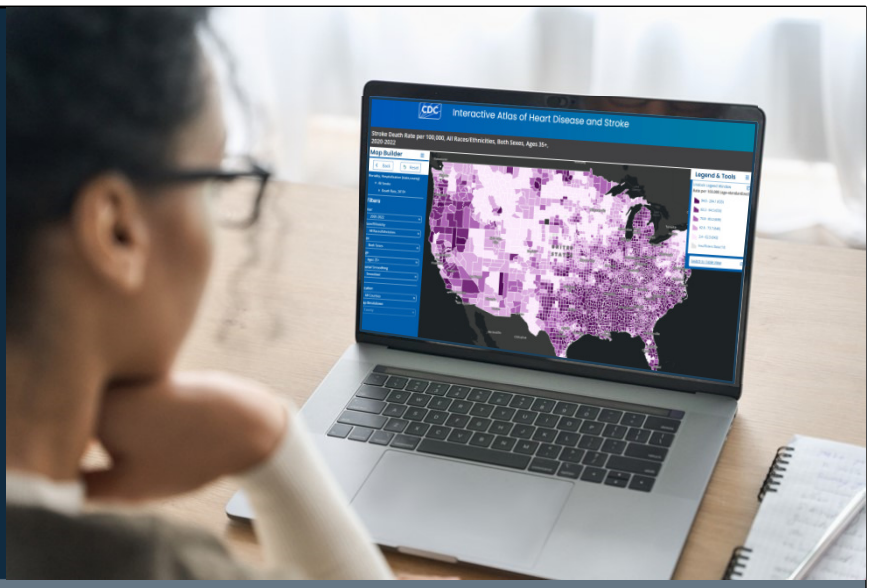
Using the Atlas of Heart Disease and Stroke *to Address* Stroke Burden and Proximity to Stroke Centers



U.S. Centers for Disease Control and Prevention
National Center for Chronic Disease Prevention and Health Promotion
Division for Heart Disease and Stroke Prevention

The Atlas of Heart Disease and Stroke is a data-rich tool anyone can use to examine the cardiovascular disease burden in communities across the United States.

For those who receive funding from CDC's Division for Heart Disease and Stroke Prevention, the maps in the Atlas can be used to support your work.

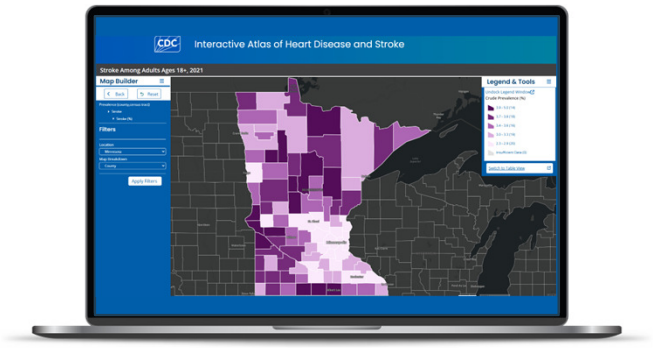
In this presentation, we will walk through examples of how you can use the Atlas to address stroke and proximity to stroke centers in your communities.

For an overview of the Atlas or step-by-step instructions, go to www.CDC.gov and search "Atlas of Heart Disease and Stroke."

Using the Atlas to Address Stroke Burden and Proximity to Stroke Centers in Your Communities

Easy access to high-quality local-level data on:

- Stroke Mortality
- Stroke Hospitalizations and Discharge
- Stroke Prevalence
- Stroke Centers
- Federally Qualified Health Centers
- Rural-Urban Status
- Telehealth Stroke Care
- Stroke Rehabilitation
- Risk Factors
- Community Characteristics

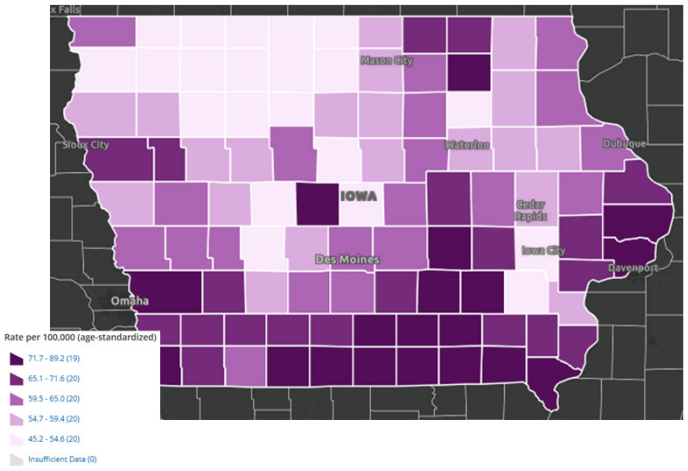


2

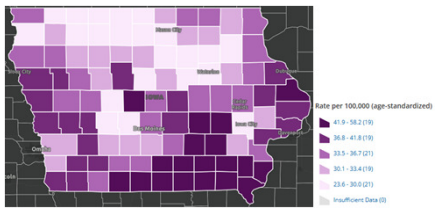
The Atlas provides easy access to a wide range of high-quality local-level data.

For this example, we'll be using data on stroke mortality; stroke hospitalizations and discharge; self-reported stroke prevalence, that is, adults who have been told by a health professional that they had a stroke; stroke centers; federally qualified health centers; rural-urban status; telehealth stroke care; stroke rehabilitation; risk factors; and community characteristics.

