



# **Office on Smoking and Health's Tobacco Disparities Dashboard**

## **Evaluators' Network Webinar**

**Philip Bammeke, ADS Group, Office on Smoking and Health**

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# Background

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- **Needed an easy way to identify state-level tobacco-related disparities**
- **Aligned with CDC's DMI\* goal of making data accessible and actionable**
  - Enabling CDC staff and partners to easily visualize and analyze health disparities, accelerating the use of data to improve decision-making and protect health
- **Importantly – we viewed it as an opportunity to support partners**
  - Easy way for states to have a visual representation of tobacco-related disparities, for their state or any other state
- **Supporting efforts to eliminate commercial tobacco-related health disparities in different population groups**

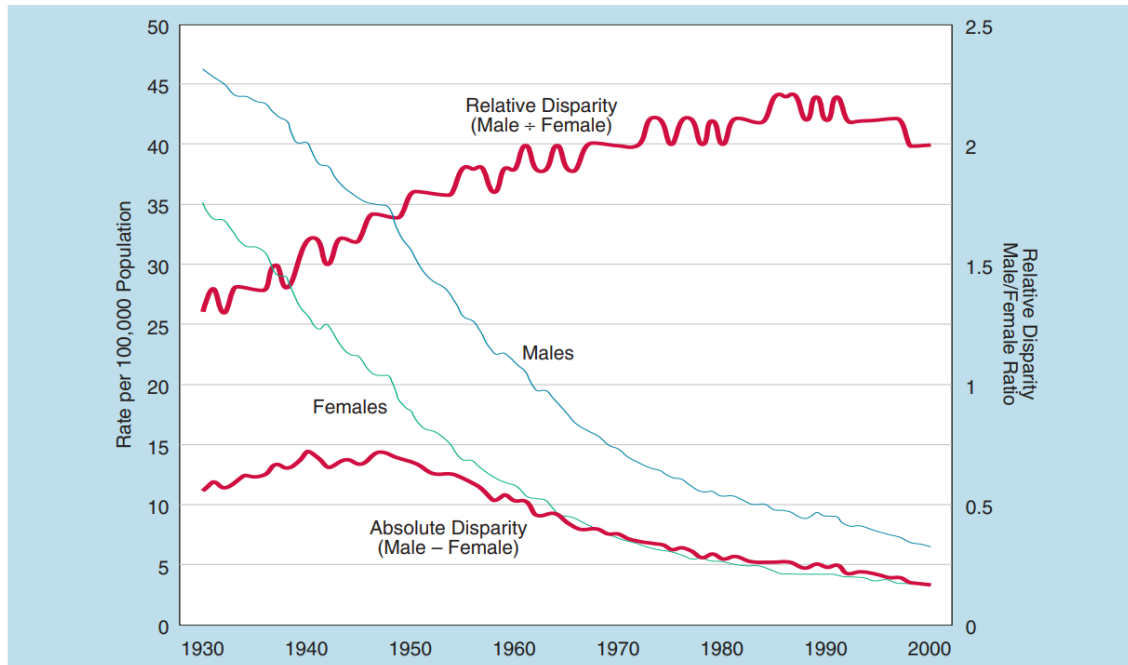
# Dashboard Overview and Demo

# Informatics Opportunity

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- **Data Gap: No means to dynamically explore data on tobacco-related disparities at the state level**
- **Solution: Development of an interactive tobacco disparities dashboard to help users quickly identify and pinpoint the disparities across states**
  - Primary users: tobacco control programs and partners
  - Development platform: Power BI including DAX for customizations
  - User tested before deployment (testers from within OSH/CDC and external)
  - Dissemination medium: CDC's Digital First Editor web page
  - Dashboard released in May 2024; promotions and engagements

# Method Adopted to Measure the Disparities - Relative



[Measuring Disparities \(cancer.gov\)](http://cancer.gov)

It is recommended to consider both types of measures to have a more comprehensive understanding;  
[Identifying and Eliminating Tobacco-Related Disparities: Key Outcome Indicators for Evaluating Comprehensive Tobacco Control Programs \(cdc.gov\)](http://cdc.gov)

# Dashboard Data and Access

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- **Data Source: Behavioral Risk Factor Surveillance System, 2011—2022**
- **Current Cigarette Smoking among U.S. adults**
- **Nine Stratification Categories**
- **Can be used on desktop and mobile**
- **Available at CDC.GOV: <https://www.cdc.gov/tobacco-health-equity/data-research/index.html>**

# Visualizing the tabular data makes a difference

Data sample: Relative disparity in cigarette smoking, NH Black compared with NH White in 2022

