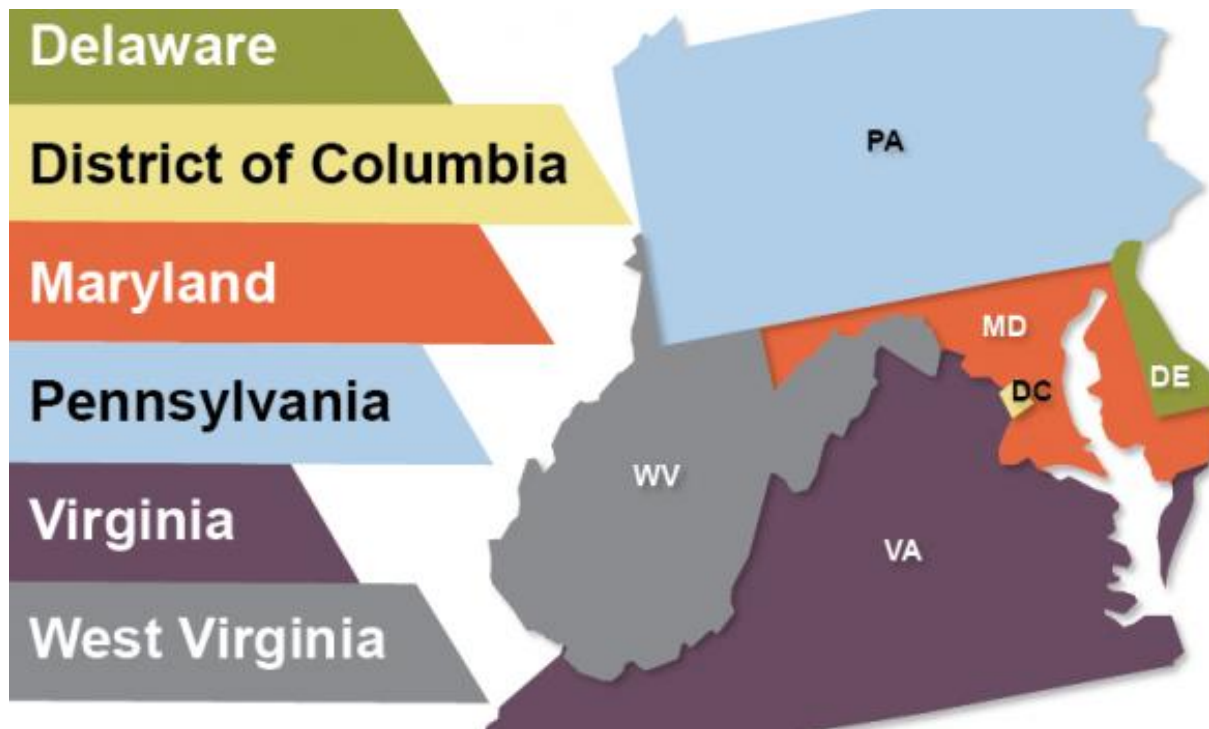
National American Indian and Alaska Native Center

National Hispanic and Latino Center

10 Regional Centers (aligned with HHS regions)

Central East Region

HHS REGION 3



Central East (HHS Region 3)

ATTC



Central East (HHS Region 3)

PTTC

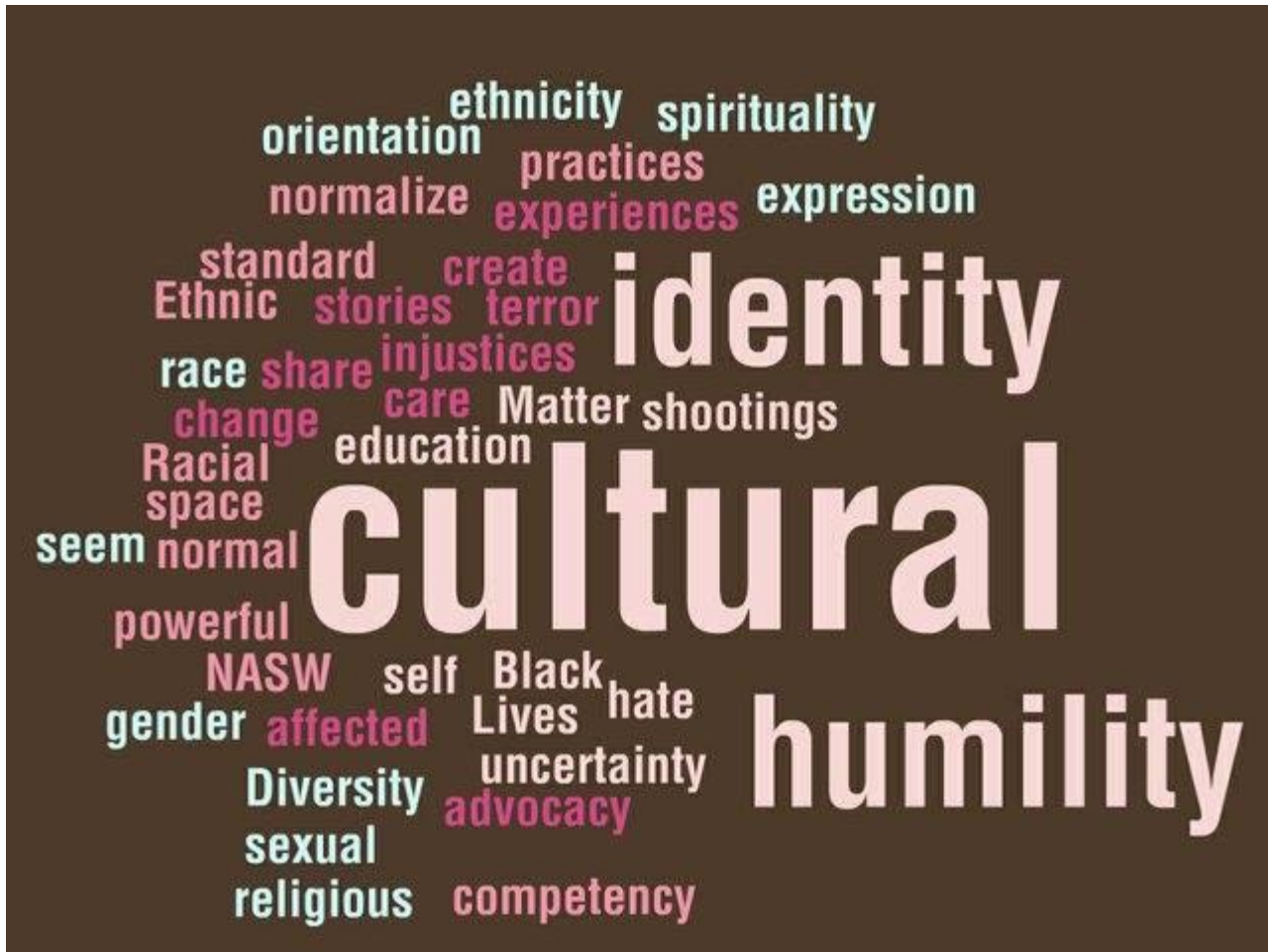
The use of affirming language inspires hope.

LANGUAGE MATTERS.

Words have power.

PEOPLE FIRST.

The PTTC Network uses affirming language to promote the application of evidence-based and culturally informed practices.



Eligibility

Behavioral health and health care providers, consumers, families, state and local public health systems and other stakeholders

Consistent with
Regional, State
and Local
Needs

No cost

Data Driven

EBPs provided
by Subject
Matter Experts



Central East (HHS Region 3)

ATTC

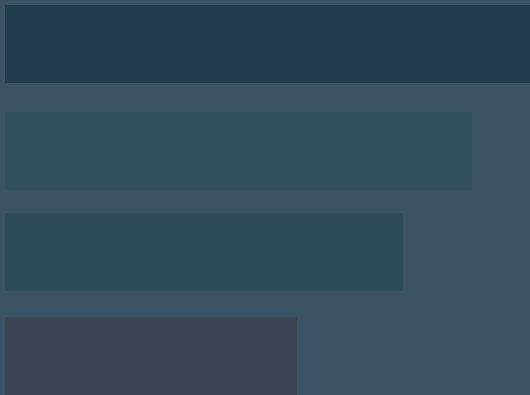


Central East (HHS Region 3)

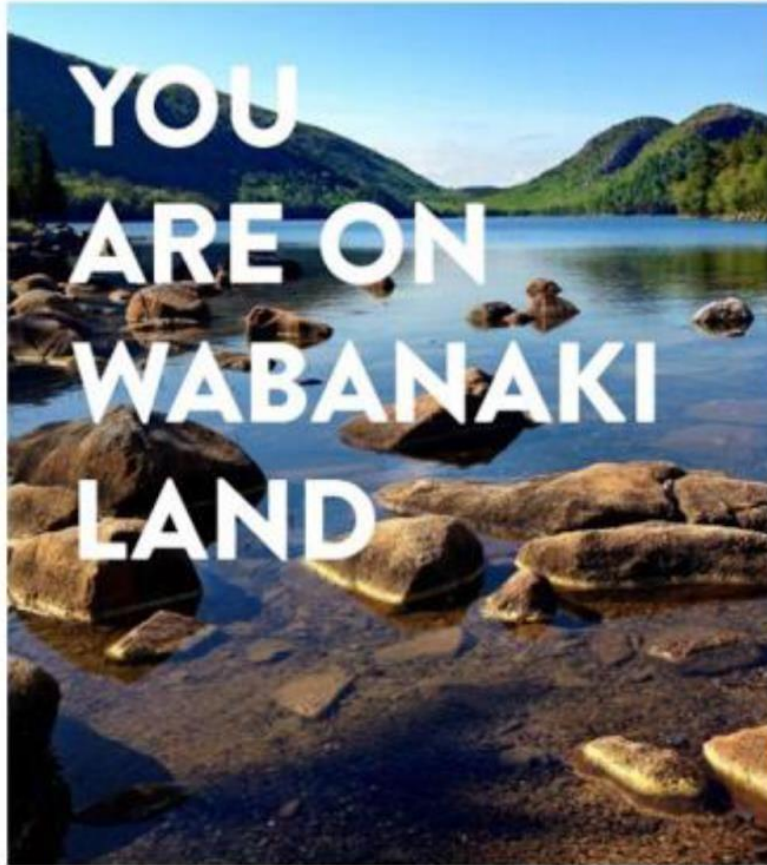
PTTC

The Five C's (not D's) of Data

Jamie Comstock
& Robin Carr



INFO INSPIRED



As we gather in this place, we want to acknowledge that we are occupying the traditional territory and ancestral lands of the Wabanaki people, who for thousands of years have called this place home. We acknowledge their continued connection to this land, give thanks for allowing us to do this good work on their homeland, and remember their ancestors who were here before us.

Written by:

Denise Altvater, Passamaquoddy Tribe at Sipayik



mattsurelee

Follow

1,628 posts 400k followers 308 following

Matt Shirley

I try to make a chart every day

Email me things: mattsurelee@gmail.com

I wrote a book

www.runningpress.com/titles/matt-shirley/a-visual-learners-guide-to-being-a-gro...



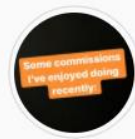
Book Q an...



Q and A #3



My subreddit



Commissions



SportsCharts



Q and A #3

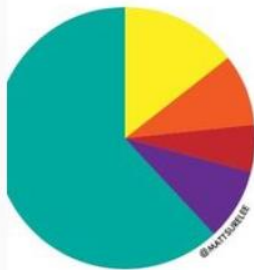


Friday

POSTS

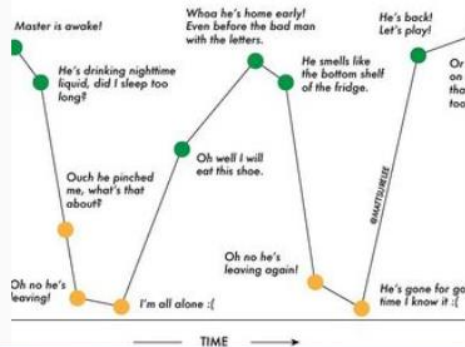
TAGGED

MARCH MADNESS

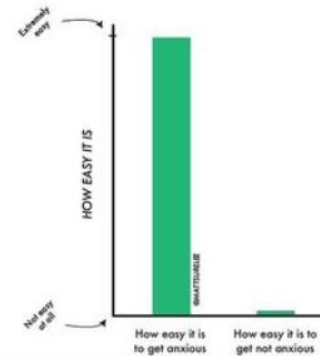


- Intense action
- Incredible buzzer-beat
- Heartwarming stories
- Heartbreaking finishes
- Me losing money

SAINT PATRICK'S DAY (FROM YOUR DOG'S POINT OF VIEW)