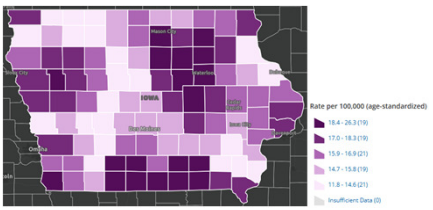
Stroke Mortality Rates



Ischemic Stroke



Hemorrhagic Stroke



Data Sources:
Mortality: National Vital Statistics System. National Center for Health Statistics. 2020-2022.
Population Estimates (Ages standardized to Census 2000 population): U.S. Census Bureau. 2020-2022.

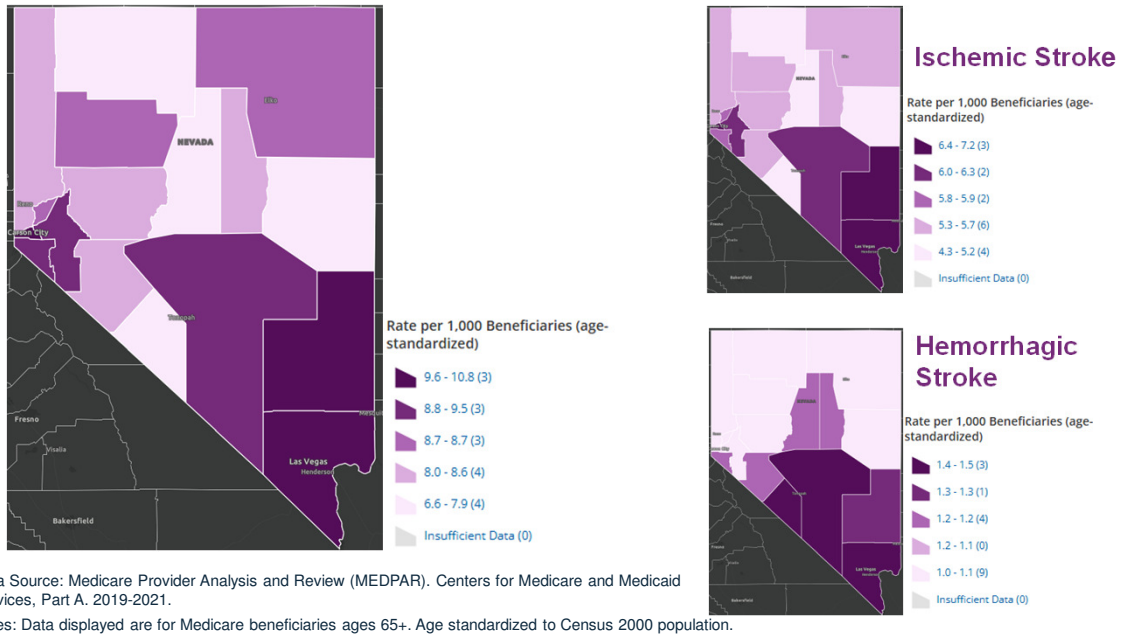
Note: Data are displayed for ages 35+.

3

Let's start by mapping stroke mortality at the county level. In the Atlas, you can map all stroke mortality, and you also have the option to map specifically ischemic or hemorrhagic stroke mortality rates.

Counties with the lowest mortality are in light pink, and counties with the highest mortality are in dark purple. We can see that there are some similar patterns overall, such as low mortality around the northwest portion of the state. We can also see where patterns differ by type of stroke.

Stroke Hospitalization Rates



Data Source: Medicare Provider Analysis and Review (MEDPAR). Centers for Medicare and Medicaid Services, Part A. 2019-2021.

Notes: Data displayed are for Medicare beneficiaries ages 65+. Age standardized to Census 2000 population.

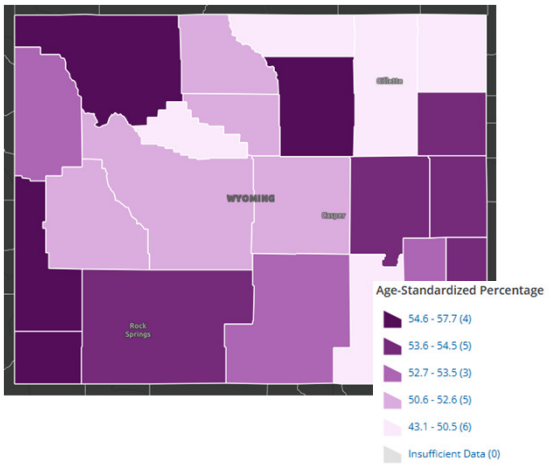
4

We can also map stroke hospitalizations. Similar to stroke mortality, we can look at this by overall stroke hospitalizations and specifically ischemic or hemorrhagic stroke hospitalizations.

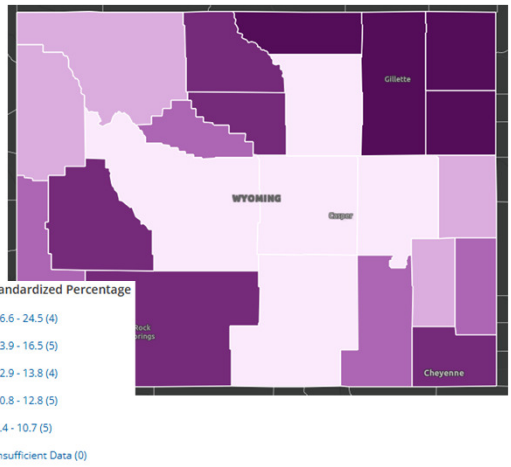
As you create more maps, you may continue to notice patterns that inform your work.

