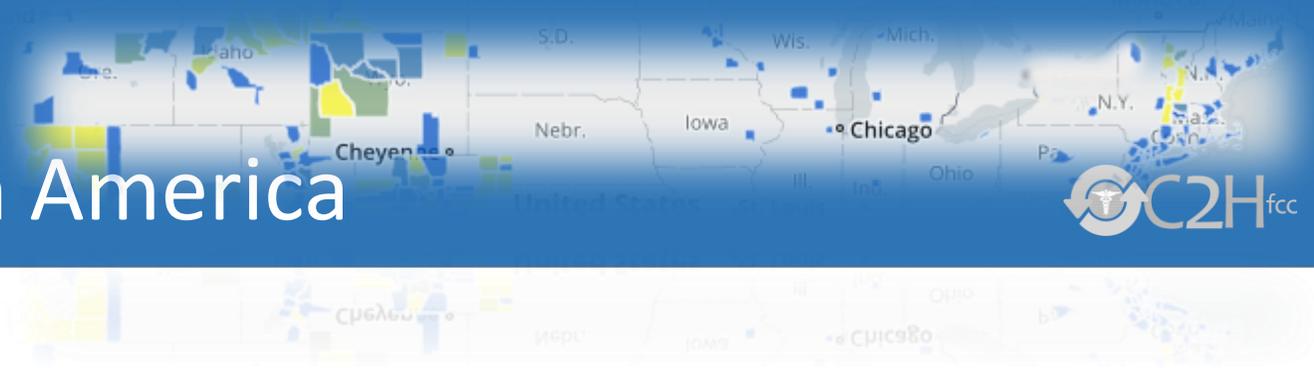


Mapping Broadband Health in America



Quick Start Tutorial

August 2016

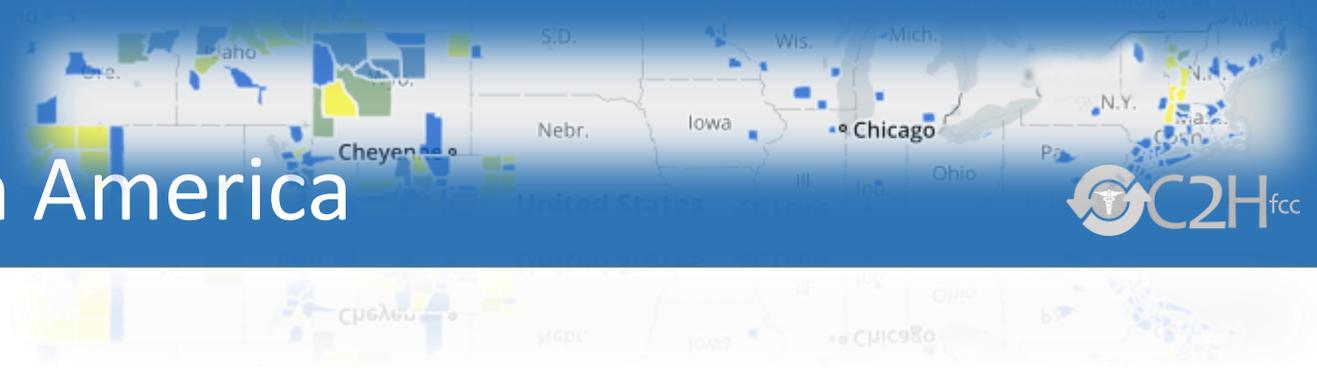
Mapping Broadband Health in America



Tutorial Outline

- This Quick Start tutorial will walk users through how to use the *Mapping Broadband Health in America* tool and provide step-by-step instructions on how to generate maps.
- The Tutorial is divided into four modules:
 - Module 1 – Map Tour
 - Module 2 – Map Features
 - Module 3 – Key Audiences, Sample Maps, and User Scenarios
 - Module 4 – Community Engagement and Next Steps

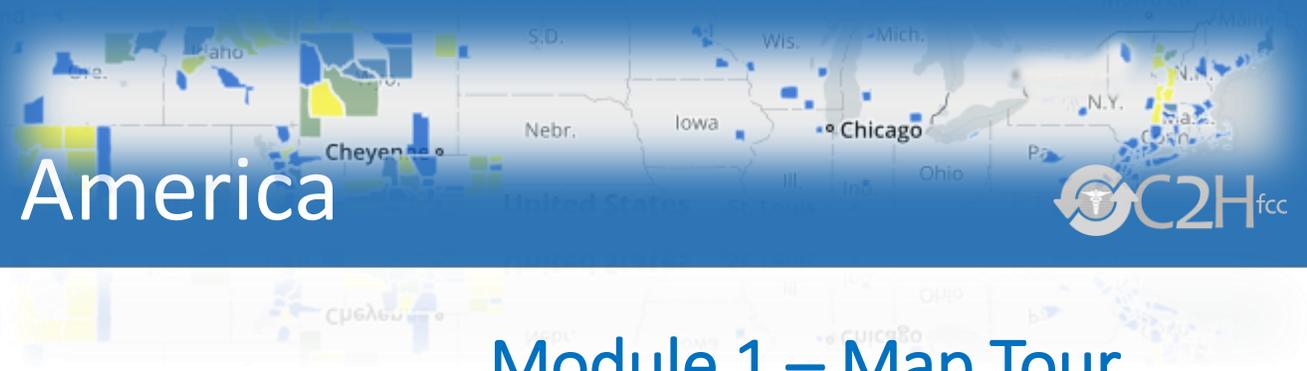
Mapping Broadband Health in America



Module 1 – Map Tour

Overview, Layout, Tab Introduction, Measures

Mapping Broadband Health in America



Module 1 – Map Tour

- The Mapping Broadband Health in America tool allows users to visualize, overlay and analyze broadband and health data at the national, state and county levels.
- Users can generate customized maps that show fixed broadband access and speed alongside various health measures in urban and rural areas.
- This module will provide you with basic layout information and tab functionality.