ANXIETY

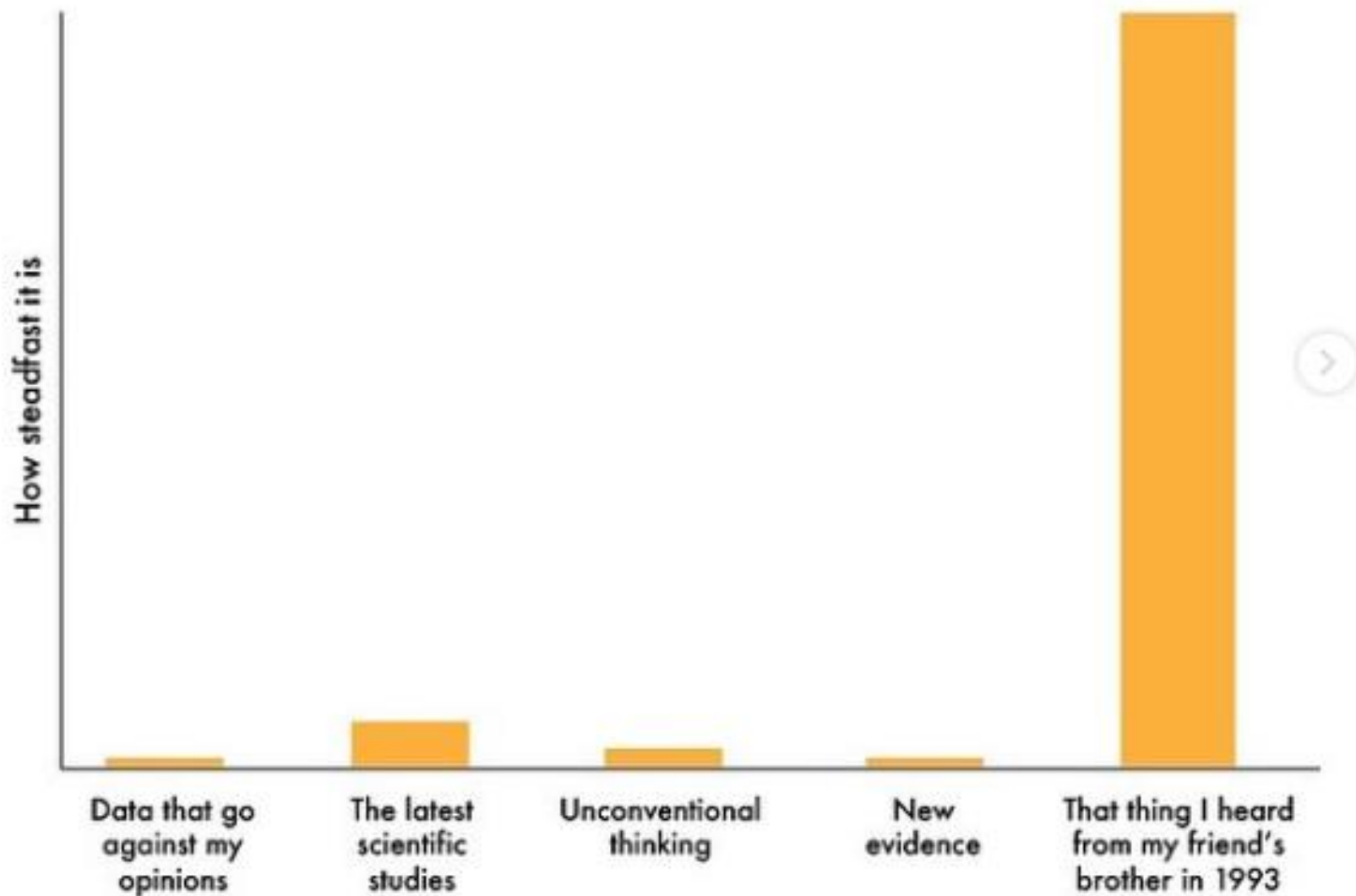


THE WORST ATTRACTION IN EVERY STATE

ACCORDING TO @MATTSURELEE'S INSTAGRAM FOLLOWERS



BELIEFS I STAND BY





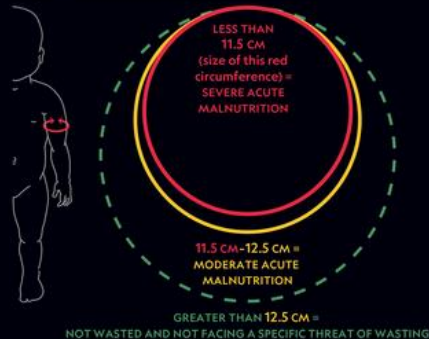
@MATTSURELEE

WHEN CHILDREN LACK NUTRITION

This is childhood malnutrition at life-size: Each of these children is severely malnourished—and the red circle around each photo equals the circumference of that child's arm. The circle is much larger if a child is not malnourished, as the key below shows.

Despite some gains against global hunger, malnutrition in children under age five left 22.2 percent of them stunted (too short for their age) and 7.5 percent of them wasted (too thin for their height) in 2017. UNICEF's Diane Holland says catching acute malnutrition early is key to bringing children back to healthy growth. The "MUAC bracelet" (right), used to measure mid-upper-arm circumference, helps gauge the severity of acute malnutrition so a child can be given lifesaving treatment and care.

MUAC (MID-UPPER-ARM CIRCUMFERENCE)



8.7 cm
(MUAC circle in life-size)
East Ghouta
SYRIA, 2017

Under siege since 2013, this outer district of the country's capital is a focal point of the civil war. Humanitarian groups are unable to regularly access the nearly 400,000 people who live there.



9.0 cm
Juba
SOUTH SUDAN, 2017

This two-year-old child was given a weekly food-aid supply after being diagnosed with severe malnutrition. The country has been mired in a devastating civil war for more than four years.



10.0 cm
Chelhar
PAKISTAN, 2015

Extreme heat in summer, food scarcity, unsafe drinking water, and lack of access to health facilities in rural Pakistan cause high rates of malnutrition among children, including this seven-month-old.



10.5 cm
Dhamar
YEMEN, 2017

In the Middle East's poorest country, some 2.2 million children under age five are malnourished. As a result of the civil war, more than half the nation's medical facilities no longer operate.



10.9 cm
Muna Garage IDP camp
NIGERIA, 2016

Roughly 250,000 of Borno state's children face severe malnourishment as a result of the Boko Haram conflict. Widespread displacement has separated some 20,000 children from their parents.



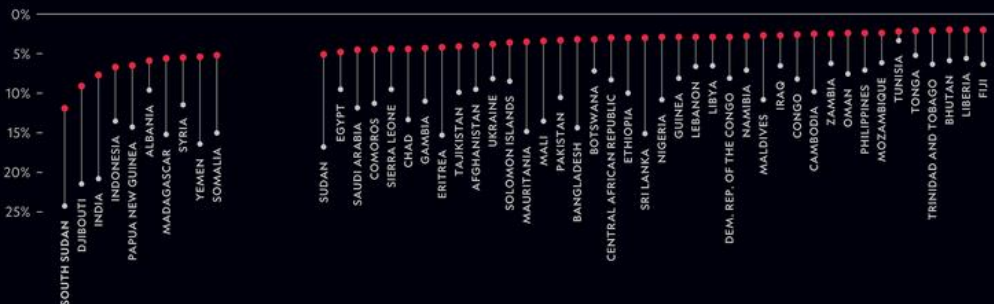
11.0 cm
Molnerghona refugee camp
BANGLADESH, 2017

Since August 2017, more than 700,000 Rohingya refugees have fled on foot to Bangladesh to escape violence. This 10-month-old's family left Myanmar after the country's military set fire to their village.

HUNGRIEST COUNTRIES

Food scarcity and malnutrition span the globe. Of the 50 countries with the highest percentage of children under age five suffering from malnutrition, more than half are in Africa.

- % WITH SEVERE WASTING
- % WITH SEVERE AND MODERATE WASTING



ALBERTO LUCAS LÓPEZ, NIGM STAFF; KELSEY NOWAKOWSKI. SOURCES: DIANE HOLLAND, UNICEF; WHO; WORLD BANK PHOTOS: UNICEF/UN0542215/TOM MOCHA (SYRIA); UNICEF/UN0152300/GONZALEZ FARRAN (SOUTH SUDAN); UNICEF/UN186515/ZAIDI (PAKISTAN); UNICEF/UN057346/MADHOK (YEMEN); UNICEF/UN025789/ESIEBO (NIGERIA); UNICEF/UN0148012/KNOWLES-COURSIN (BANGLADESH)

Cut the bracelet along the dotted lines, and insert the bottom end into the horizontal slit to understand how MUAC bracelets are used.

FIGURES FOR CHILDREN 6-59 MONTHS

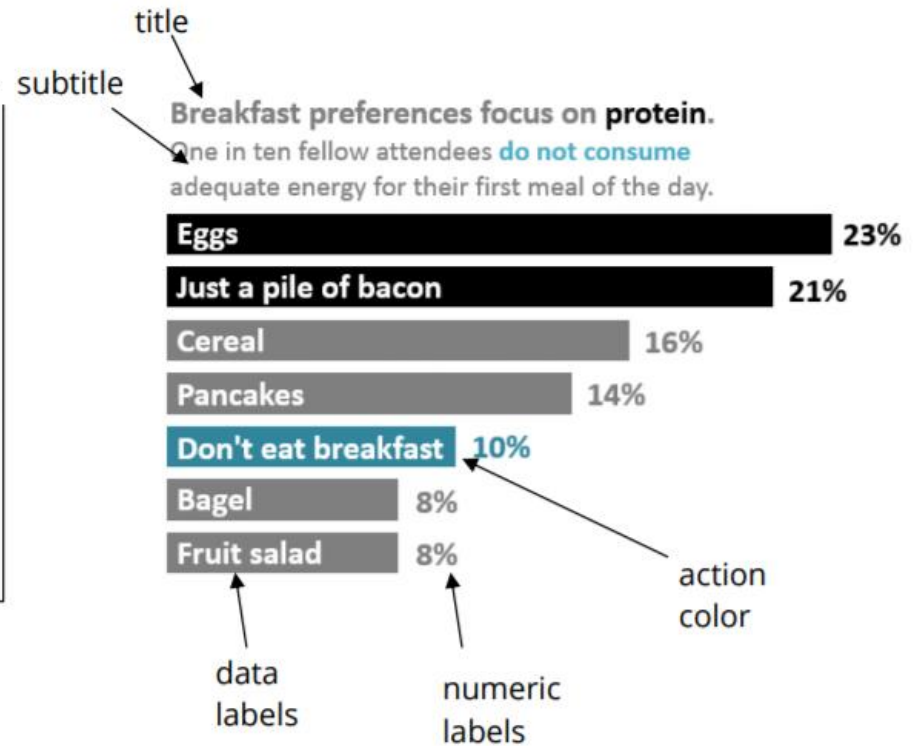
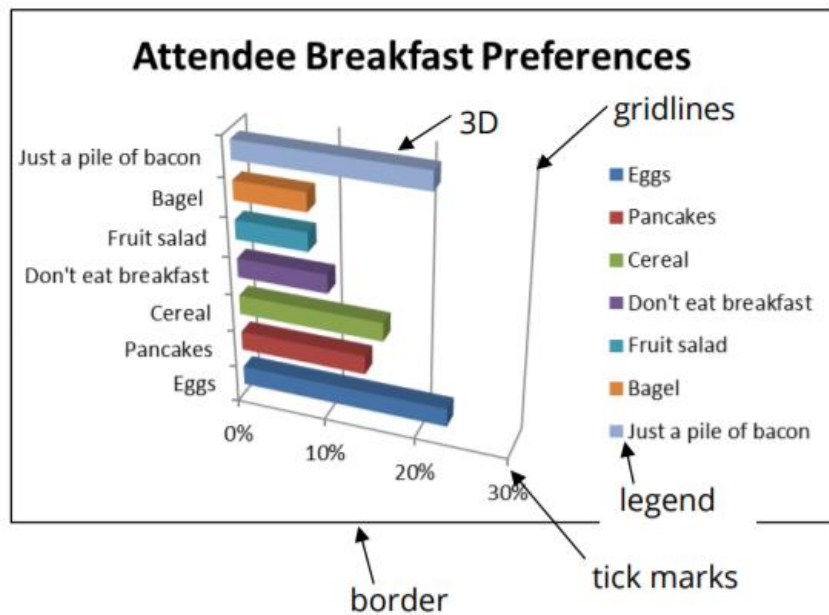


Why do it differently?



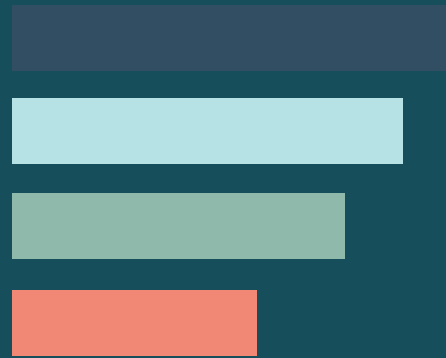
**We want the audience
to understand the data we share.**

A Before and After Transformation... and some terminology



Stephanie Evergreen

What's the point?





Asking the following questions can help you decide what data to include in your presentation versus what might be better suited for a handout or left out altogether.

What are the conclusions that can be drawn about the data?

What's compelling about this information?

Are there trends to show?

Are there comparisons you'd like to demonstrate?

Is there anything surprising or unexpected to share?

Chart Choice



vs.



Datavizproject.com

← → ↻ datavizproject.com/# ☆ 📄 🌐



ALL FAMILY ▾ INPUT ▾ FUNCTION ▾ SHAPE ▾ 🔍 ⓘ

by **ferdio**

Comparison Concept visualisation Correlation Distribution Geographical data Part to whole Trend over time