Stroke Hospitalization Discharge

Discharged Home



Discharged to Skilled Nursing Facility

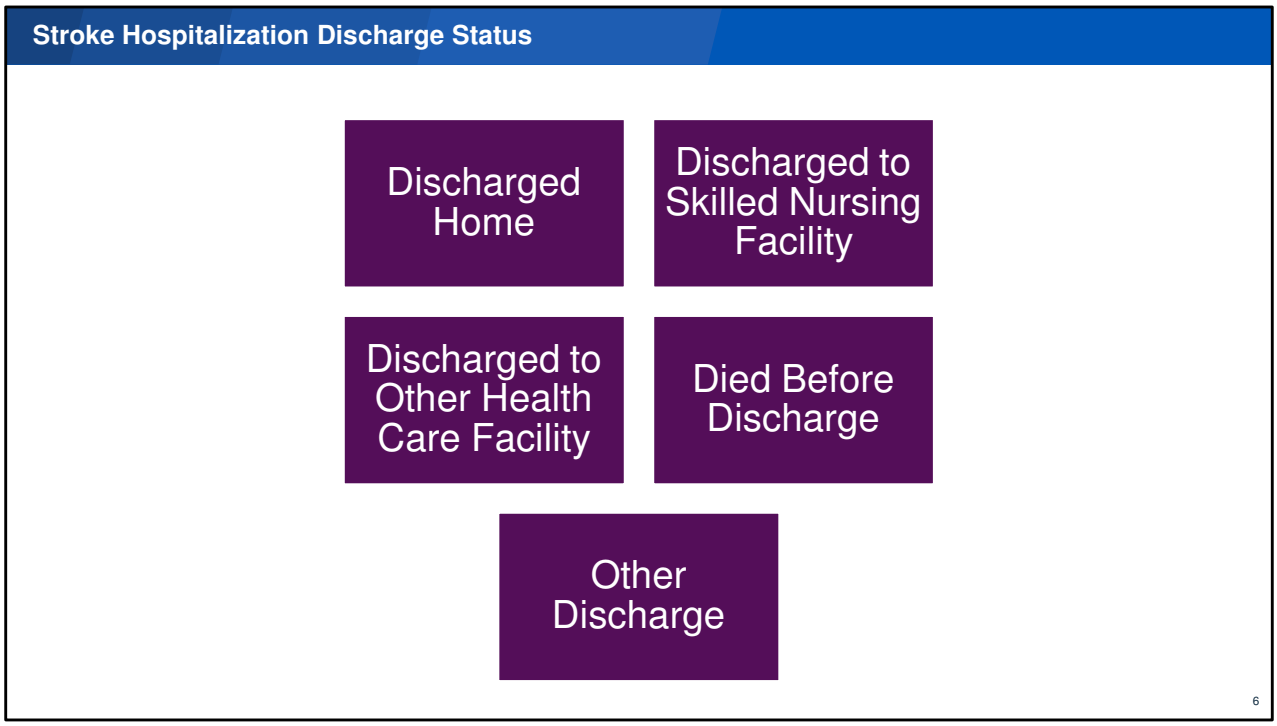


Data Source: Medicare Provider Analysis and Review (MEDPAR). Centers for Medicare and Medicaid Services, Part A. 2019-2021.

Notes: Data displayed are for Medicare beneficiaries ages 65+. Age standardized to Census 2000 population.

5

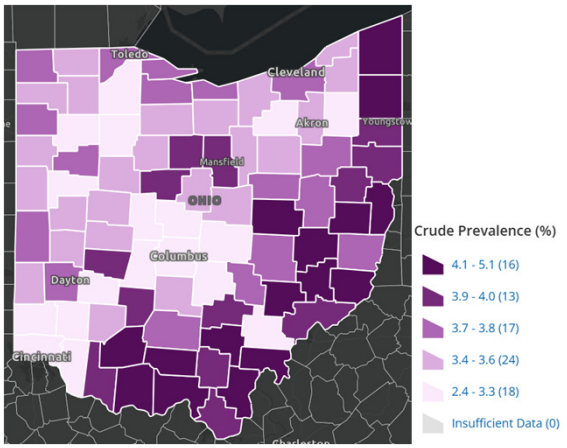
The Atlas has a multitude of stroke hospitalization discharge data that can be mapped. Here we see county-level maps of stroke hospitalization discharges home and to skilled nursing facilities.



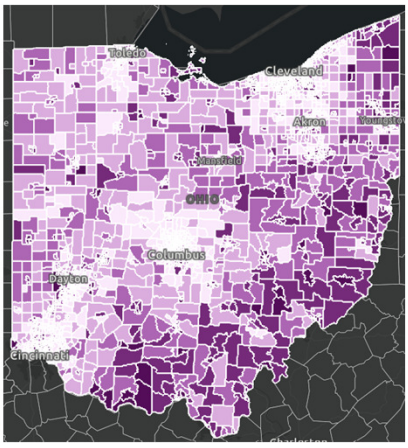
The full list of options for mapping stroke hospitalization discharge status in the Atlas includes those discharged home, discharged to a skilled nursing facility, discharged to another health care facility, patients who died before discharge, and other discharge.