Mapping Broadband Health in America



Main Page Layout

Top Navigation: Provides background information on the mapping tool, data sources, and how to provide feedback.

Zoom: Zoom in and out of an area by using the +/- buttons.

State/County View: Stacking tool allows you to change the view from state to county view.

Map Tabs: The mapping tool is divided into four tabs. (see slide 5 for more info)

Tool Tips: The “?” icons throughout the map provide additional information regarding your selection.

Nationwide Statistics:

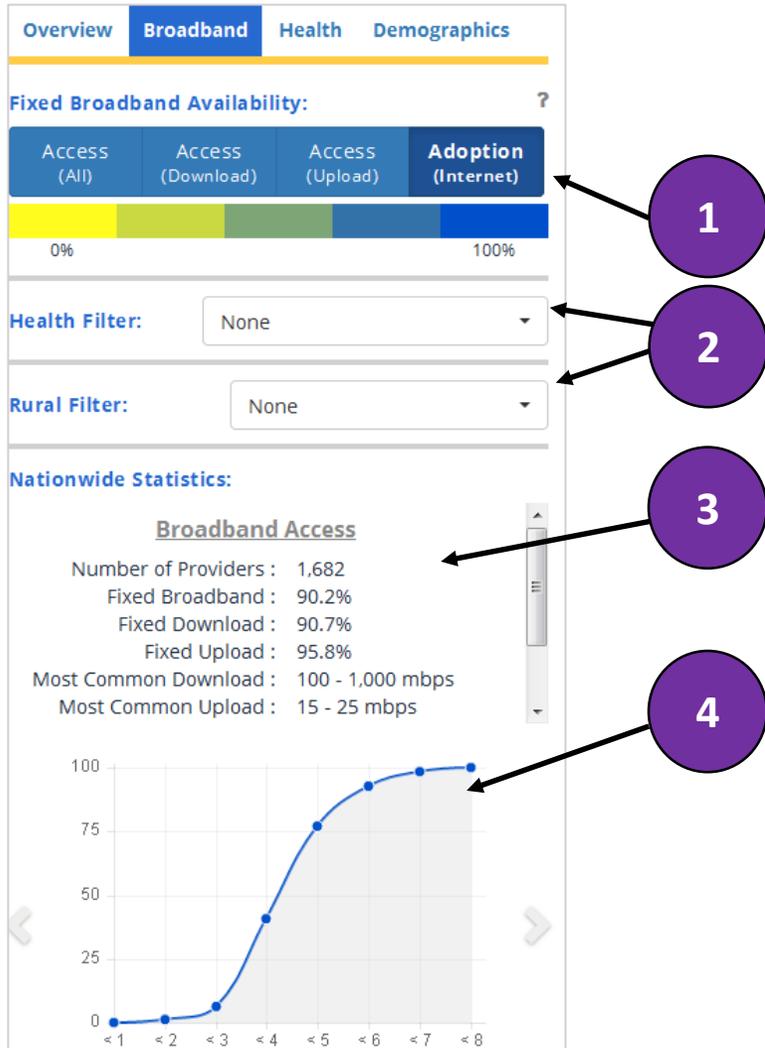
Broadband Access :	90.2%
Diabetes Rate :	9.7%
Population :	318,857,056



Mapping Broadband Health in America



Tab Breakdown – Broadband and Health



The Broadband and Health Tabs are structurally similar. Both tabs contain the following features:

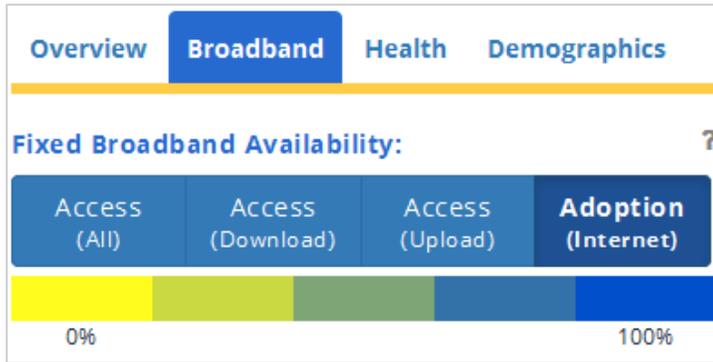
1. Buttons or Dropdowns
2. Filters
3. Statistics
4. Graphs and Charts

In Module 2, you will learn more about the filters, statistics, and graphs/charts that can enrich your experience with the maps.