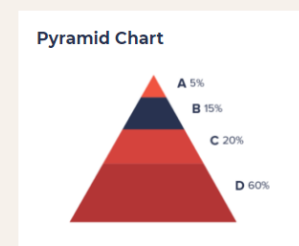
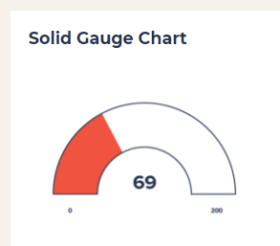
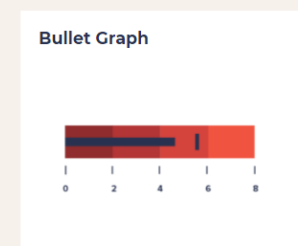
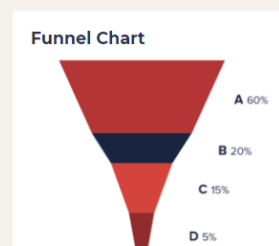
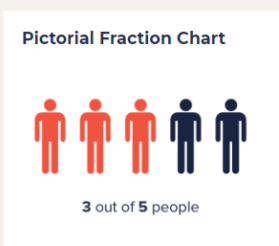
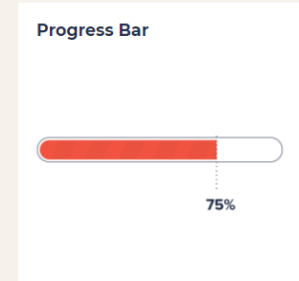
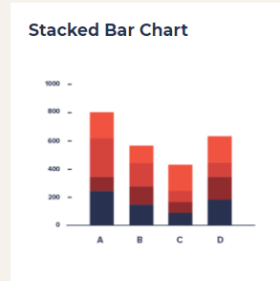
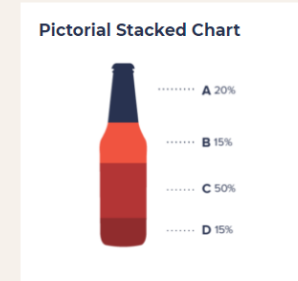
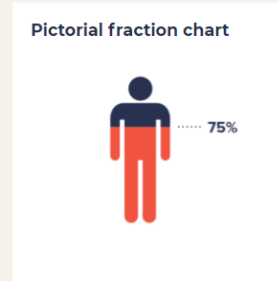
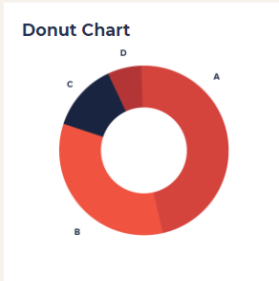
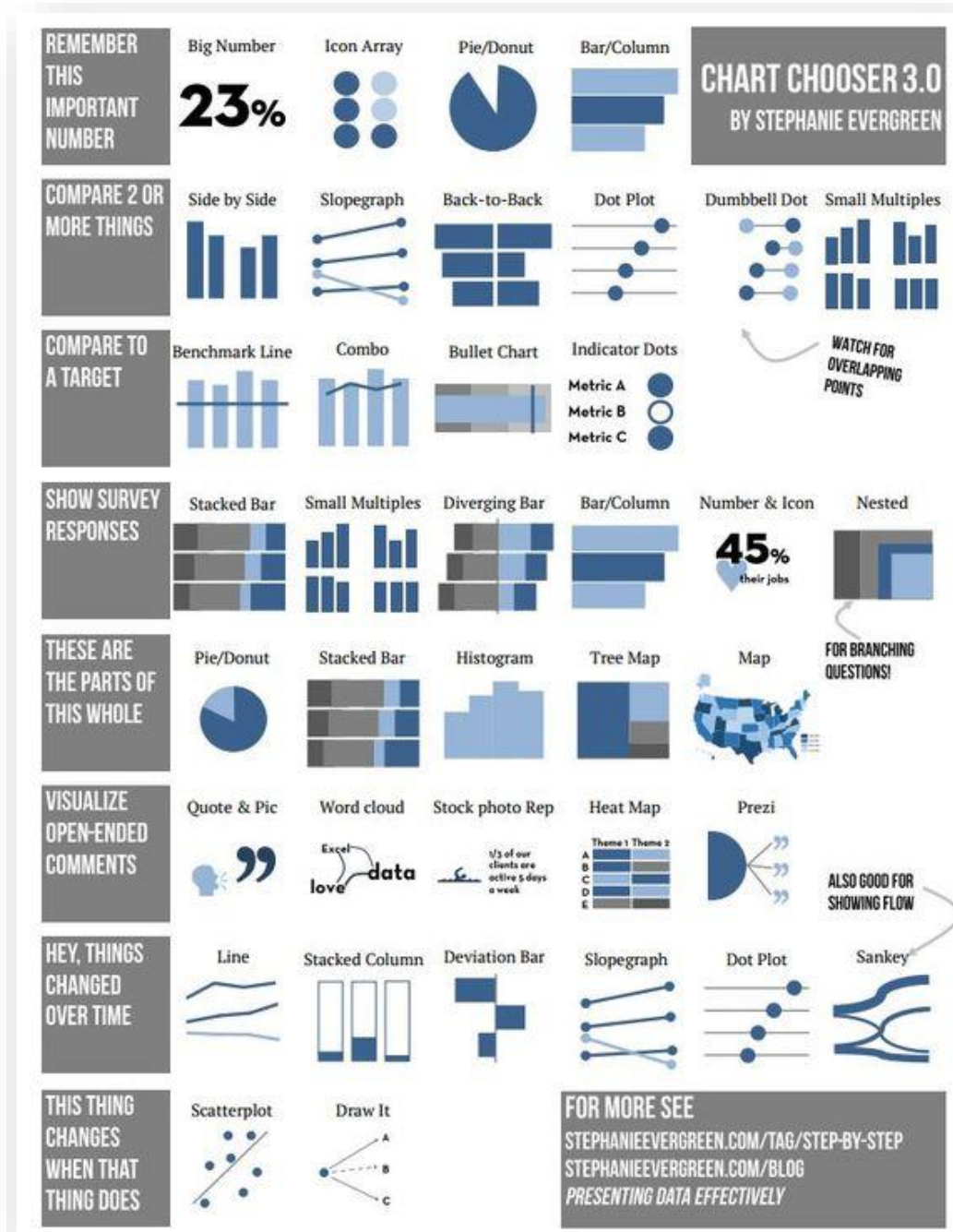
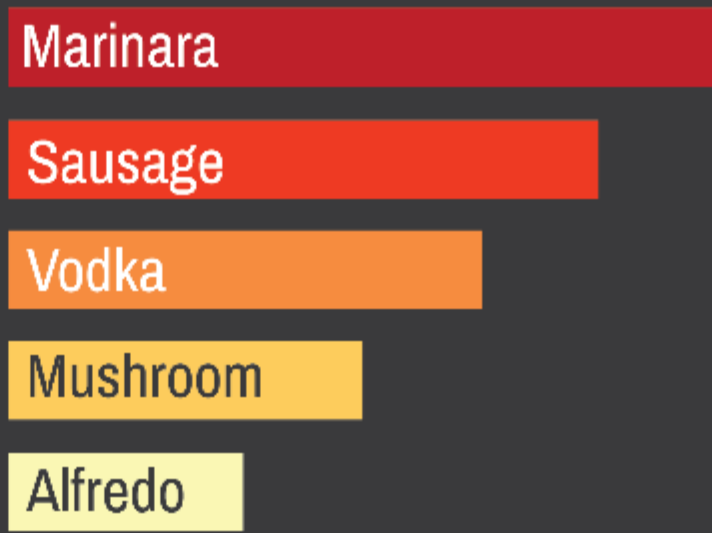
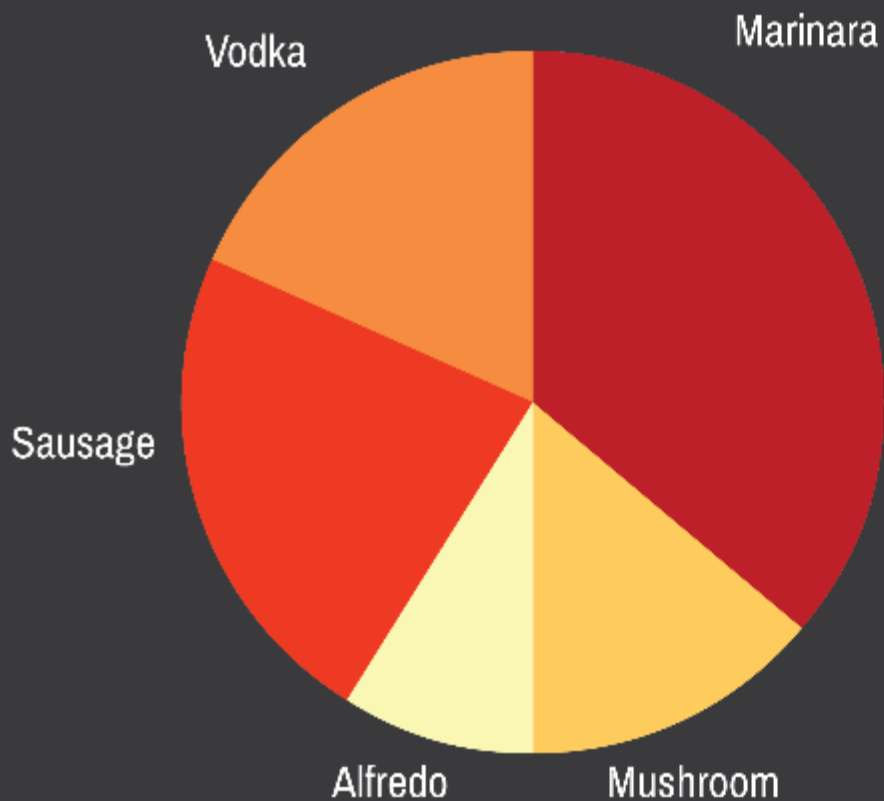


Chart Chooser

Stephanie
Evergreen



Most Popular Pasta Sauces

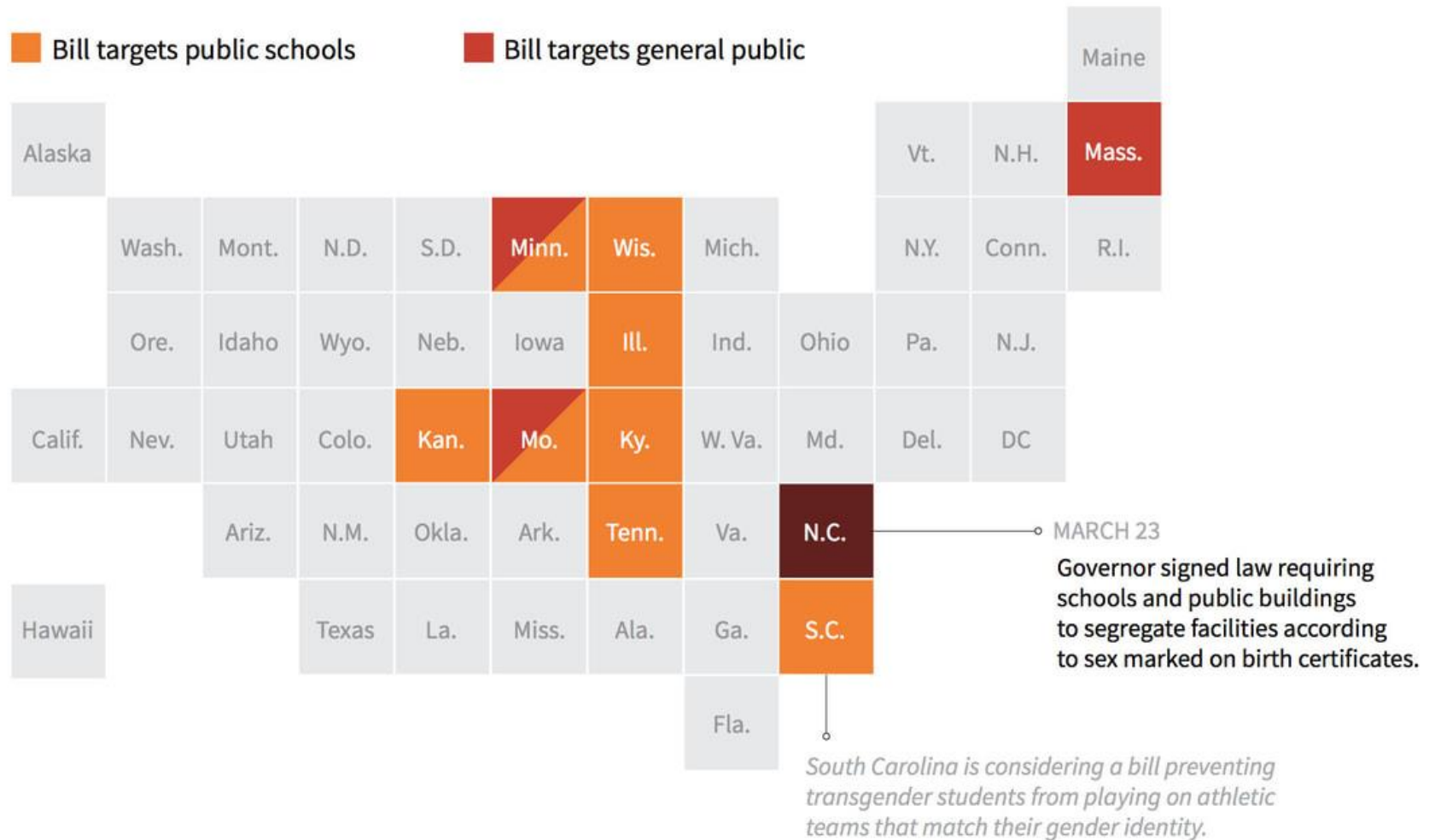


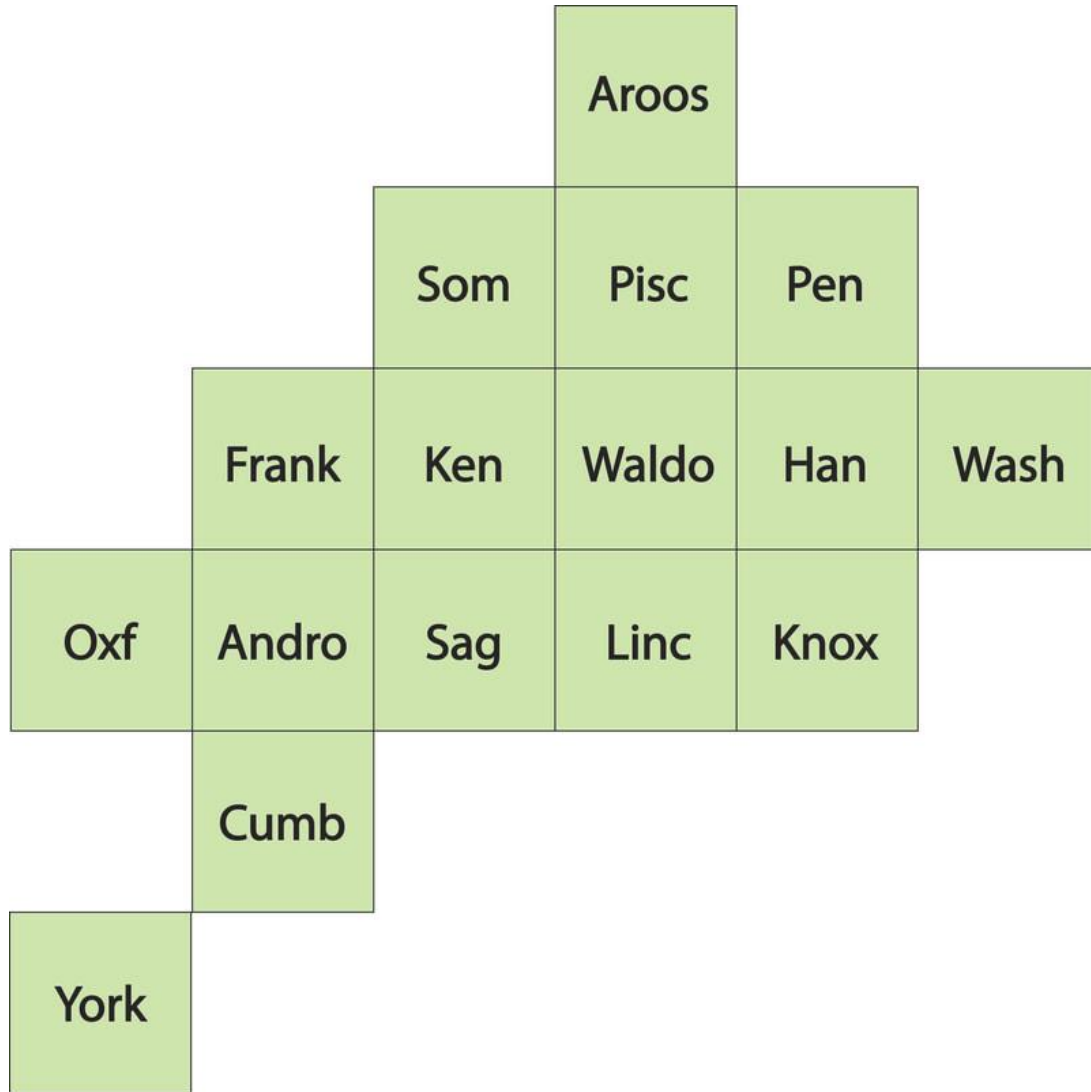
Pie Chart

vs.