Stroke Prevalence

County



Census Tract



Data Source: PLACES. Centers for Disease Control and Prevention. 2021 (2023 release).
Note: Data are displayed for ages 18+; Stroke prevalence data are not available by age, sex, race/ethnicity.

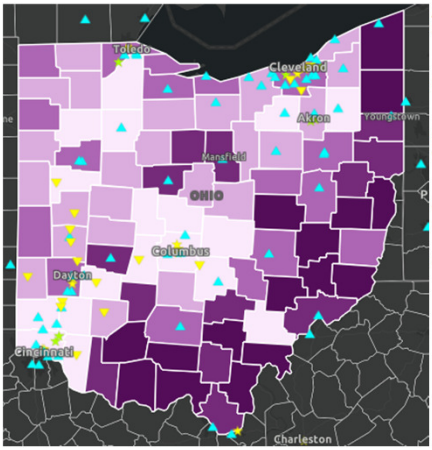
7

It could also be useful to map stroke prevalence, as shown here. Comparing county-level and census tract-level stroke prevalence can help identify more specifically which areas have the highest and lowest stroke burden.

In this example, we see that there is higher stroke prevalence in the eastern and southeastern regions of the state.

Stroke Prevalence and Stroke Centers

County



Acute Stroke Ready Hospital, 2022

Primary, 2022

Primary Plus/Thrombectomy Capable, 2022

Comprehensive, 2022

Crude Prevalence (%)

- 4.1 - 5.1 (16)
- 3.9 - 4.0 (13)
- 3.7 - 3.8 (17)
- 3.4 - 3.6 (24)
- 2.4 - 3.3 (18)
- Insufficient Data (0)

Acute Stroke Ready Hospital, 2022

Primary, 2022

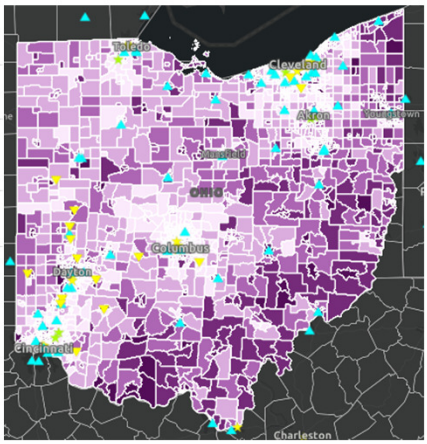
Primary Plus/Thrombectomy Capable, 2022

Comprehensive, 2022

Crude Prevalence (%)

- 4.3 - 12.1 (585)
- 3.7 - 4.2 (524)
- 3.3 - 3.6 (554)
- 2.9 - 3.2 (601)
- 0.4 - 2.8 (676)
- Insufficient Data (6)

Census Tract



Data Sources:
Stroke Prevalence: PLACES. Centers for Disease Control and Prevention. 2021 (2023 release).
Stroke Centers: ACHC, DNV, The Joint Commission, State stroke center certification programs (2022).

Note: Stroke prevalence data are displayed for ages 18+.

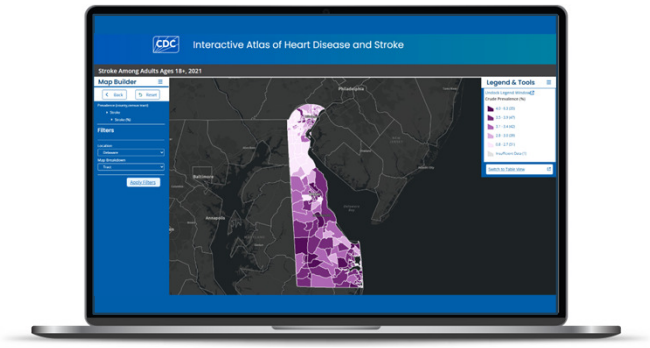
8

You can easily overlay the locations of stroke centers when using the Atlas. These maps show a variety of stroke center types throughout the state: acute stroke-ready hospitals, primary stroke centers, primary plus/thrombectomy-capable stroke centers, and comprehensive stroke centers.

We can see from these maps that some areas with the highest stroke prevalence do not have stroke centers in their jurisdiction.

A Note on Using the Atlas

- Not to draw conclusions about relationships or causation
- To understand the context and characteristics of communities
- To inform program and policy decisions tailored to communities' needs



9

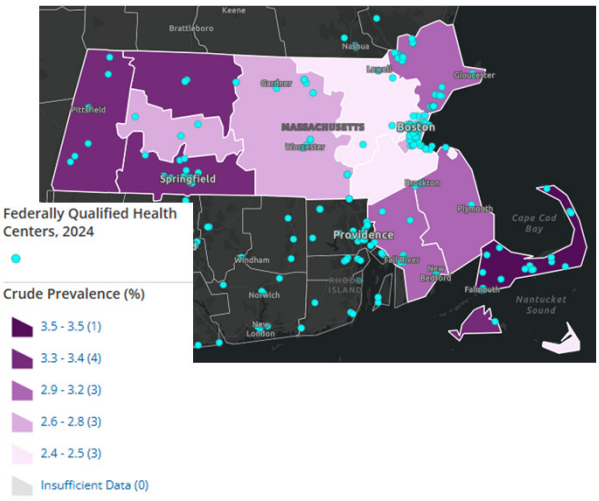
Before we compare more maps, it's important to note that maps from the Atlas of Heart Disease and Stroke provide important contextual information but do not indicate causation.