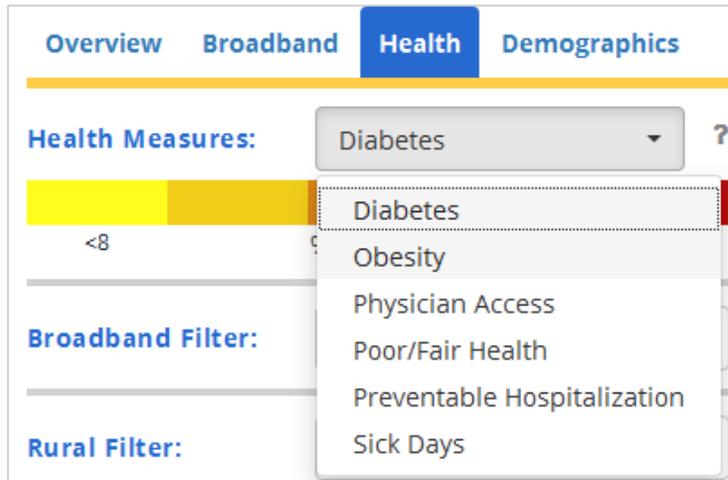
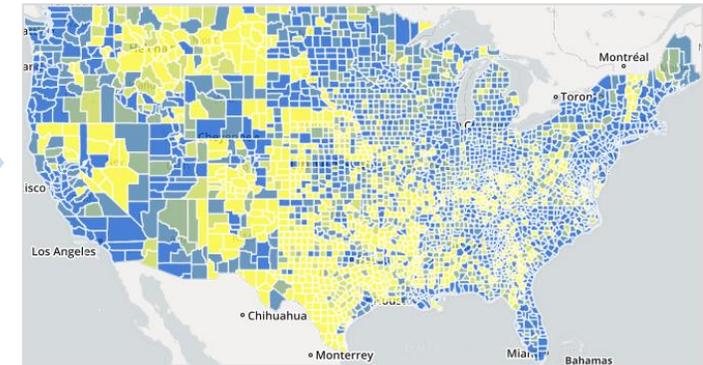
Mapping Broadband Health in America



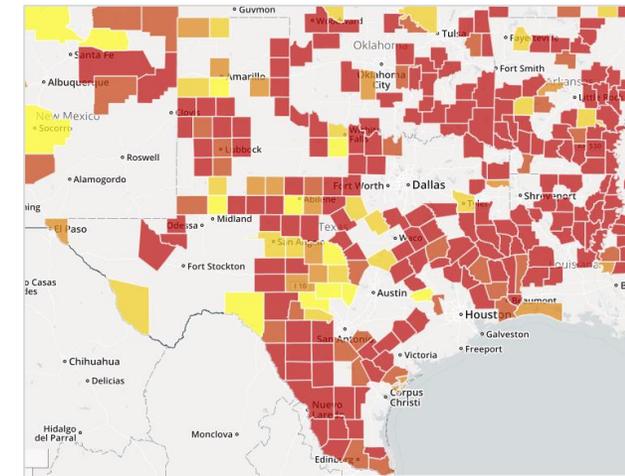
Tab Breakdown – Measures



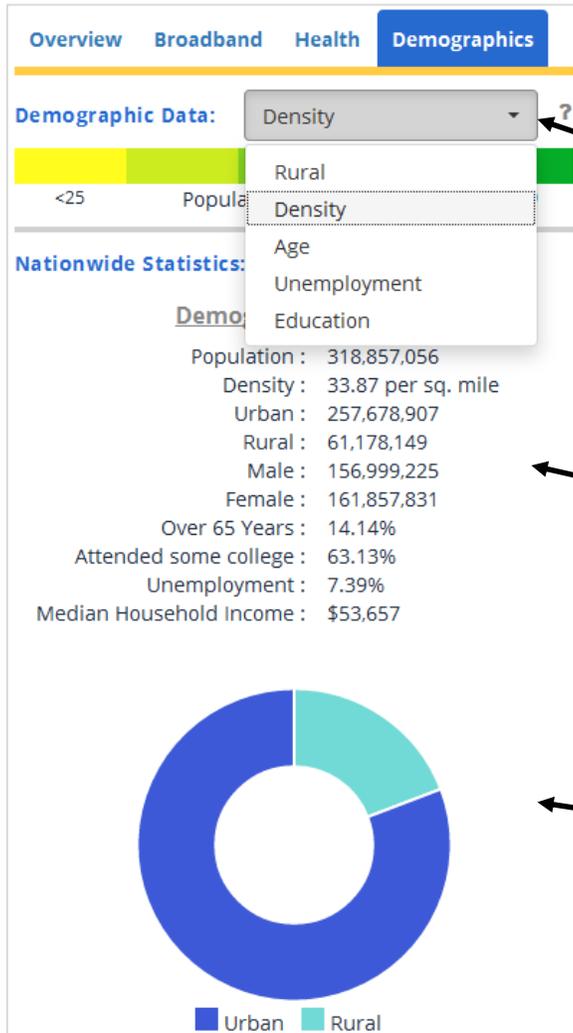
On the **Broadband Tab**, you can view fixed broadband availability, upload or download speeds, and Internet adoption by clicking on the relevant buttons. Once you select a broadband measure, the map changes dynamically, visualizing broadband access across the country, as pictured on the right, for example.



On the **Health Tab**, you can select one of several health measures to visualize across the country or in a selected state or county. The health measures include various dimensions of health: access to care, quality of care, and health outcomes.



Mapping Broadband Health in America



Tab Breakdown – Demographics

The **Demographics Tab** provides additional information for your selected location. The tab contains the following features:

1. Demographic Data – Allows you to choose from several different demographic profiles: urban/rural, density, age, unemployment, and education.
2. Statistics – Displays demographic statistics for your selected location.
3. Donut Graph – Displays the urban/rural breakdown for your selection.