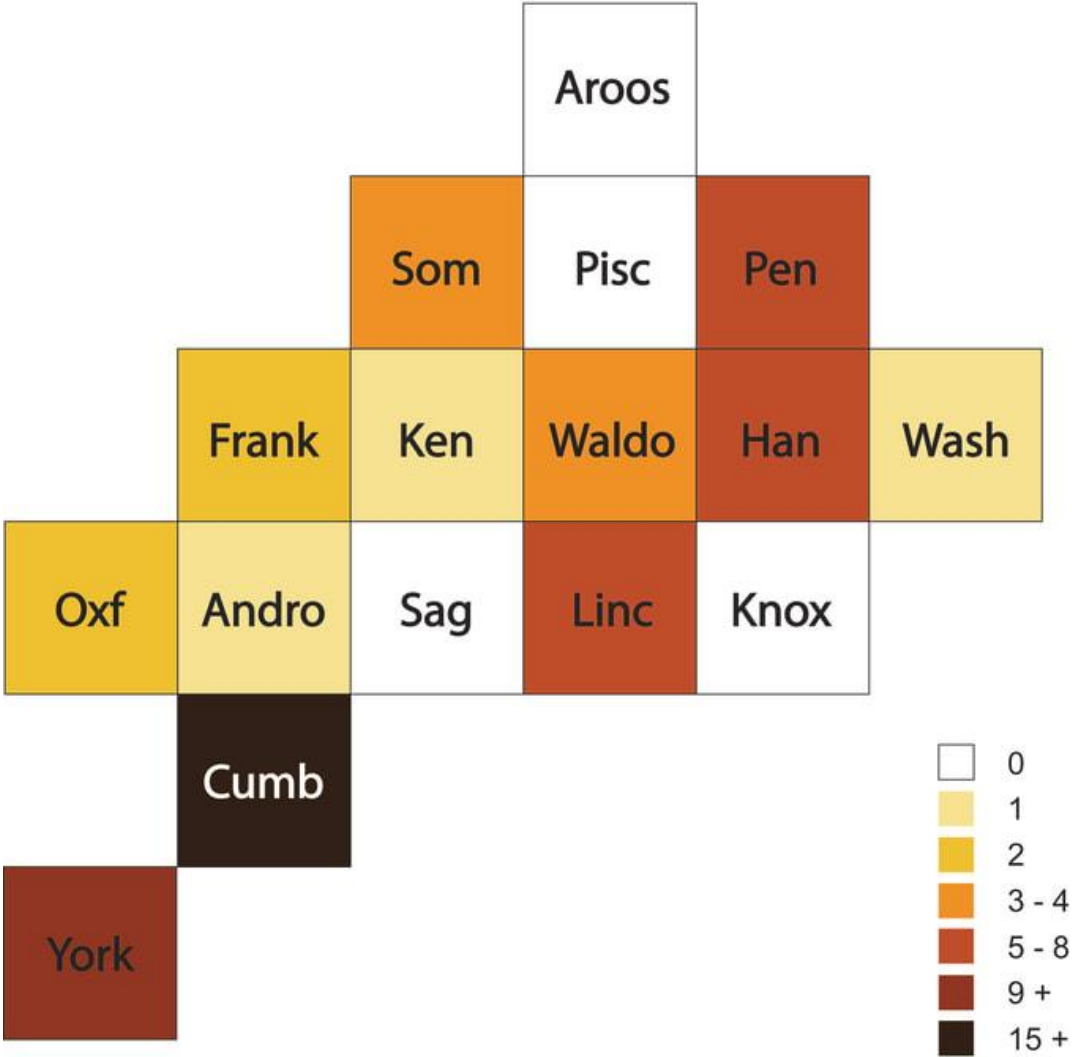
Bar Chart

States with bills currently active in state legislatures that mandate people use sex-segregated facilities according to sex assigned at birth rather than gender identity



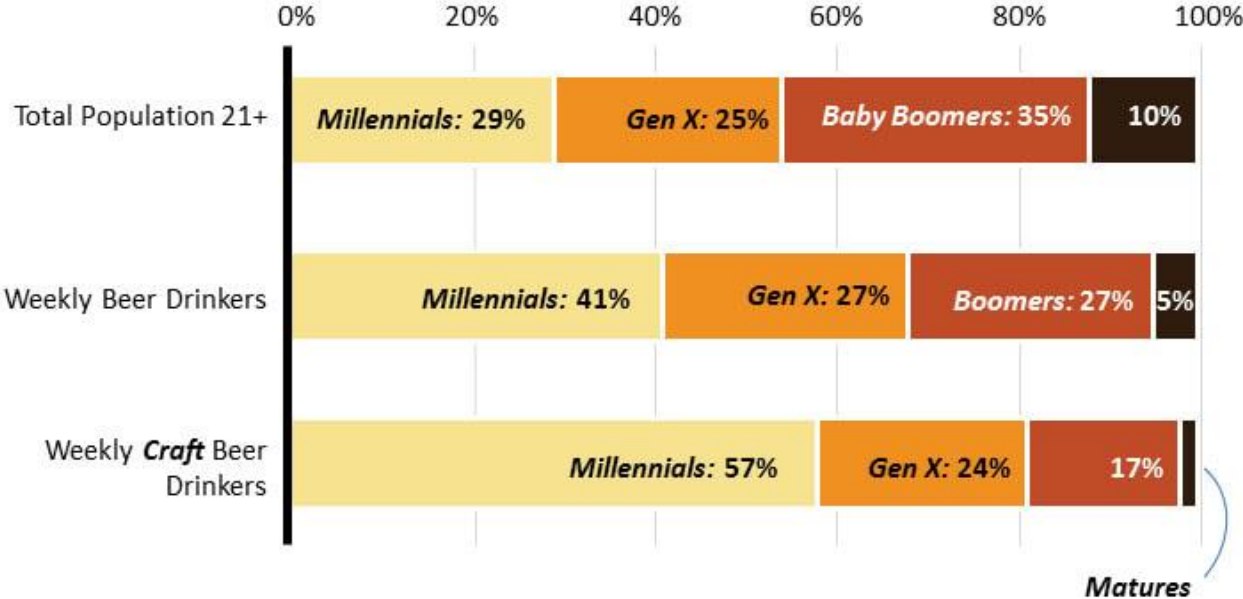


Number of Maine Microbreweries and Brewpubs by County



Who are the Drinkers in 2016?

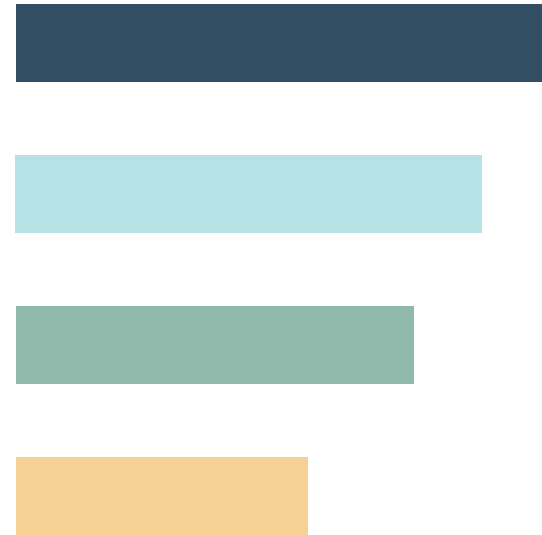
Millennials continue to account for a majority of the drinkers



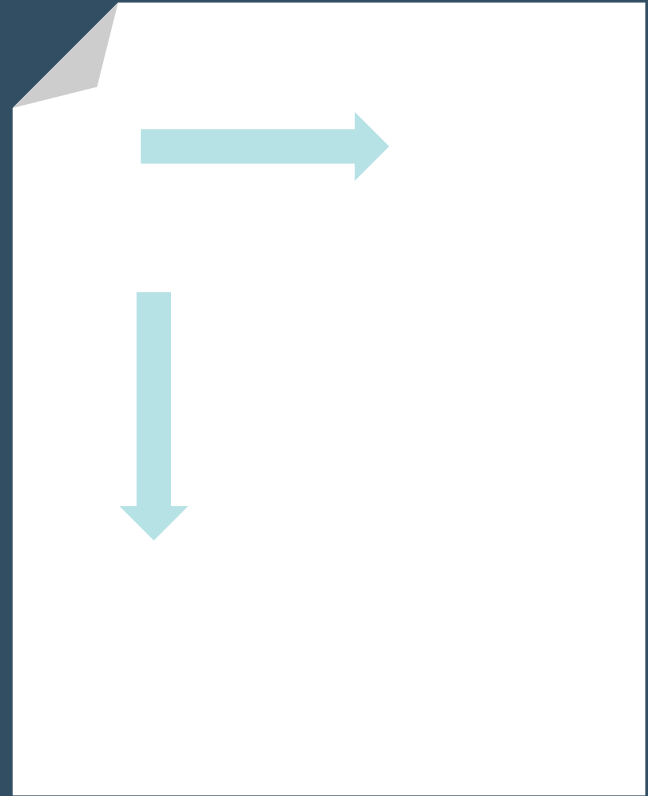
Most Popular Pasta Sauces



Which visualization makes sense for this data?

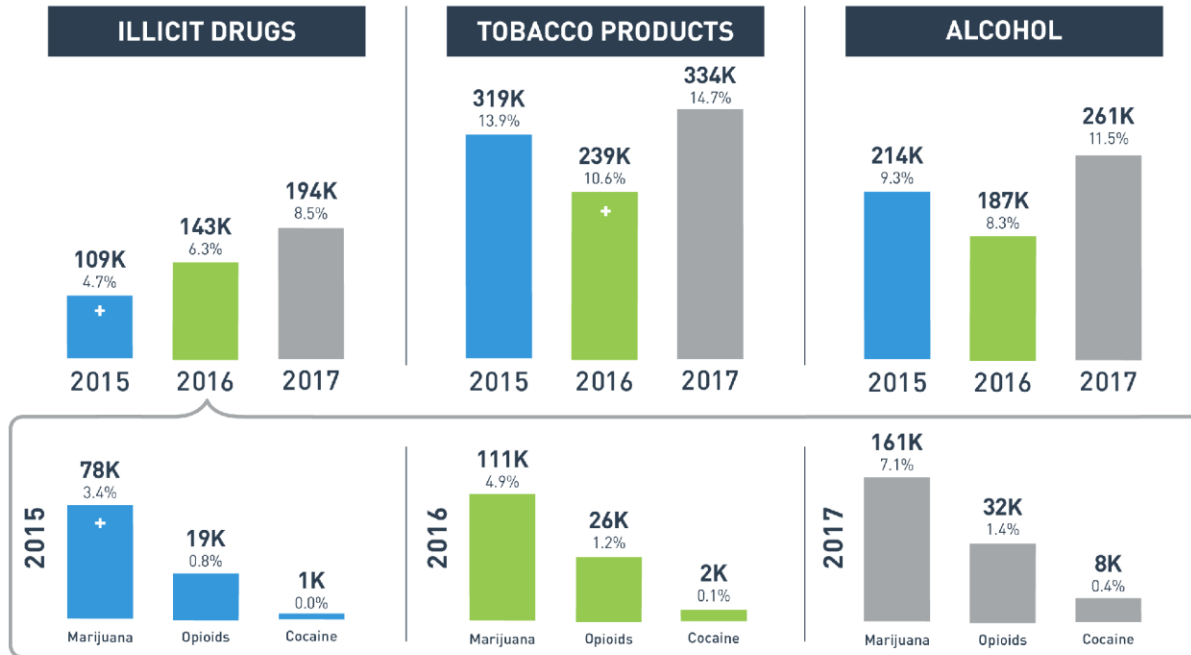


Composition



Substance Use in Past Month Among Pregnant Women

PAST MONTH, 2015 - 2017, 15 - 44

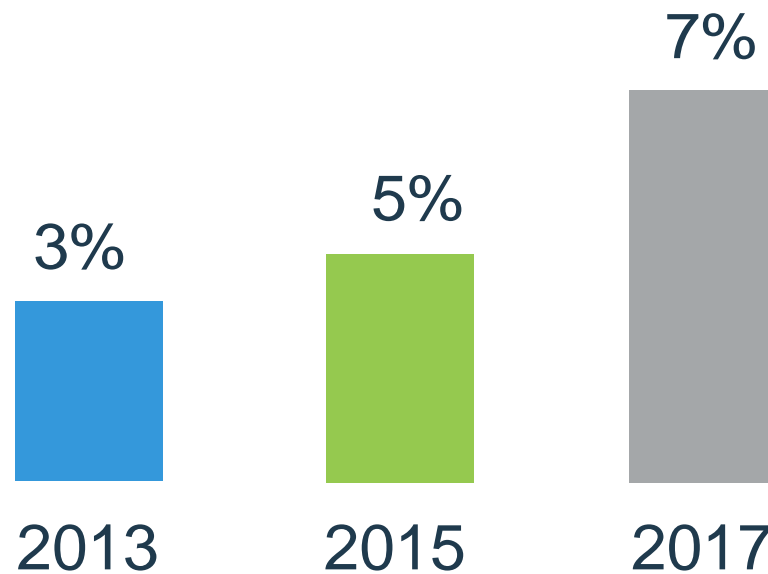


Special analysis of the 2017 NSDUH Report.