Rather than drawing conclusions about relationships, we can use these maps to understand the characteristics of communities with varying stroke burden and proximity to stroke centers. This context informs program decisions that are tailored to the needs of each community.

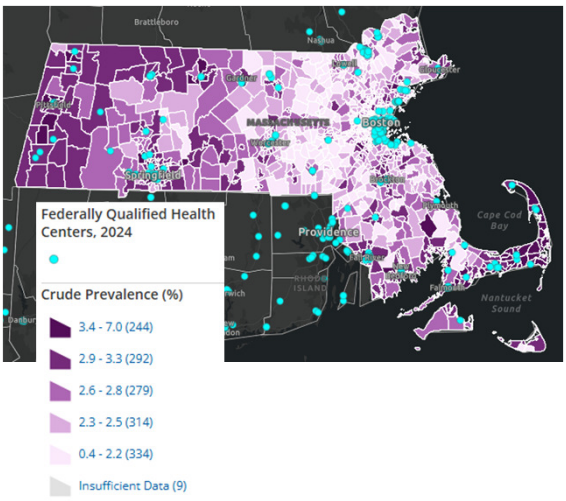
Now let's start to understand the context surrounding stroke and proximity to stroke centers with additional maps.

Stroke Prevalence and Federally Qualified Health Centers (FQHCs)

County



Census Tract



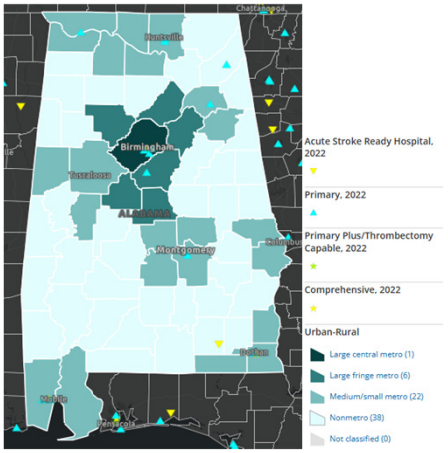
Data Sources:
Stroke Prevalence: PLACES. Centers for Disease Control and Prevention. 2021 (2023 release).
Federally Qualified Health Centers: Health Resources and Services Administration. 2024.
Note: Stroke prevalence data are displayed for ages 18+.

10

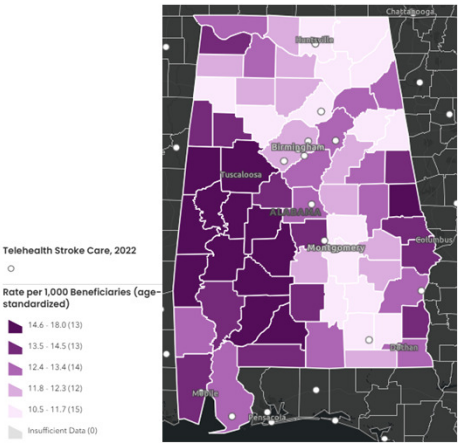
Next, we've used the Atlas to make maps of stroke prevalence and federally qualified health centers. This can give insight into where preventive health services are most needed and some of the resources available in that county or census tract.

Rural Urban Status and Stroke Centers, Stroke Hospitalizations and Telehealth Stroke Care

Rural-Urban Status and Stroke Centers



Stroke Hospitalizations and Telehealth Stroke Care



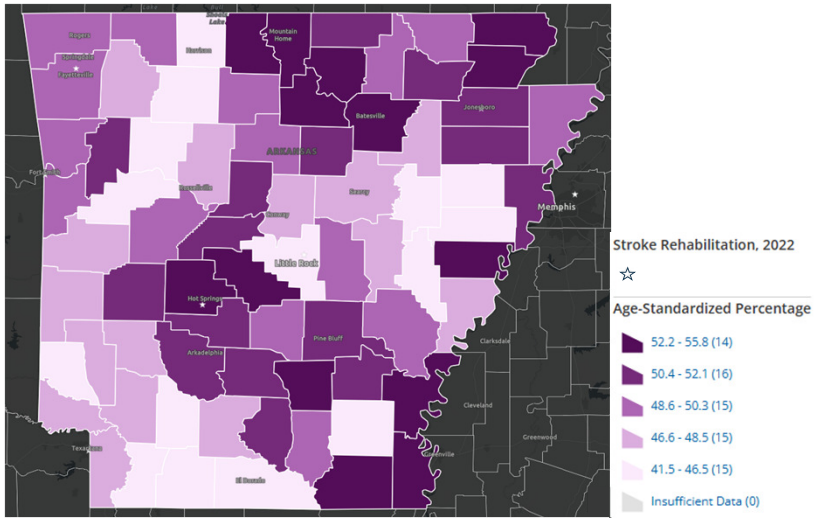
Data Sources:
Rural-Urban Status: National Center for Health Statistics. Centers for Disease Control and Prevention. 2013.
Stroke Centers: ACHC, DNV, The Joint Commission, State stroke center certification programs (2022).
Stroke Hospitalizations: Medicare Provider Analysis and Review (MEDPAR). Centers for Medicare & Medicaid Services, Part A. 2019-2021.
Telehealth Stroke Care: American Hospital Association. 2022.
Note: Stroke hospitalization data are displayed for Medicare beneficiaries ages 65+.