State	Cigarette Smoking % (Non-Hispanic Black)	Cigarette Smoking % (Non-Hispanic White)	Relative Disparity
Alabama	14.7	14.8	1.0
Alaska	15.4	12.9	1.2
Arizona	11.8	13.0	0.9
Arkansas	19.9	18.6	1.1
California	15.3	9.8	1.6
Colorado	17.8	9.6	1.9
Connecticut	12.6	9.7	1.3
Delaware	14.6	13.9	1.1
District of Columbia	17.1	4.7	3.6
Florida	9.1	12.8	0.7
Georgia	12.8	13.2	1.0
Hawaii	No Data	10.0	N/A
Idaho	No Data	10.8	N/A
Illinois	15.4	13.0	1.2
Indiana	17.2	16.6	1.0
Iowa	15.9	14.8	1.1
Kansas	18.9	13.6	1.4
Kentucky	20.0	17.0	1.2
Louisiana	15.5	17.6	0.9
Maine	No Data	14.7	N/A
Maryland	10.2	9.7	1.1
Massachusetts	9.6	10.5	0.9
Michigan	18.2	14.8	1.2
Minnesota	18.7	12.1	1.5
Mississippi	16.1	17.6	0.9
Missouri	17.8	16.5	1.1

State	Cigarette Smoking % (Non-Hispanic Black)	Cigarette Smoking % (Non-Hispanic White)	Relative Disparity
Montana	No Data	13.1	N/A
Nebraska	14.3	12.9	1.1
Nevada	11.3	16.0	0.7
New Hampshire	No Data	12.0	N/A
New Jersey	12.2	10.3	1.2
New Mexico	No Data	14.3	N/A
New York	10.0	11.9	0.8
North Carolina	15.7	14.7	1.1
North Dakota	No Data	13.9	N/A
Ohio	18.2	16.8	1.1
Oklahoma	13.9	15.7	0.9
Oregon	16.6	12.0	1.4
Pennsylvania	20.3	14.2	1.4
Rhode Island	8.1	11.1	0.7
South Carolina	17.8	14.4	1.2
South Dakota	No Data	12.4	N/A
Tennessee	17.5	18.5	0.9
Texas	13.3	12.8	1.0
Utah	No Data	6.6	N/A
Vermont	No Data	12.6	N/A
Virginia	11.5	13.4	0.9
Washington	11.0	10.2	1.1
West Virginia	21.4	20.7	1.0
Wisconsin	20.1	13.7	1.5
Wyoming	No Data	15.6	N/A

# Dashboard Summary

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- **Transformed multiple data values into visual information**
- **Innovative way to visualize tobacco-related disparities**
- **508-compliant, embedded in a CDC web page**
- **User guide and data downloadable**



# Visual Information in the Dashboard

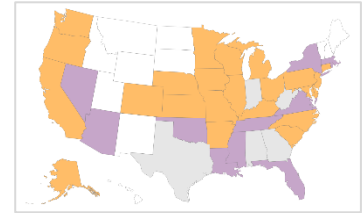
**Cigarette smoking:**  
29 population groups



**Relative Disparities**



**Map:** nationwide or  
specific state(s)



- **Immersive visualization:** multiple data visible in one cohesive view
- **Versatile data exploration:** filters, quick dynamic data selection
- **Exporting visuals:** can screenshot a visual or entire page

# Some values of the dashboard to users

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- **Turns data into information for action**
  - Provides a baseline allowing one to pull information quickly if discussing with partners or programs
  - Illustrates opportunities for health improvement
  - Can support research hypothesis generation
- **Can help guide conversations around targeted strategies or interventions designed to reduce disparities in cigarette smoking among specific groups**
- **Provides stats that could help support health-equity or disparities-related NOFO opportunities**

# Some states and programs are already using the tool

The screenshot shows the Missouri Department of Health & Senior Services website. The navigation bar includes links for Healthy Living, Senior & Disability Services, Licensing & Regulations, Disaster & Emergency Planning, and Data & Statistics. The main content area is titled "Plans and Reports" and features a "Tobacco Control Home" section. Below this, there are tabs for "Tobacco Tax", "Strategic Plans", "Data", "2022 Reports", and "2021 Reports". A "MO Tobacco Tax" link is highlighted. The "Tobacco Disparities Dashboard" is also visible, with a description of its purpose and a table of demographic categories.