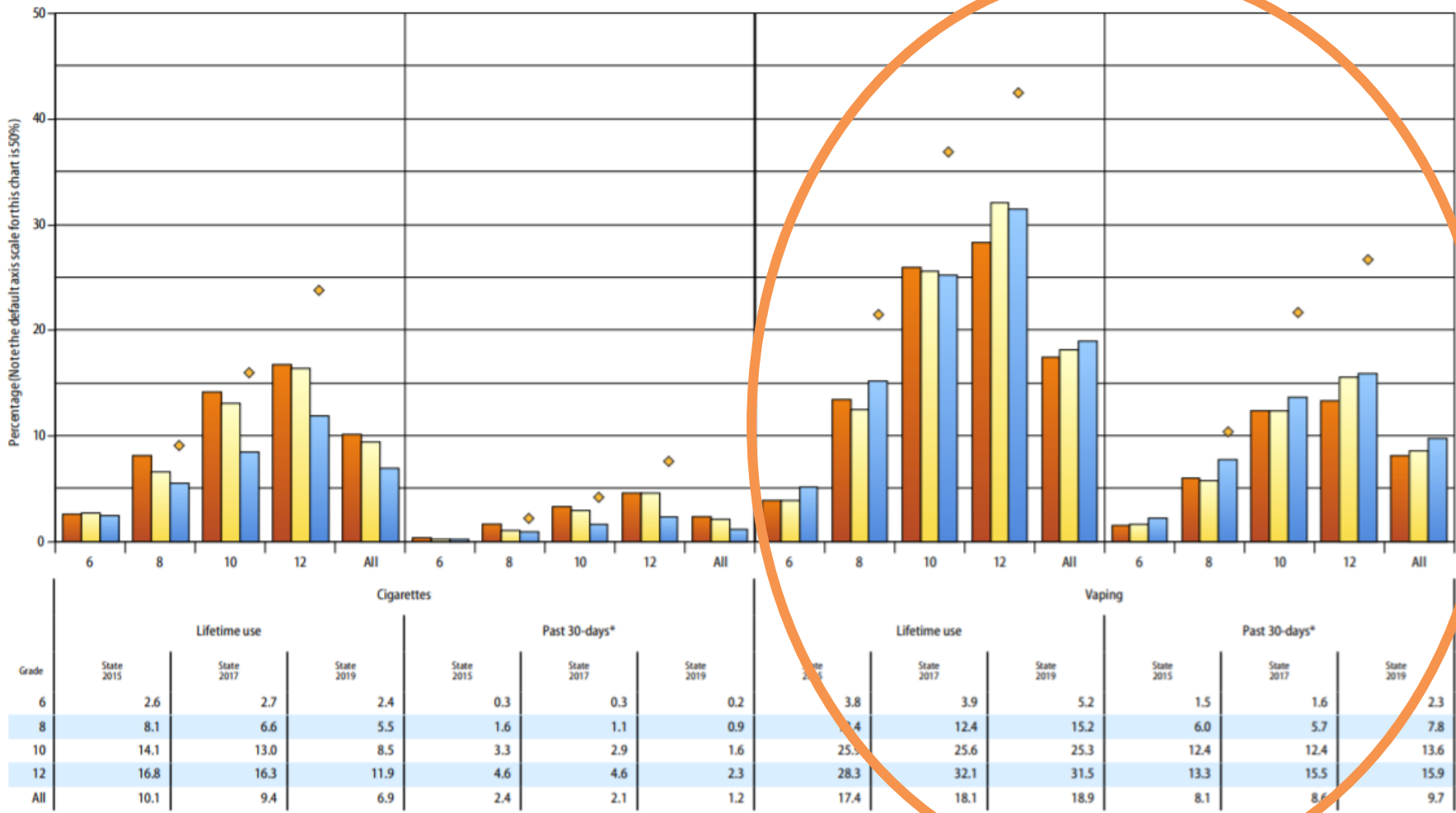
+ Difference between this estimate and the 2017 estimate is statistically significant at the .05 level.

More Women Using Cannabis During Pregnancy

Rates more than doubled in a four year span.



State-identified priority substance use - Cigarettes and vaping products State of Utah 2019 Student Survey



* Since not all students answer all questions, the percentage of students reporting use in the past 30 days may be greater than the percentage reporting lifetime use.

** National comparison data are available for 8th, 10th, and 12th grade only. Monitoring the Future does not survey 6th graders.

State 2015 State 2017 State 2019 MTF**

“They’re starting because of the flavors, but they’re getting addicted because of the nicotine.”

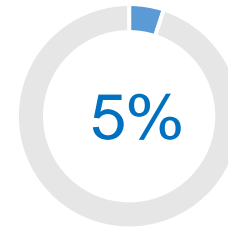
*Stuart Hudnall,
Assistant Principal at
Herriman High School*



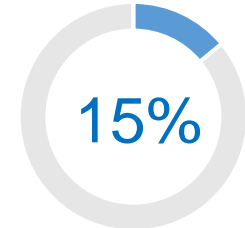
10%

of middle and high school students reported **vaping in the past 30 days.**

The Facts about Youth Vaping in Utah

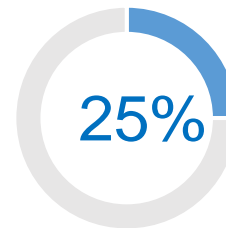


6th Graders

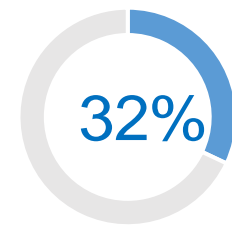


8th Graders

Have tried vaping at least once



10th Graders



12th Graders

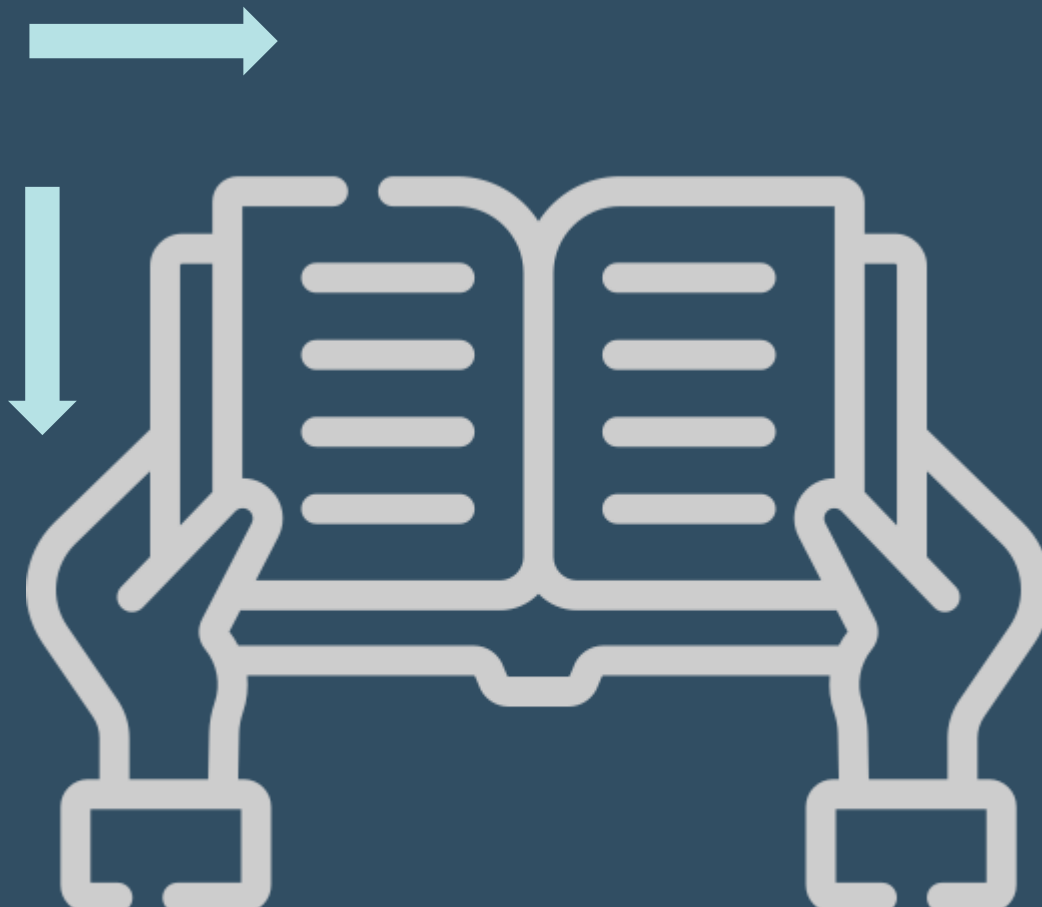
37,767

students are struggling
with nicotine addiction in
our state right now.

This is about the
population of Cedar City.



People read left to right,
top to bottom.



Icon by FreePik

Color

Adobe Color

CREATE

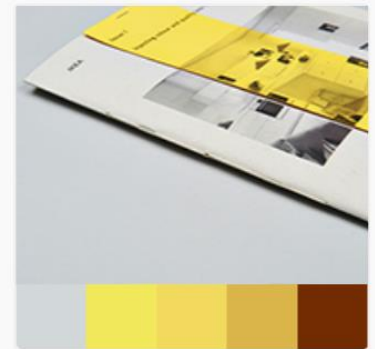
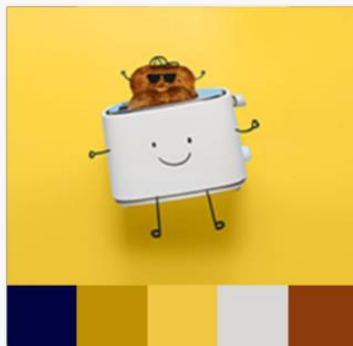
EXPLORE

TRENDS

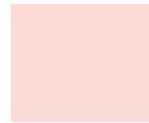
LIBRARIES



Sign



Vary lightness to communicate value

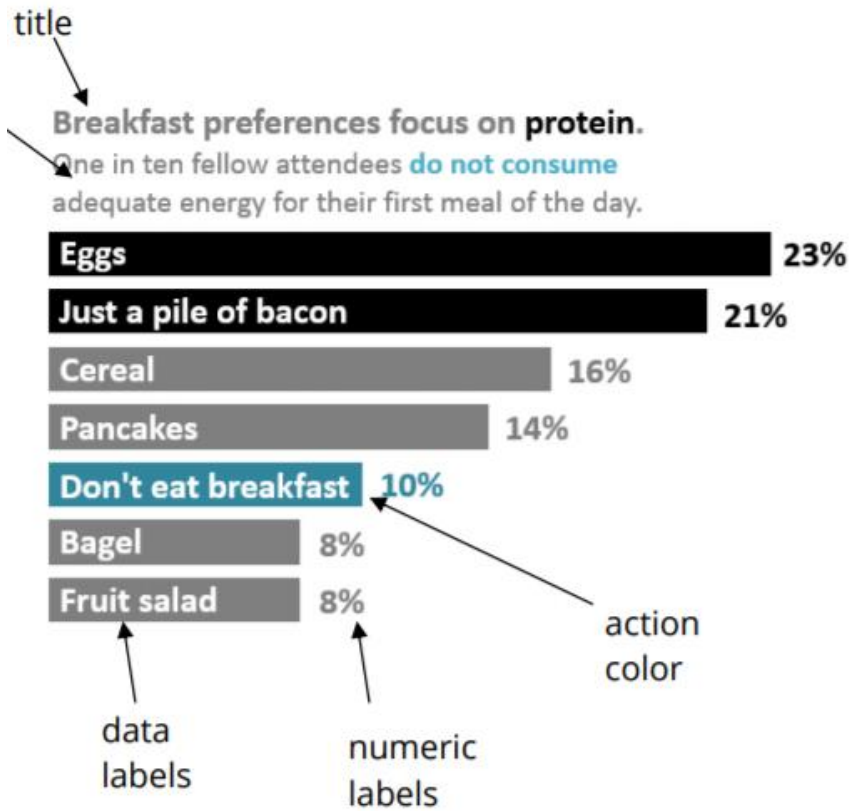


Lower
Lighter



Higher
Darker

ACTION Color



THE STATE OF TOBACCO USE IN MAINE

Penobscot County Profile



CURRENT CIGARETTE SMOKING RATES

More than 21 in 100 adults in Penobscot County

17 in 100 adults in Maine

14 in 100 adults in the United States



If Penobscot County's current cigarette rate among adults was on par with the national average, 10,954 fewer adults would smoke. This is about the population of Orono.

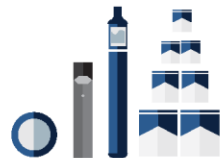
PENOBSCOT COUNTY

ADULT SMOKING RATE

21.2% (MAINE 17.3%)

3rd HIGHEST
RATE IN MAINE

TOBACCO INDUSTRY INFLUENCE IN MAINE



Tobacco Companies' Annual
Marketing Spending in Maine



45.8
MILLION



13.9
MILLION

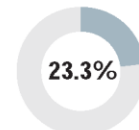


State Spending on
Tobacco Prevention

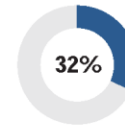
ADULT TOBACCO USE DISPARITIES

Current smoking rates are **higher** among adults with mental illness.

People with a behavioral health condition are not only more likely to smoke, they also smoke more frequently. They account for **25% of the adult population**, but they **consume 40% of cigarettes** sold in the U.S.