11

Similarly, we can compare maps of rural-urban status and stroke hospitalizations to get a sense of the rural-urban status among counties with high or low stroke hospitalization rates. In this example, we see that some of the counties with the highest prevalence of stroke tend to be more rural.

These maps also have overlays for additional detail. This map of rural-urban status also shows stroke centers, and our stroke hospitalizations map shows hospitals offering telehealth stroke care. This can aid in understanding where people may be able to go for stroke care.

Percent of Stroke Patients Discharged Home and Stroke Rehabilitation Services



Data Sources:
Stroke Discharge: Medicare Provider Analysis and Review (MEDPAR). Centers for Medicare and Medicaid Services, Part A. 2019-2021.
Stroke Rehabilitation The Joint Commission. 2022.
Notes: Data displayed are for Medicare beneficiaries ages 65+. Age standardized to Census 2000 population.

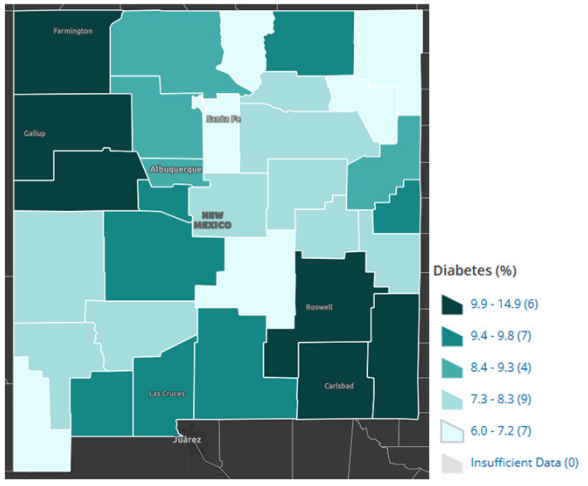
12

Stroke patients may need stroke rehabilitation to support their recovery. This map shows the percent of stroke patients discharged home along with hospitals offering stroke rehabilitation. This could be useful in determining where interventions may be helpful.

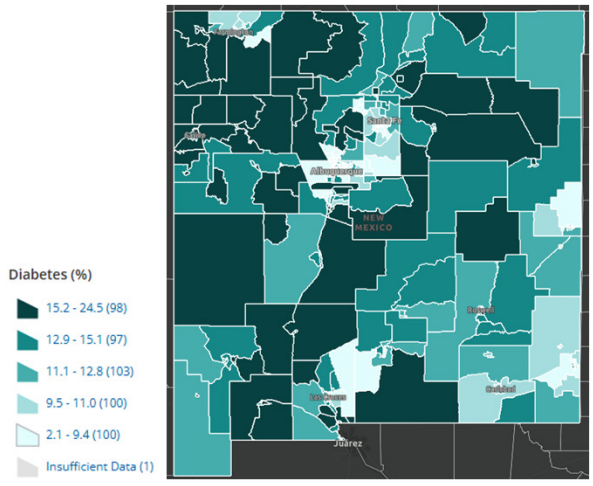
In this example, we can see that one of the hospitals offering stroke rehabilitation in this state is doing so in a county with a high percentage of patients discharged home.

Diabetes

County



Census Tract



Data Source: PLACES. Centers for Disease Control and Prevention. 2021 (2023 release).

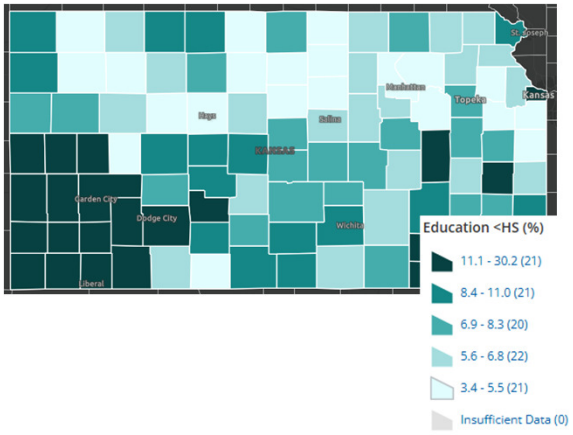
Notes: Data are displayed for ages 20+; Diabetes prevalence data are not available by age, sex, race/ethnicity.

13

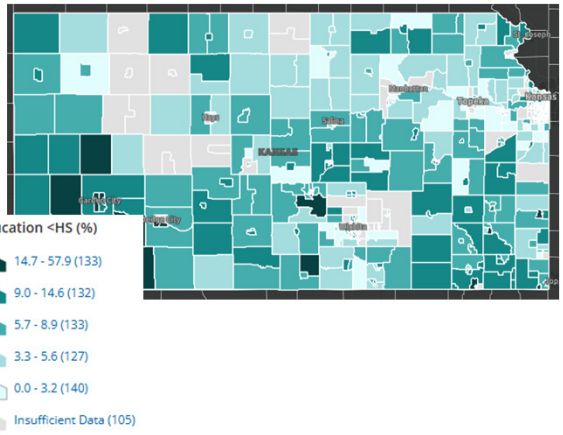
The Atlas includes data on various risk factors for stroke, such as diabetes. Here we can see the locations of counties and census tracts with the highest prevalence of diabetes.