Note: Once you select a county or state on one tab, it holds constant across tabs.

Mapping Broadband Health in America



Tab Breakdown – Overview

The screenshot shows the 'Overview' tab of a mapping application. It features several sections: 'Broadband Availability' with a slider set to '90 - 100% Coverage'; 'Health Measures' with a slider set to '10 - 20% Diabetes'; a 'Rural Filter' dropdown set to 'None'; and 'Data Overlays' set to 'None'. A 'Nationwide Statistics' section at the bottom displays: Broadband Access: 90.2%, Diabetes Rate: 9.7%, and Population: 318,857,056. Four purple circles with numbers 1 through 4 are placed to the right of the interface, with arrows pointing to the sliders, the color grid, the Rural Filter dropdown, and the Data Overlays dropdown respectively.

The **Overview Tab** allows you to interact with both broadband and health data and gives you additional control over the specific metrics displayed. This tab contains different features than the other tabs. These include:

1. Sliders
2. Color Grid
3. Rural Filter
4. Data Overlays

The next few slides break down each of these features.

In Module 2, you will learn more about the filters and statistics that can enrich your experience with the maps.

Mapping Broadband Health in America



Overview Tab – Slider Functionality

Overview | Broadband | Health | Demographics

Broadband Availability:

Broadband Access 85 - 100% Coverage ?

Broadband Access

Rural Access

Internet Adoption

Download Speed

Upload Speed

30 - 50% Obesity ?

The Overview tab pulls the functionalities of the tabs together. In contrast to the Broadband and Health Tabs, the Overview Tab gives you more control in selecting a display range, using the slider tool.

The image on the right shows the map created by selecting the two measures displayed on the left.

Overview | Broadband | Health | Demographics

Broadband Availability:

Broadband Access 85 - 100% Coverage ?

Health Measures:

Obesity 30 - 50% Obesity ?

Diabetes

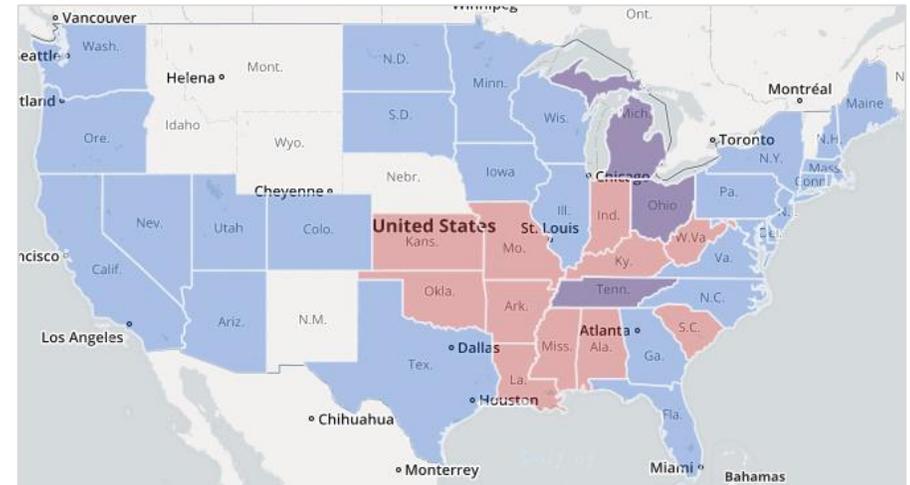
Obesity

Physician Access

Poor/Fair Health

Preventable Hospitalization

Sick Days



Broadband Access of 85% or higher
+
30-50% Obesity
(State Level View)

Mapping Broadband Health in America



Overview Tab – Color Grid



The Color Grid explains what each color on the overview map means.

- “Blue” will appear when only the broadband measure (in this example, 85% broadband access or higher) is present.
- “Pink” will appear when only the health measure (in this example, 30-50% obesity) is present.
- “Purple” represents an overlap in the broadband and health factors. In this case, the county has both 85% access or higher AND 30-50% obesity.
- “White” represents an area that does not meet either of these measures or for which data is unavailable.

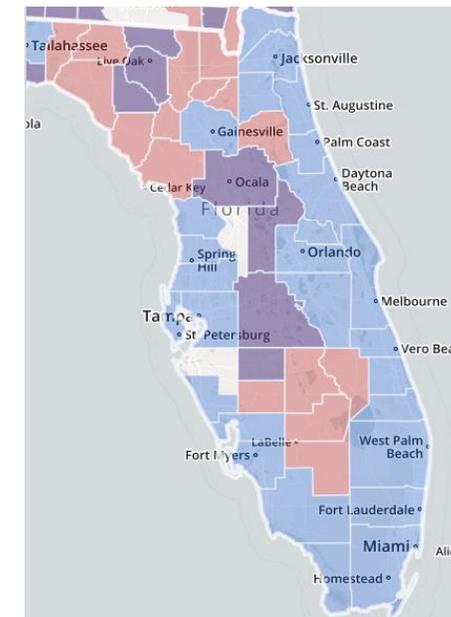
As you can see from this snapshot of Florida, the state contains a diverse range of broadband access and obesity rates.

Overview Broadband Health Demographics

Broadband Availability:



Health Measures:



Mapping Broadband Health in America



Overview Tab – Data Overlays

By using “Data Overlays” you can select one of three other data sets to display over your map. Once you select the overlay, for example “Internet Providers,” it will appear on your map. This can provide helpful information on the number of internet providers in a particular county or state, its population, and the number of physicians.