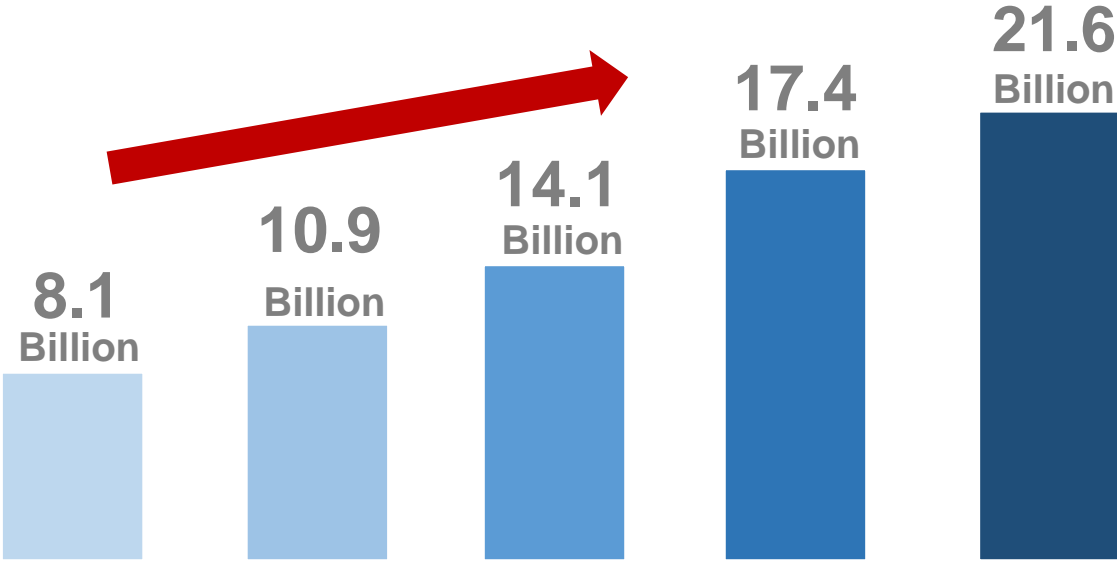


Current smoking rate among adults **with no** mental illness

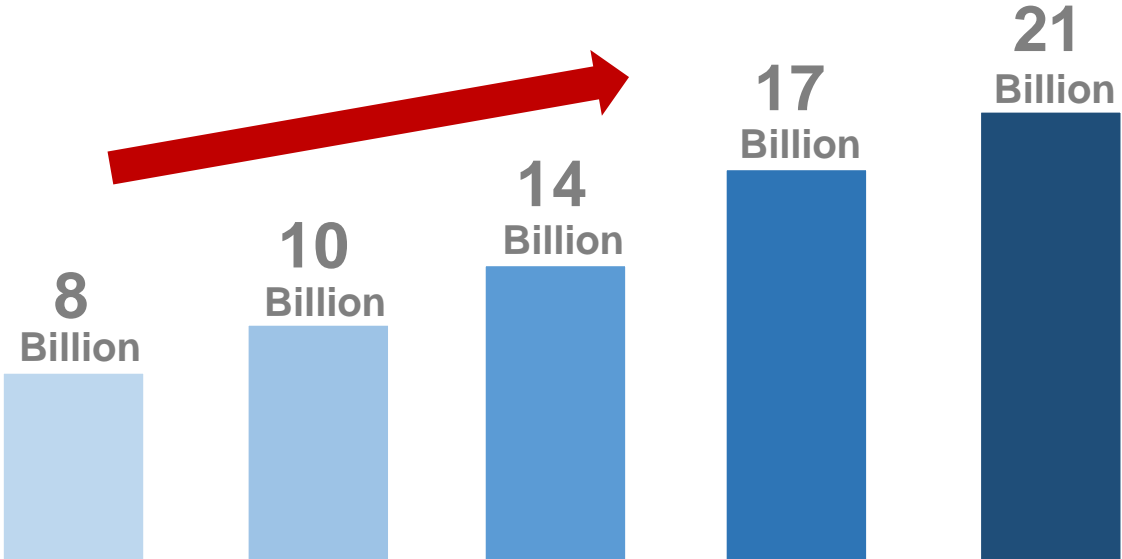


Current smoking rate among adults **with** any mental illness

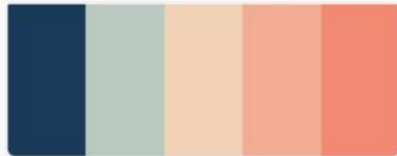
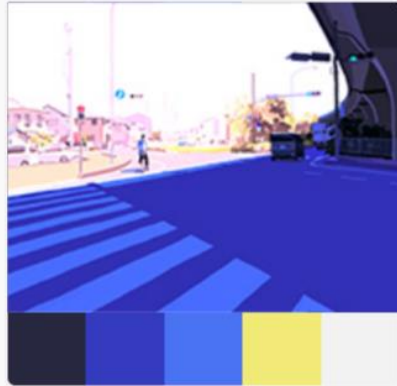
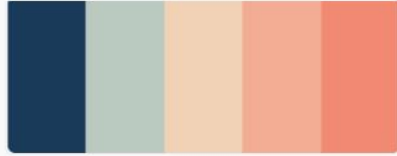
Projected Sales 2017-2021



Projected Sales 2017-2021



Color Scheme Brainstorming



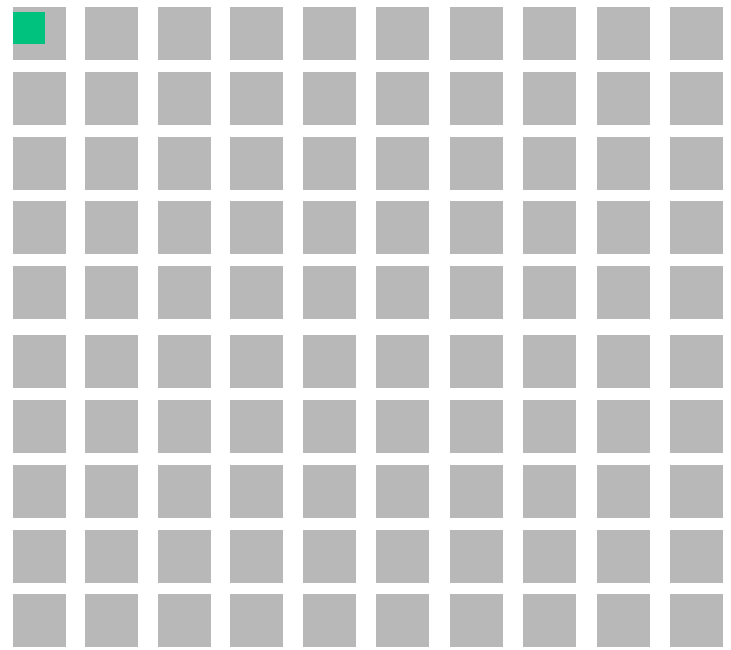
Context



Wow!
A million dollars!

**Marijuana Tax
Revenue** ■

Makes up less
than 1% of total
general
fund revenue



General Fund Revenue



(45
Grams)

DELICIOUS

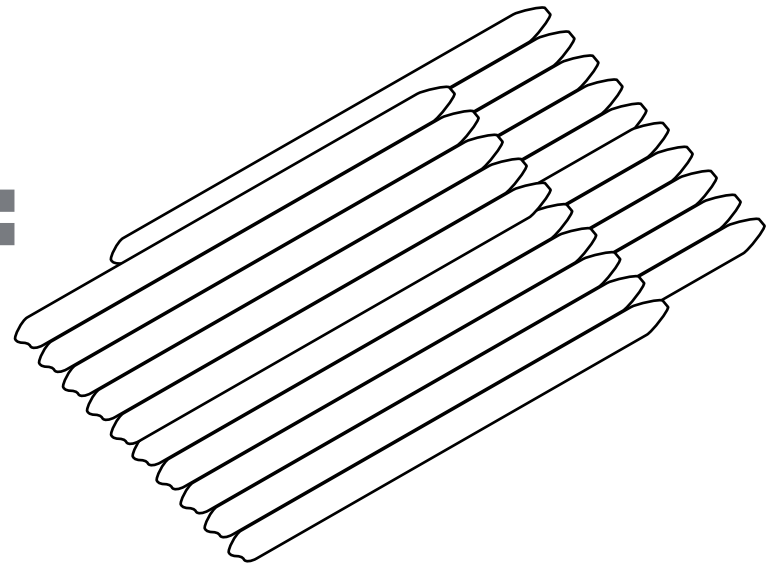
MILK CHOCOLATE

(43
Grams)



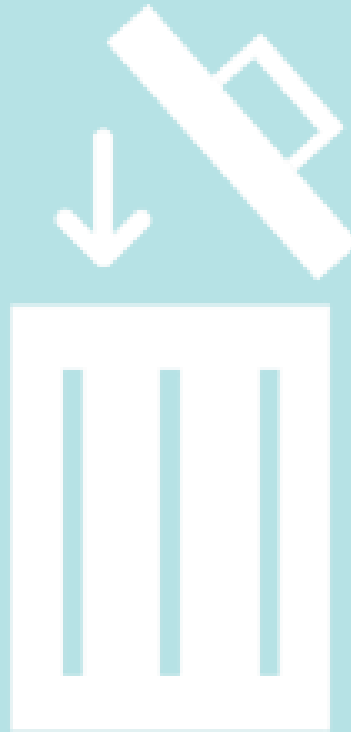
100 milligrams of THC

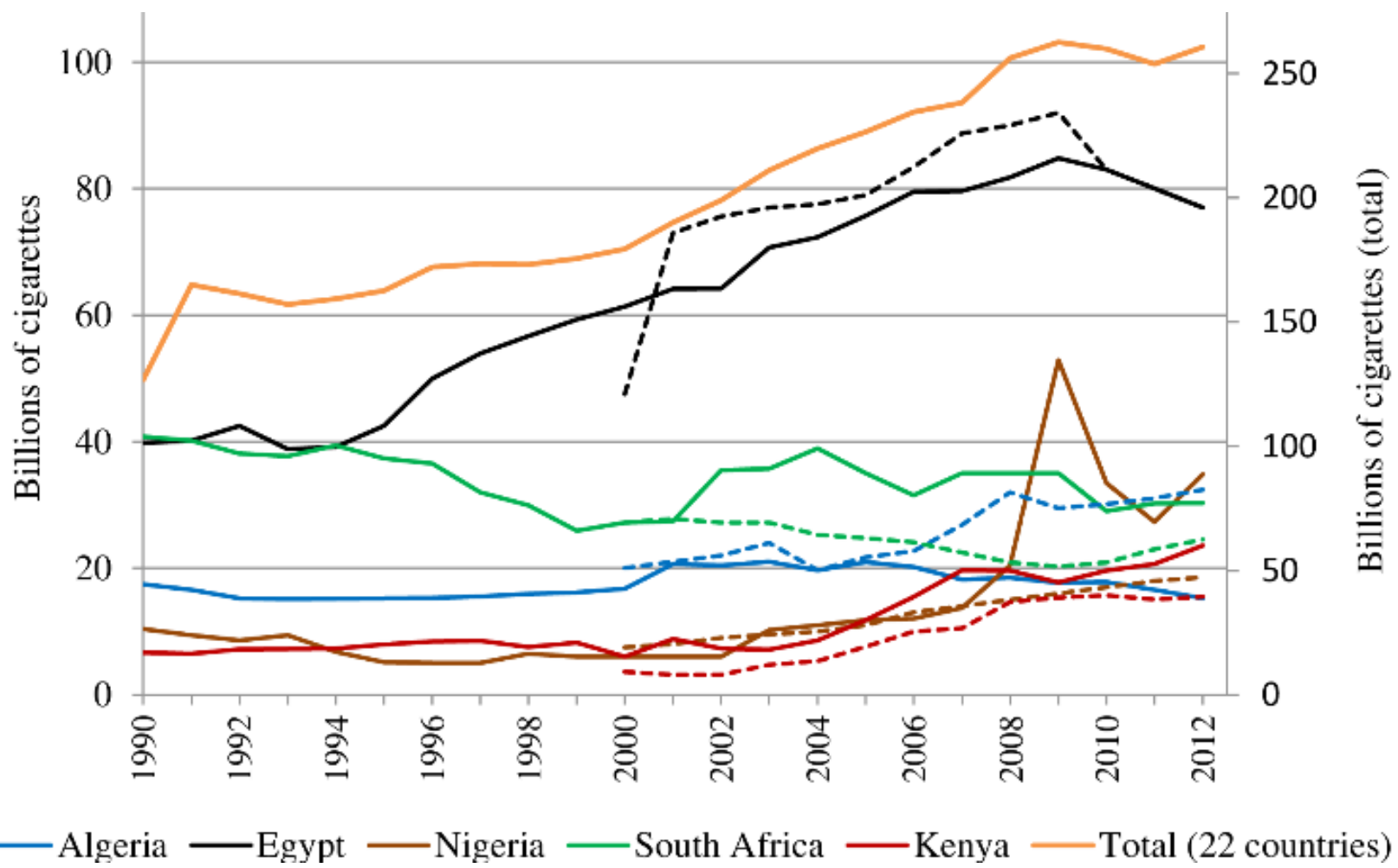
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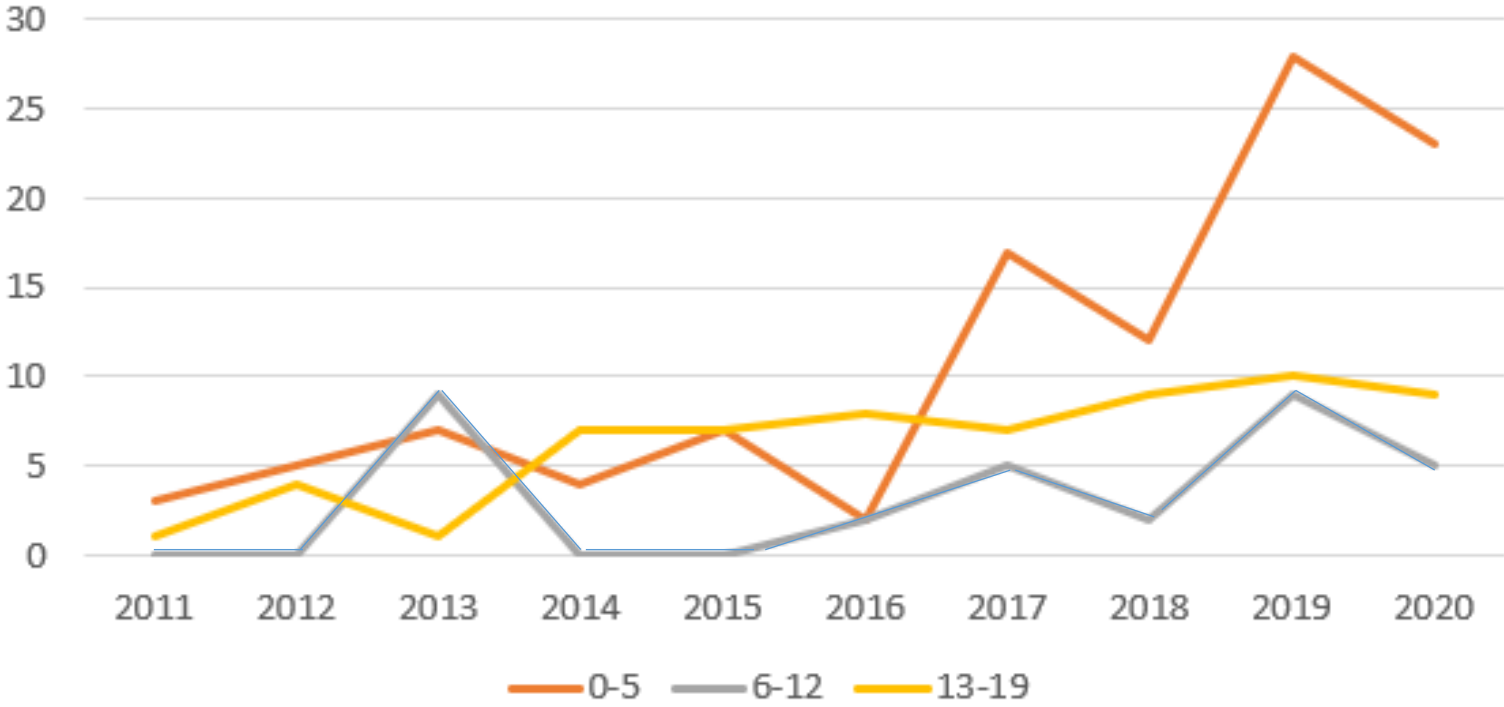
20 Joints from the 1970s