Education: Percentage without High School Diploma

County



Census Tract



Data Source: American Community Survey. U.S. Census Bureau. 2022 (2018-2022 5-Year Estimates).
Notes: Data are displayed for ages 25+.

14

With the Atlas it is also possible to look at a range of community characteristics that can be useful when tailoring stroke prevention and treatment programs to the needs of specific communities. These maps focus on educational levels, displaying the percentage of people without a high school diploma by counties and census tracts.

Sharing Your Maps

Ways to Share

- Create a link to share your map
- Download maps as PDFs for slides or reports
- Download the data to make your own maps and graphs
- Download county profiles for counties of interest
- View the data in table form

15

The Atlas has numerous features you can use to make and share data and maps. Once you have created the maps you want, you can...

Sharing Your Maps

Ways to Share

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Create a link to share each map,

Sharing Your Maps

Ways to Share

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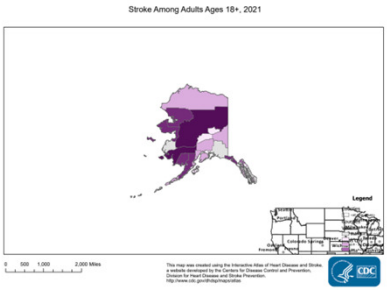

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Download your maps as PDFs,

Sharing Your Maps

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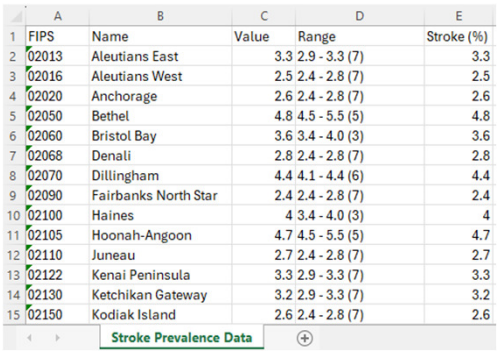

	A	B	C	D	E
1	FIPS	Name	Value	Range	Stroke (%)
2	02013	Aleutians East	3.3	2.9 - 3.3 (7)	3.3
3	02016	Aleutians West	2.5	2.4 - 2.8 (7)	2.5
4	02020	Anchorage	2.6	2.4 - 2.8 (7)	2.6
5	02050	Bethel	4.8	4.5 - 5.5 (5)	4.8
6	02060	Bristol Bay	3.6	3.4 - 4.0 (3)	3.6
7	02068	Denali	2.8	2.4 - 2.8 (7)	2.8
8	02070	Dillingham	4.4	4.1 - 4.4 (6)	4.4
9	02090	Fairbanks North Star	2.4	2.4 - 2.8 (7)	2.4
10	02100	Haines	4	3.4 - 4.0 (3)	4
11	02105	Hoonah-Angoon	4.7	4.5 - 5.5 (5)	4.7
12	02110	Juneau	2.7	2.4 - 2.8 (7)	2.7
13	02122	Kenai Peninsula	3.3	2.9 - 3.3 (7)	3.3
14	02130	Ketchikan Gateway	3.2	2.9 - 3.3 (7)	3.2
15	02150	Kodiak Island	2.6	2.4 - 2.8 (7)	2.6

Stroke Prevalence Data

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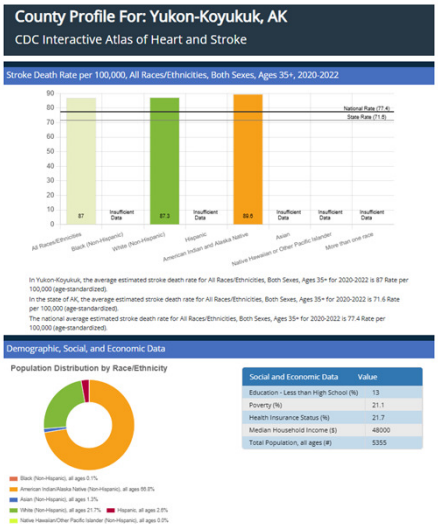
Download the data used to make the maps,

Sharing Your Maps

Ways to Share

- Create a link to share your map
- Download maps as PDFs for slides or reports
- Download data to make your own maps and graphs
- **Download county profiles**
- View the data in table form



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Create downloadable county profiles,

Sharing Your Maps

Ways to Share

- Create a link to share your map
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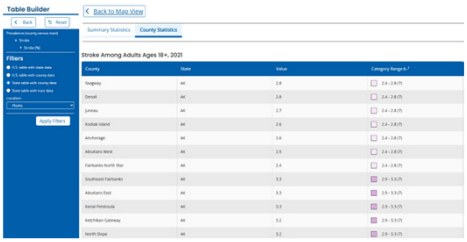
- Download county profiles for counties of interest
- **View the data in table form**



20

And view the data in table form.