Data Overlays:

None

None

Population

Physicians

Internet Providers

Data Overlays:

Physicians

<10

>500

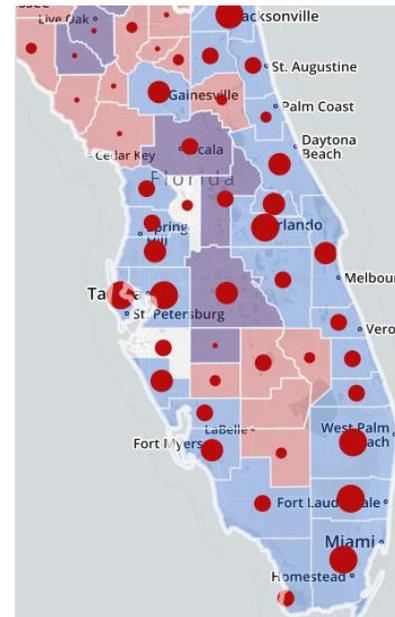
Overview Broadband Health Demographics

Broadband Availability:

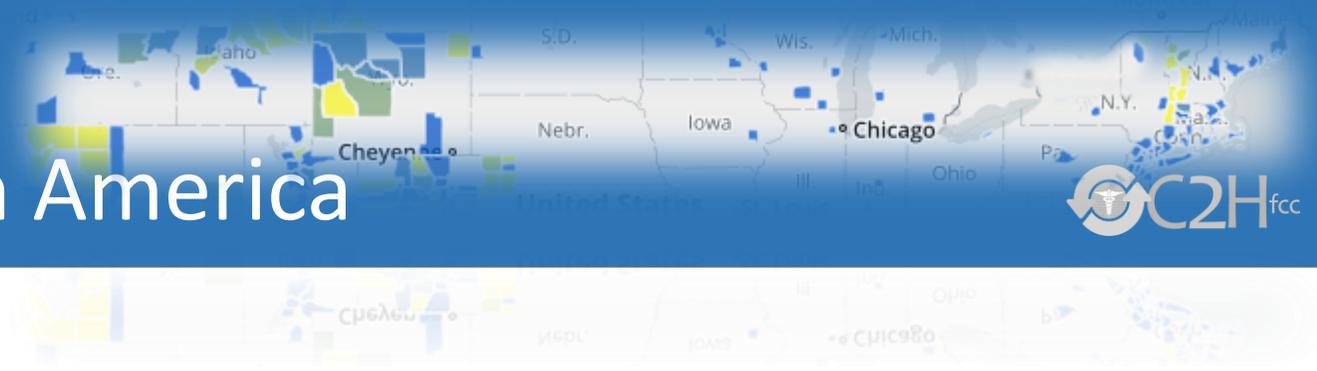
Broadband Access 85 - 100% Coverage ?

Health Measures:

Obesity 30 - 50% Obesity ?