Clutter

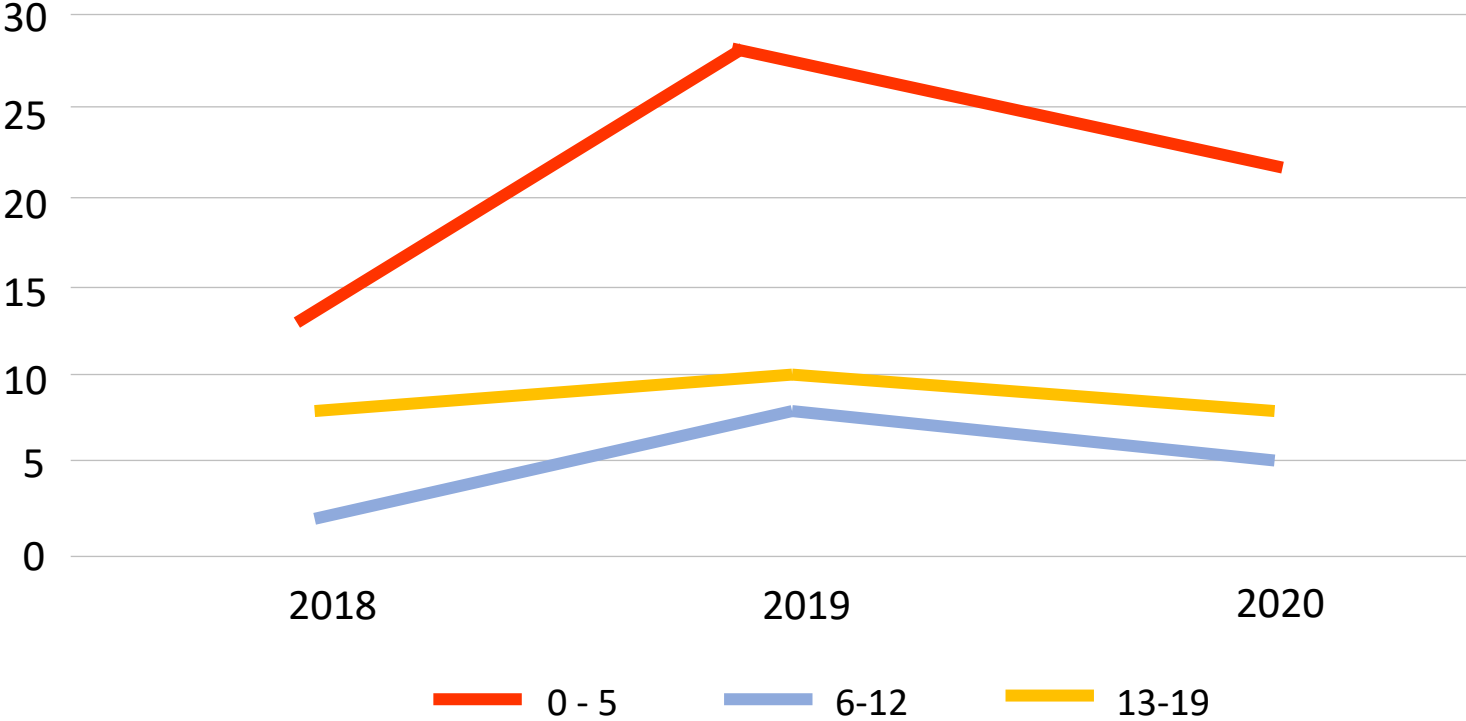




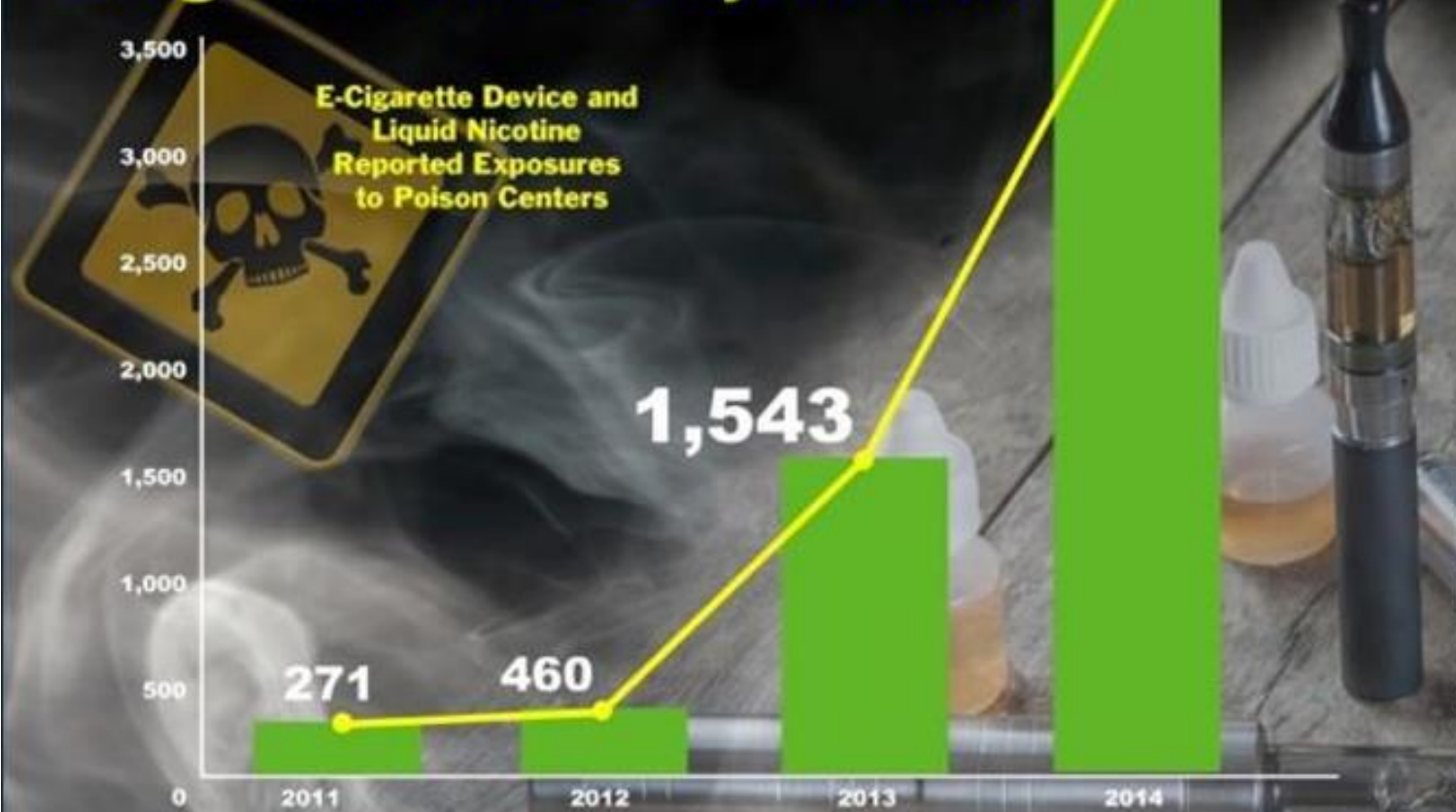
NNEPC ME Exposure Cases Involving Only Marijuana Age Group by Year



Exposure cases involving marijuana only peaked in 2019

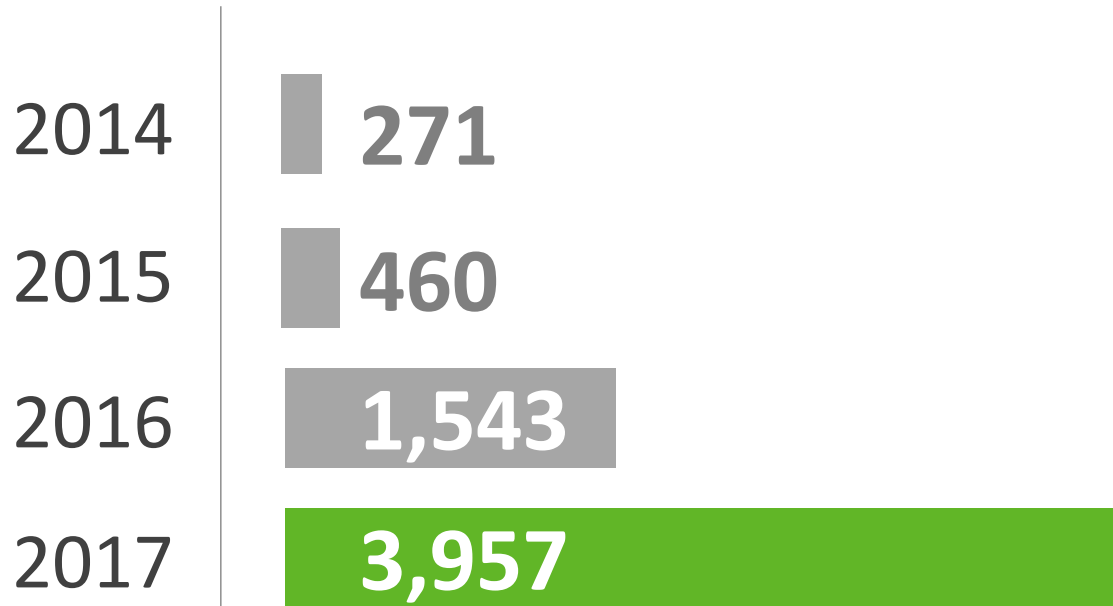


Poisoning Calls Related to E-Cigarettes Have Skyrocketed



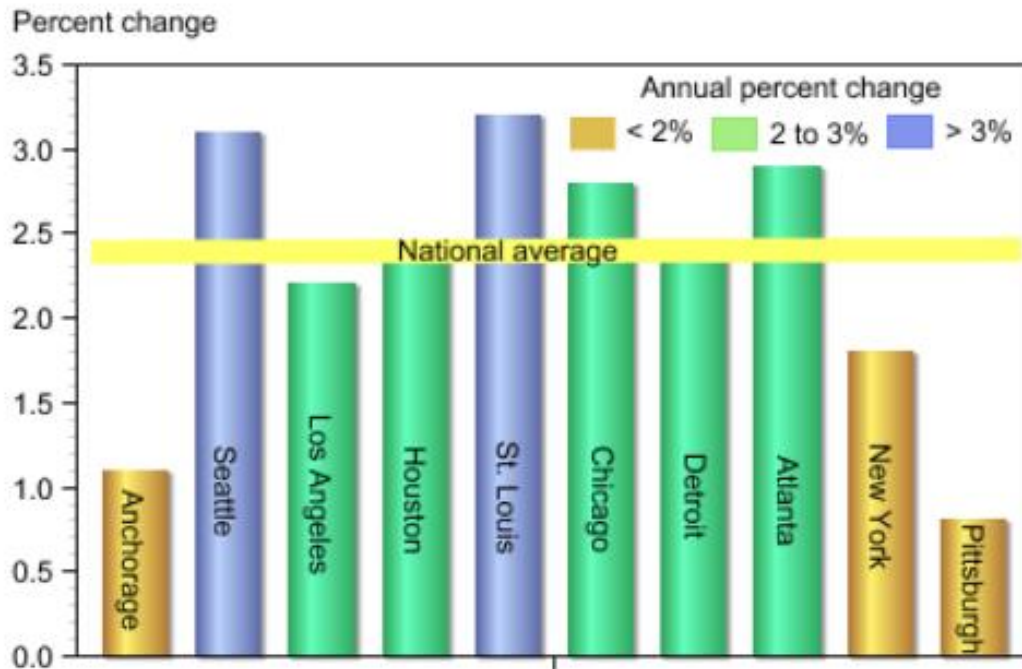
SOURCE: American Association of Poison Control Centers

**Poisoning calls related to e-cigarettes
increased 1,360% from 2014 to 2017**



Annual grocery store inflation by city, 2014

In 2014, food price inflation was higher in Seattle, St. Louis, Chicago, and Atlanta than in other metropolitan areas



Source: Calculated by ERS, USDA, using Bureau of Labor Statistics (BLS) data.