Recap

Easy access to high-quality local-level data on:

- Stroke Mortality
- Stroke Hospitalizations and Discharge
- Stroke Prevalence
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- Federally Qualified Health Centers
- Rural-Urban Status
- Telehealth Stroke Care
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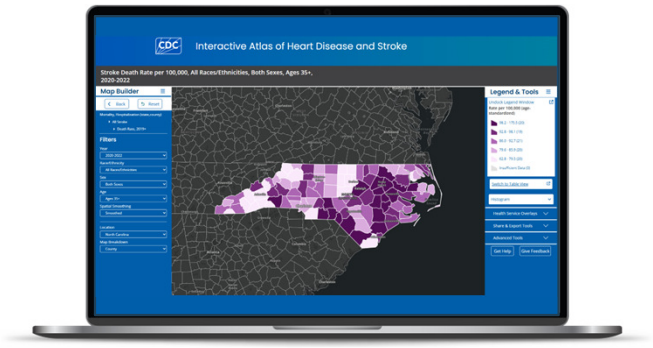
- Risk Factors
- Community Characteristics



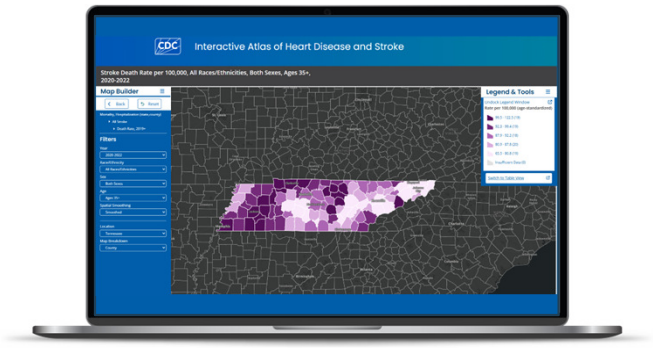
21

To recap, using the Atlas, we made maps showing stroke mortality, stroke hospitalizations and discharge, stroke prevalence, locations of stroke centers and federally qualified health centers, rural-urban status, telehealth stroke care, stroke rehabilitation, risk factors, and community characteristics.

Recap

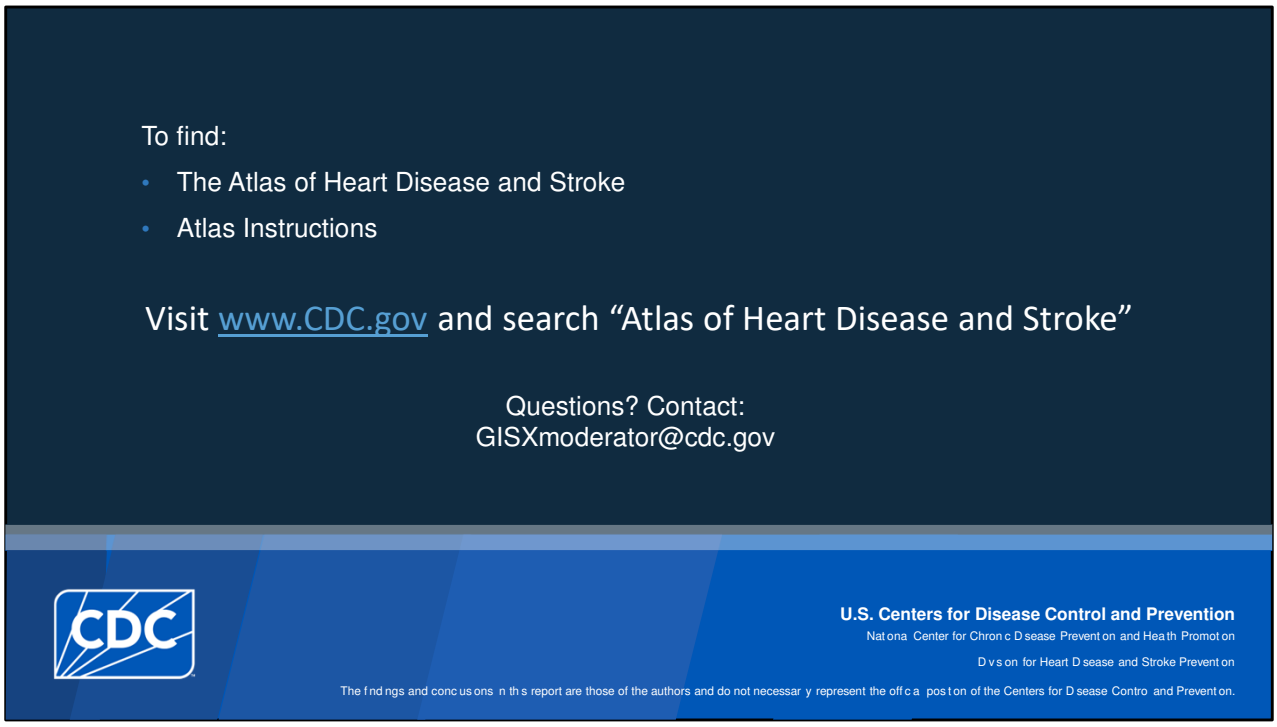
These maps offer unique opportunities to:

- Document geographic differences
- Enhance partnerships
- Tailor program planning to the needs of communities



22

With these maps, you can document geographic differences, enhance partnerships, and tailor program planning to the needs of communities.



Thank you for your interest. You can find the Atlas of Heart Disease and Stroke and instructions on how to use the Atlas by visiting www.CDC.gov and searching “Atlas of Heart Disease and Stroke.”