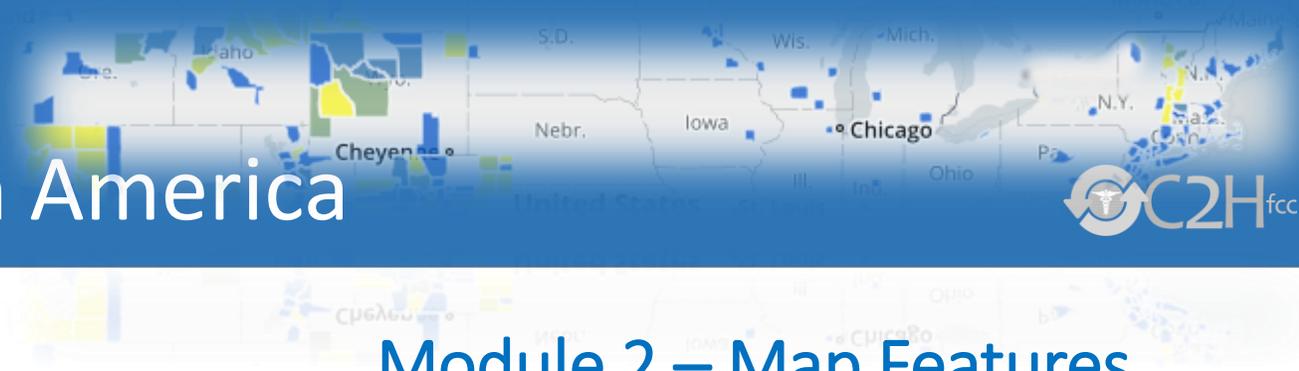
Mapping Broadband Health in America



Module 2 – Map Features

Search, Filter, Statistics, Graphs and Charts

Mapping Broadband Health in America

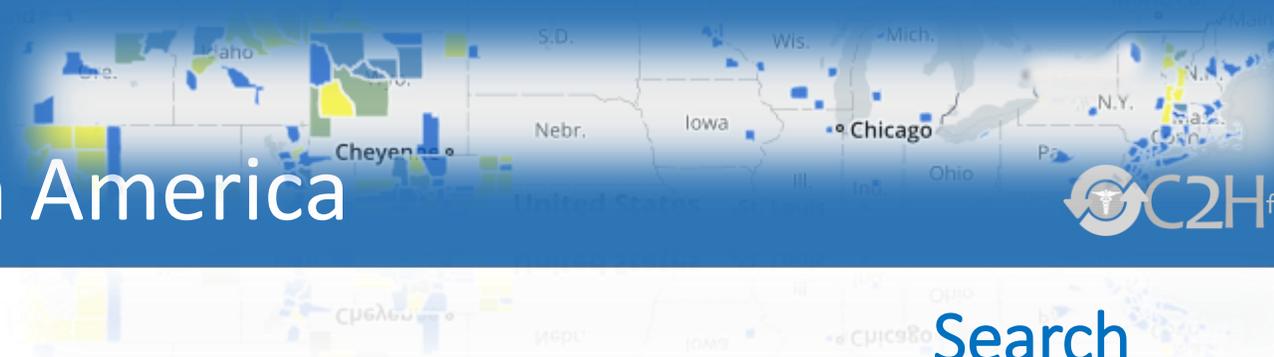


Module 2 – Map Features

Module 2 provides you with an overview of additional map features including:

- Search
- Filters
- Statistics
- Graphs & Spider Plots
- Additional Features

Mapping Broadband Health in America



The mapping tool allows you to select a location anywhere in the country and provides you information on broadband, health and demographics for that location.

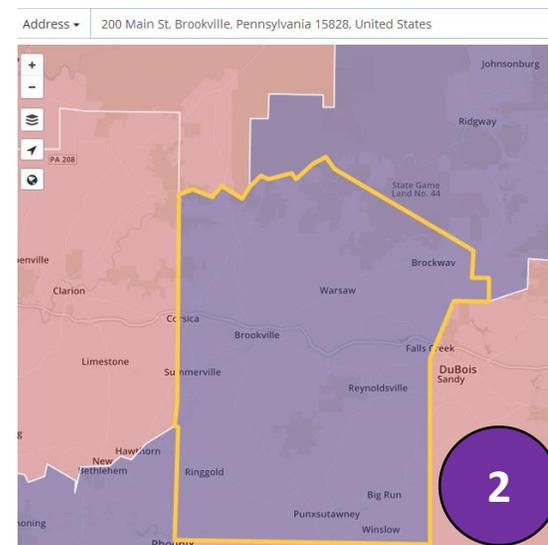
How to Search:

- 1) You can dynamically search by county or address using this dropdown and the auto-fill feature. Using the “County” button, when you start to enter a county, a list of options will show up for you. For example, enter “Jefferson County” and several options will display. Alternately, you can also use the “Address” button and enter a street address. You can see that as you type, it auto-fills options to choose from.
- 2) The map will then zoom in to that area of the country.
- 3) The statistics on the right side will change to display information about the location you selected. Your selected location will remain fixed from tab to tab and will only change if you click on another location.

1

County	Jefferson County	Q
+	Jefferson County, ID	
-	Jefferson County, FL	
	Jefferson County, PA	
	Jefferson County, TX	

Address	200 Main St. Brookville	Q
+	200 Main St, Brookville, Indiana 47012, United States	
	200 Main St, Brookville, Pennsylvania 15828, United States	



Jefferson County, PA Statistics:

Broadband Access : 90.1%
Diabetes Rate : 13.5%
Population : 44,638



Mapping Broadband Health in America



Filters

On the Broadband and Health Tabs, you can parse your data in additional ways by using the filter options.

On the broadband tab, you can choose from several health filters to show the intersection of health and connectivity picture in areas where that health factor is present. On the health tab, you can do the same for broadband, using various filters.

The rural filter allows you to look at the rurality of a location at both the state and county level. You can look at the majority/minority rural population, as well as the rural population in quintiles.

The screenshot shows the 'Broadband' tab selected. At the top, there are tabs for 'Overview', 'Broadband', 'Health', and 'Demographics'. Below this is a 'Fixed Broadband Availability' section with a progress bar from 0% to 100% and four filter buttons: 'Access (All)', 'Access (Download)', 'Access (Upload)', and 'Adoption (Internet)'. Below the progress bar are three filter dropdowns: 'Health Filter:' (set to 'None'), 'Rural Filter:', and 'Jefferson County, PA'. The 'Health Filter' dropdown is open, showing options: 'None', 'Physician Access < 70', 'Physician Access 70 - 100', 'Physician Access > 100', and 'Preventable Hospitalization < 60'.

This is a detailed view of the 'Health Filter' dropdown menu. It lists several filter categories and their options:

- Health Filter:** None
- Rural Filter:** None
- Jefferson County, PA:** None
- Broadband:** Majority/Minority rural pop, Less than 50% rural pop., Greater than 50% rural pop.
- Rural pop quintiles:** 0 ≤ rural pop. < 20%, 20% ≤ rural pop. < 40%, 40% ≤ rural pop. < 60%, 60% ≤ rural pop. < 80%, 80% ≤ rural pop. ≤ 100%