2014 Annual grocery store inflation by city

Food price inflation was higher in Seattle, St. Louis, Chicago, and Atlanta than in other metropolitan areas

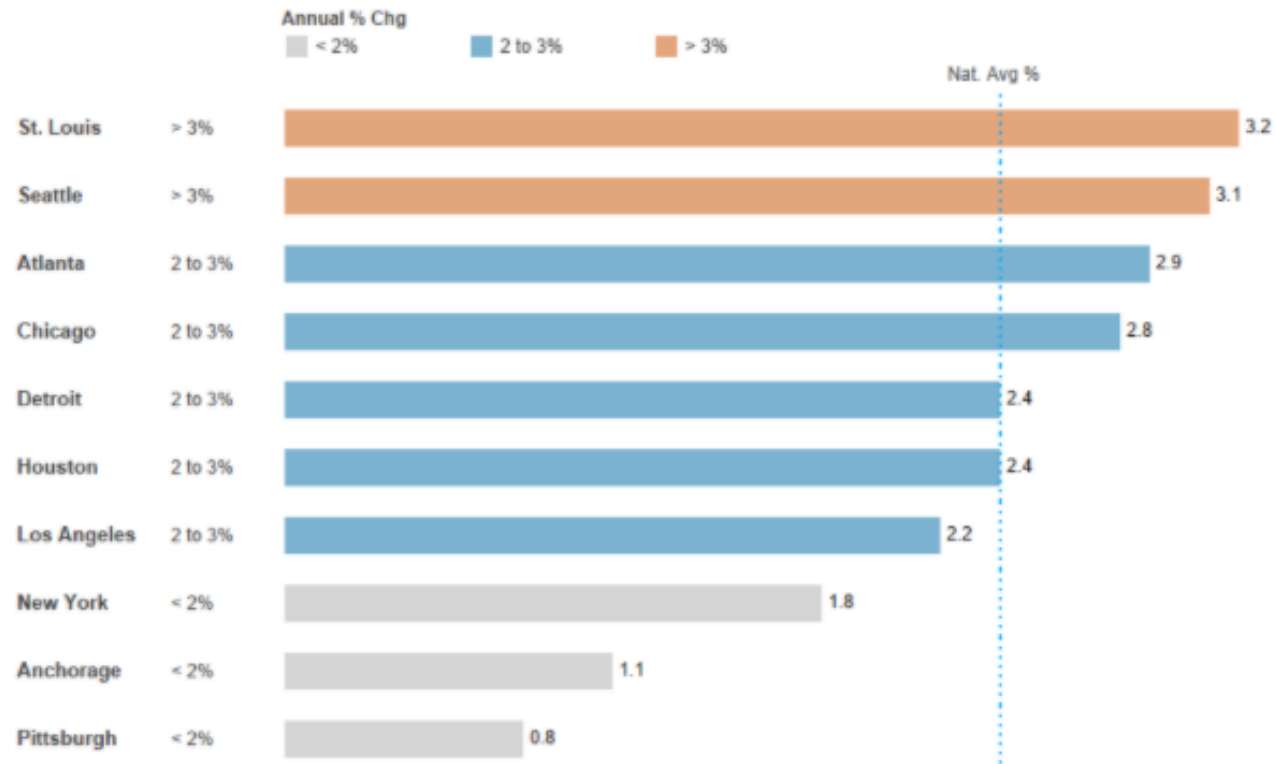


Chart credit: Melissa Yu, BlueGranite.com, 6/3/2016

Titles

**Find
the hook.**



Resources





Design for lay audiences.

Statistical information can easily overwhelm. Gear all design toward lay audiences. Remember people look for comparisons and themes. Make them easy to see! People read left to right, top to bottom. Avoid centering.

De-clutter! Remove grid lines and tick marks.

The more "noise" ...AKA extra info you can delete, the easier to interpret.

Titles and subtitles matter.

Make sure they're concise, interesting and at top left. Spend time creating a title that creates a "hook" and conveys the main point. Position at the top left, so it's read first.

Use color as a tool to your advantage.

Consider using an action color. Select color palette that goes with the theme and/or appeals to your audience. Use gradients of color: lowest value/lightest color - highest value/darkest color.

Limit the use of legends. Avoid whenever possible.

Example: when creating a bar chart, place horizontal labels beside or on the bars.

Select the right data visualization for the job.

There are many online resources for deciding whether a pie chart, line graph, or bar chart, etc makes the most sense.

Present in 2D.

3D charts may look more sophisticated, but experts agree they are harder to read.

Use round numbers.

Round to the nearest whole number for the quickest, easiest transfer of information.

Put it in context.

Numbers are meaningful when we understand them in relation to the total picture.










Data Visualization Tutorials with Alberto Cairo

38 videos • 1,823 views • Last updated on Sep 1, 2019



Erin Malone

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The Library of Missing Data Sets

<https://mimionuoha.com/the-library-of-missing-datasets-v-20>

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Us, Aggregated

Missing Data

"What is Missing Is Still There"

The Library of Missing Datasets

The Library of Missing Datasets v2.0

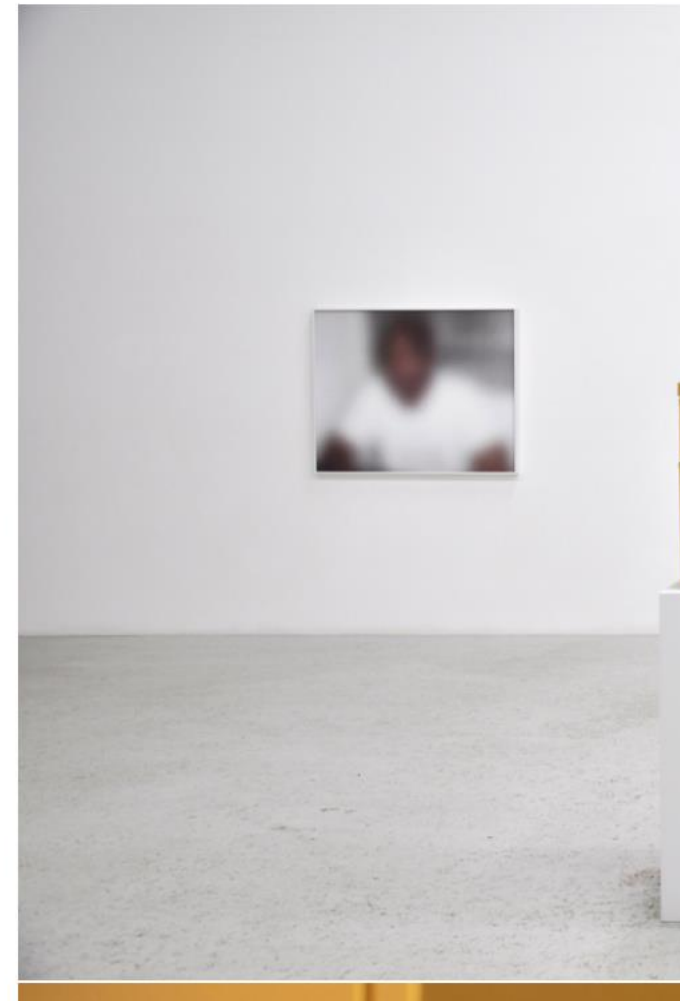
Zines, Prints, Events

The Library of Missing Datasets 2.0 (2018)

Installation piece

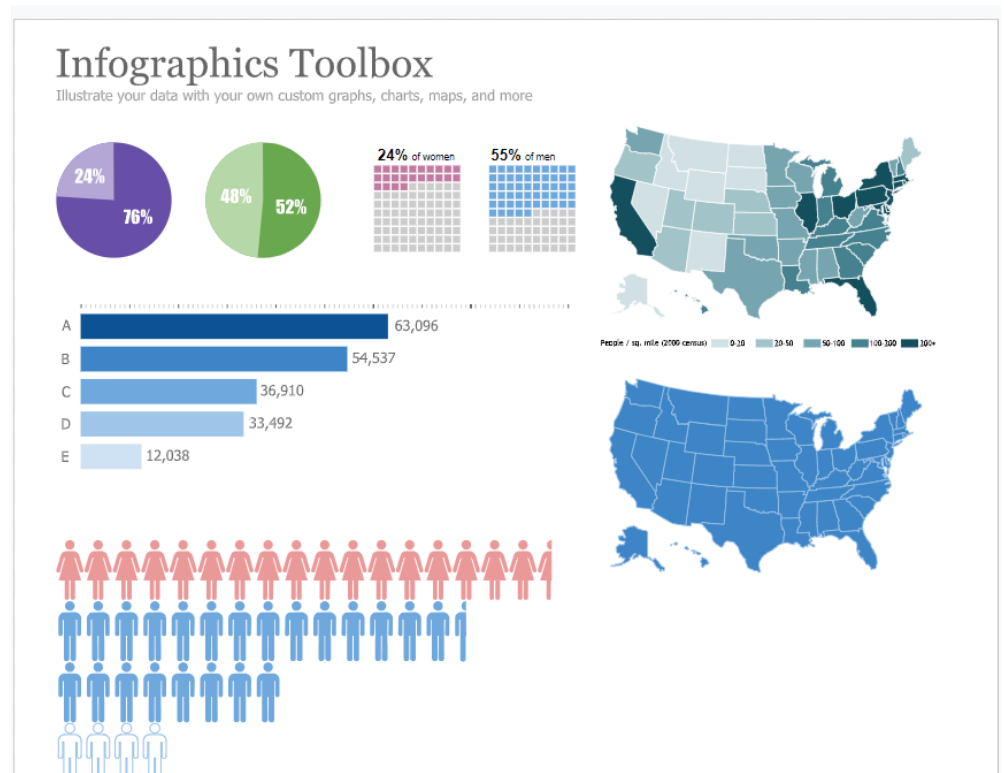
The second installment in *The Library of Missing Datasets* series focuses on American datasets, featuring strongly as objects of collection but *2.0 of The Library of Missing Datasets* speaks to this reality.

Larger project here.



Google Infographics Toolbox Template

https://docs.google.com/drawings/d/1mEjyhAjJTqzqlBxi9niAmV0nLdmhbUZbGMziwHdRstg/template/preview?usp=drive_web



Microsoft Excel Cheat Sheet

<https://www.customguide.com/cheat-sheet/excel-cheat-sheet.pdf>



Microsoft® Excel Cheat Sheet Intermediate Skills

Chart Elements

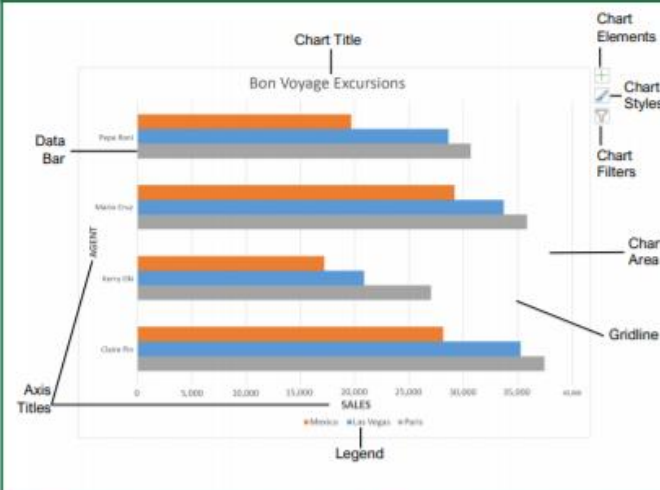


Chart Options

Chart Types

- Column:** Used to compare different values vertically side-by-side. Each value is represented in the chart by a vertical bar.
- Line:** Used to illustrate trends over time (days, months, years). Each value is plotted as a point on the chart and values are connected by a line.
- Pie:** Useful for showing values as a percentage of a whole when all the values add up to 100%. The values for each item are represented by different colors.
- Bar:** Similar to column charts, except they display information in horizontal bars rather than in vertical columns.
- Area:** Similar to line charts, except the areas beneath the lines are filled with color.
- XY (Scatter):** Used to plot clusters of values using single points. Multiple items can be plotted by using different colored points or different point symbols.
- Stock:** Effective for reporting the fluctuation of stock prices, such as the high, low, and closing points for a certain day.
- Surface:** Useful for finding optimum combinations between two sets of data. Colors and patterns indicate values that are in the same range.

Charts

Create a Chart: Select the cell range that contains the data you want to chart. Click the **Insert** tab on the ribbon. Click a chart type button in the Charts group and select the chart you want to insert.

Move or Resize a Chart: Select the chart. Place the cursor over the chart's border and, with the 4-headed arrow showing, click and drag to move it. Or, click and drag a sizing handle to resize it.

Change the Chart Type: Select the chart and click the **Design** tab. Click the **Change Chart Type** button and select a different chart.

Filter a Chart: With the chart you want to filter selected, click the **Filter** button next to it. Deselect the items you want to hide from the chart view and click the **Apply** button.

Position a Chart's Legend: Select the chart, click the **Chart Elements** button, click the **Legend** button, and select a position for the legend.

Show or Hide Chart Elements: Select the chart and click the **Chart Elements** button. Then, use the check boxes to show or hide each element.

Insert a Trendline: Select the chart where you want to add a trendline. Click the **Design** tab on the ribbon and click the **Add Chart Element** button. Select **Trendline** from the menu.

Charts

Insert a Sparkline: Select the cells you want to summarize. Click the **Insert** tab and select the sparkline you want to insert. In the Location Range field, enter the cell or cell range to place the sparkline and click **OK**.

Create a Dual Axis Chart: Select the cell range you want to chart, click the **Insert** tab, click the **Combo** button, and select a combo chart type.

Print and Distribute

Set the Page Size: Click the **Page Layout** tab. Click the **Size** button and select a page size.

Set the Print Area: Select the cell range you want to print. Click the **Page Layout** tab, click the **Print Area** button, and select **Set Print Area**.

Print Titles, Gridlines, and Headings: Click the **Page Layout** tab. Click the **Print Titles** button and set which items you wish to print.

Add a Header & Footer: Click the **Insert** tab and click the **Header & Footer** button. Complete the header and footer fields.

Adjust Margins and Orientation: Click the **Page Layout** tab. Click the **Margins** button to select from a list of common page margins. Click the **Orientation** button to choose Portrait or Landscape orientation.

Additional Chart Elements

Data Labels: Display values from the cells of the worksheet on the plot area of the chart.

Data Table: A table added next to the chart that shows the worksheet data the chart is illustrating.

Error Bars: Help you quickly identify standard deviations and error margins.

Trendline: Identifies the trend of the current data, not actual values. Can also identify forecasts for future data.

Guide to using the public version of Tableau

<https://public.tableau.com/en-us/s/resources>

Resources / How-to Videos

A buffet of materials to help get you started, or take you to the next level.

How-to Videos

Sample Data

Community Res

Select a video below or click/ta

The Data Innovation Project

<https://datainnovationproject.org/>



Welcome

The art and science of data

The Data Innovation Project partners with
work, achieve results, and demonstrate impact
affect change and tell compelling stories.

Making Data Talk ...

the best guide
evah!

<https://www.cancer.gov/publications/healthcommunication/making-data-talk.pdf>

National Cancer Institute

U.S. DEPARTMENT
OF HEALTH AND
HUMAN SERVICES
National Institutes
of Health

Making Data Talk:

A Workbook



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Central East (HHS Region 3)

ATTC

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Funded by Substance Abuse and Mental Health Services Administration

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Central East (HHS Region 3)

ATTC



Central East (HHS Region 3)

PTTC