**Missouri Department of Health & Senior Services**

MO.gov Governor Parson Find an Agency Online Services Search

Healthy Living Senior & Disability Services Licensing & Regulations Disaster & Emergency Planning Data & Statistics

## Plans and Reports

DHSS Home > Healthy Living > Wellness and Prevention > tobacco > smokingandtobacco > reports

Tobacco Tax Strategic Plans Data 2022 Reports 2021 Reports

- MO Tobacco Tax

The CDC/OSH State Tobacco-Related Disparities Dashboard is an intuitive visualization platform, allowing for the quick exploration of cigarette smoking prevalence and identification of related disparities in Missouri by age, disability, education, employment, income, mental health, race & ethnicity, sex, and urban vs. rural. The dashboard will enable users to swiftly analyze data to identify opportunities for improvement and accelerate data into action to reduce cigarette smoking among specific groups.

Click the Image Below to Explore Missouri Specific Data

### Tobacco Disparities Dashboard

Tobacco use is the leading cause of preventable disease and death in the United States. Explore state-level disparities or differences in commercial tobacco related disparities among U.S. adults 18 years and older across various demographic categories.

**Understanding Information on the Dashboard**

The dashboard shows (1) the prevalence of tobacco use among adults selected from two groups at the state level over a selected time range (2) the disparity values in tobacco use for the same selection (3) the disparity values for the user selection nationwide.

How to interpret the disparity values when comparing one group (Group A) to another (Group B), for example:

- When the disparity value is above 1.0, Group A has more adults who use a tobacco product compared with Group B.
- When the disparity value is below 1.0, Group A has fewer adults who use a tobacco product compared with Group B.
- When the disparity value is 1.0, there is no difference or parity between both groups.
- If there is no data for at least one of the selected groups, the disparity value will be "not applicable" (n/a).

**Getting Started with Exploring the Dashboard**

Select a demographic category from the options below. The home button in the top right corner of each page will navigate back here.

Age	Employment	Race and Ethnicity
Disability	Income	Sex at Birth
Education	Mental Health	Urban-Rural

**Rate and Ethnicity page:** AHA means "American Indian or Alaska Native".

The screenshot shows the "Nuestras Voces Adelante" dashboard, an initiative of the National Alliance for Hispanic Health. It features a "Tobacco Facts" section and a "Tobacco Disparities Dashboard" for Alabama. The dashboard includes a line graph showing the prevalence of cigarette use among adults in Alabama from 2011 to 2022, comparing the 18-24 age group (blue) and the 65 or older age group (purple). A map of the United States shows the disparity value for Alabama in 2022, which is 1.1, indicating a higher rate for the 18-24 age group. A table provides the specific disparity values for 2020, 2021, and 2022.

**Nuestras Voces Adelante**  
Our Voices Moving Forward Network  
An Initiative of the National Alliance for Hispanic Health™

Join Nuestras Voces Adelante

## About Nuestras Voces

- Cancer Facts
- Cancer Resources
- Tobacco Facts
- Tobacco Resources
- Press Releases

## Tobacco Facts

CDC Office of Smoking and Health  
State-level Tobacco Disparities Dashboard

### Age-Related Disparities in Cigarette Smoking Among Adults

Comparing 'Age 18-24' with 'Age 65 or older' from 2011-2022 in Alabama and nationwide.

Select State: Alabama

Prevalence in cigarette use among adults in Alabama

Prevalence among adults 'Age 18-24' in Alabama for 2022: 9.9%

Prevalence among adults 'Age 65 or older' in Alabama for 2022: 9.1%

Year 2022: Age group disparity in cigarette use among adults comparing 'Age 18-24' with 'Age 65 or older' in the United States.

Disparity in cigarette use among adults: 'Age 18-24' compared with 'Age 65 or older' in Alabama

2021: 1.1 | 2022: n/a

Rest selection: 1.1

Download age-related disparities data

The Tobacco Disparities Dashboard is an intuitive visualization platform, allowing for the quick exploration of cigarette smoking prevalence and identification of related disparities in states by age, disability, education, employment, income, mental health, race, ethnicity, sex, urban, and rural. The dashboard enables users to analyze data to identify opportunities for improvement and accelerate data into action to reduce cigarette smoking among specific groups. The dashboard can be accessed using this link: [State Tobacco-Related Disparities | Tobacco - Health Equity | CDC](#)

# Some Lessons Learned

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- **User-centric design approach helps uptake**
  - Guided product features to develop a user-friendly and intuitive tool
  - Getting the science right and conveying with the right visuals
- **Phased development enabled improvements before finalizing the product**
- **Deployment approach makes it simple to manage or scale up**

# Recommendations for Dashboard Development

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Define Objectives and Primary Users



Engage Users Early



Ensure the Reliability of Data



Design to make it easy for users



CHANGE MANAGEMENT

Consider the Future

# Questions

For more information, contact Philip Bammeke  
OSH's office of the Associate Director of Science  
Email: [gkf4@cdc.gov](mailto:gkf4@cdc.gov)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the U. S. Centers for Disease Control and Prevention.