Mapping Broadband Health in America

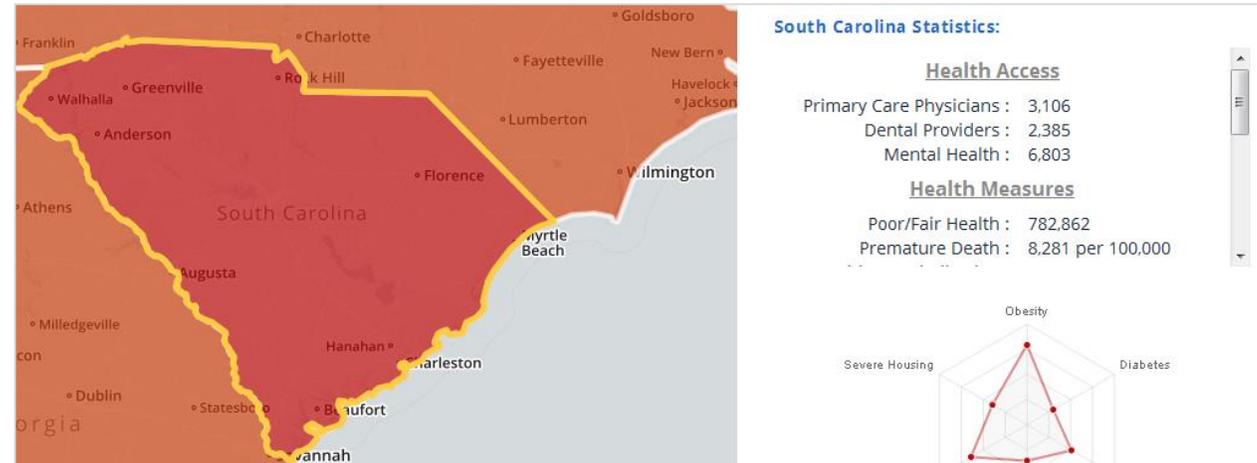


Statistics

On both the Broadband and Health Tabs, you can find statistics for the county or state you've selected.

For the Health Tab, you can find specific statistics for various health measures; scroll down to see all the information.

For the Broadband Tab, you can find specific fixed broadband access percentages, and upload and download speeds related to your selection.



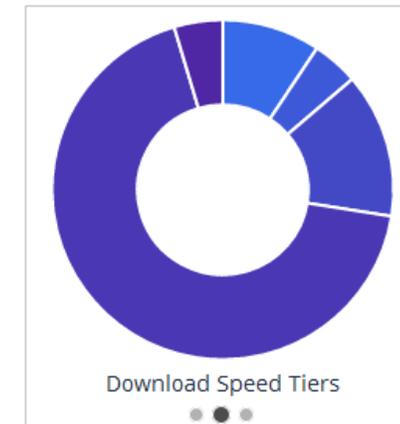
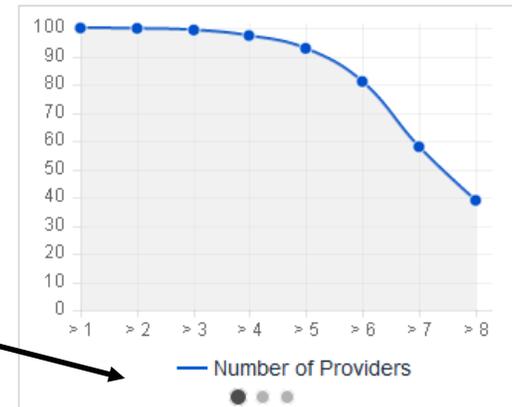
Mapping Broadband Health in America



Graphs & Spider Plots

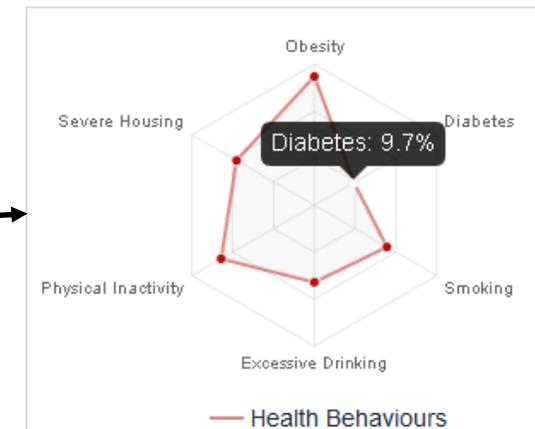
Below the statistics on the Broadband and Health Tabs are a series of graphs and visual data displays.

On the Broadband Tab, there are three types of graphs available and you can view each of them by clicking on the circle below the graph, as shown here.



The Health Tab also includes a spider plot graph that gives an overview of health behaviors for the area you selected. This provides a big picture view that can inform further analysis using the maps. This spider plot features additional health behavior measures including:

- Excessive Drinking – the percentage of adults that report either binge or heavy drinking.
- Physical Inactivity – the percentage of adults aged 20 and over reporting no leisure-time physical activity.
- Smoking – the percentage of the adult population that currently smokes every day or most days and has smoked at least 100 cigarettes in their lifetime.
- Severe Housing – the percentage of households with at least 1 or more housing problems such as incomplete plumbing or kitchen facilities, or severely overcrowded.



Mapping Broadband Health in America



Additional Features

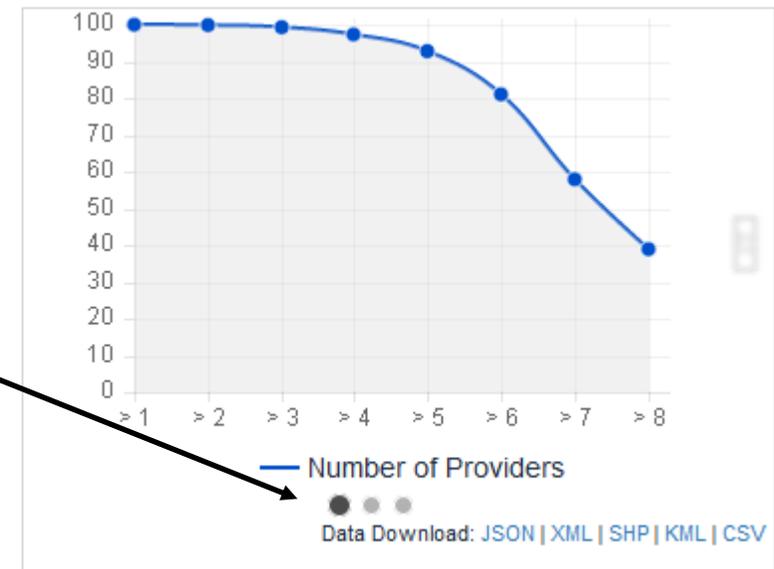
Customized URLs

Each customized map generates a unique, dynamic URL or web link to help you share the customized map that you've created. Once you've created a map that you want to share, copy and paste the link displayed at the top of the mapping tool and email or text it as needed. With a single click, the recipient will be able to see the map you've created. This feature can help foster collaboration across broadband and health sectors.

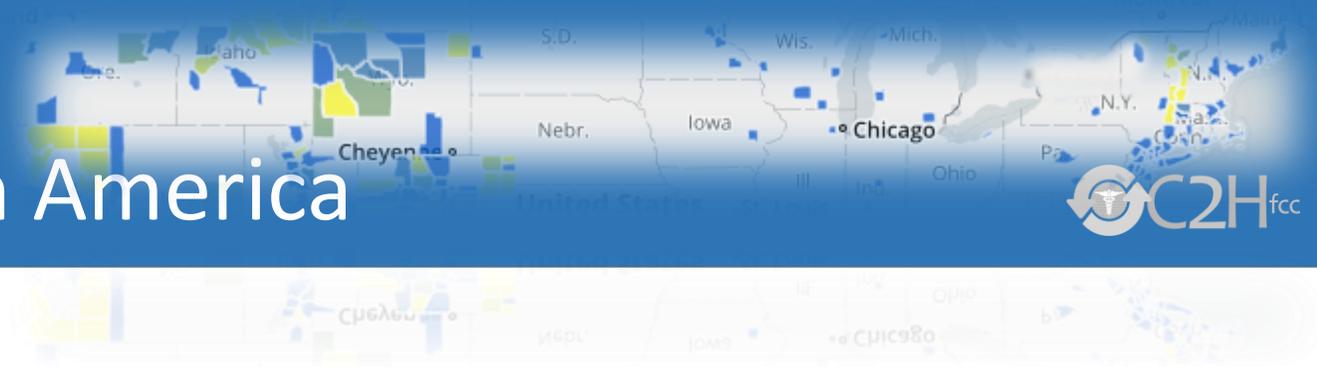


Data Download

You can also download the map data for further analysis in a variety of formats, including XML, JSON and CSV. The scope of the data download is tied to the parameters of your customized map.



Mapping Broadband Health in America



Module 3 – Key Audiences and Sample Maps

Mapping Broadband Health in America



Module 3 - Key Audiences

- The maps can help a variety of stakeholders make decisions, from identifying priority funding areas to collaborating with others to drive improvements in health and connectivity.
- Key audiences for the map include:
 - Local communities
 - Federal, state and local agencies
 - Non-profit organizations
 - Private sector
- The next three slides show sample maps you can generate with the mapping tool.

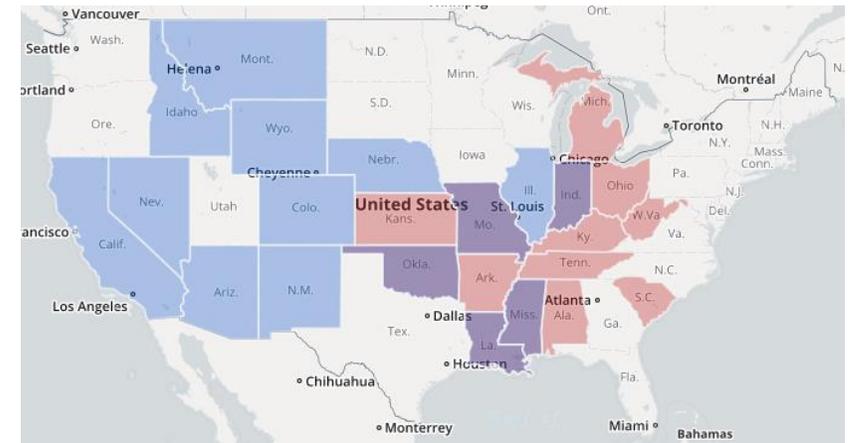
Mapping Broadband Health in America



Sample Maps

On www.fcc.gov/health/maps, there are four pre-populated sample maps that highlight some of the interesting narratives discovered in analyzing the map data. These maps include:

Broadband Health Double Burden Areas. This sample map shows the power of the mapping tool to identify clusters and potentially convene public-private partnerships, private sector collaborations, and focus policy efforts. The five states in purple — Indiana, Louisiana, Mississippi, Missouri, and Oklahoma — experience incidences of chronic disease above the national average. At the same time, fixed broadband access percentages in rural areas are on average below 50%, and in some cases far below. View these maps for obesity, diabetes, preventable hospitalizations, and sick days. This can also be viewed at the county level.



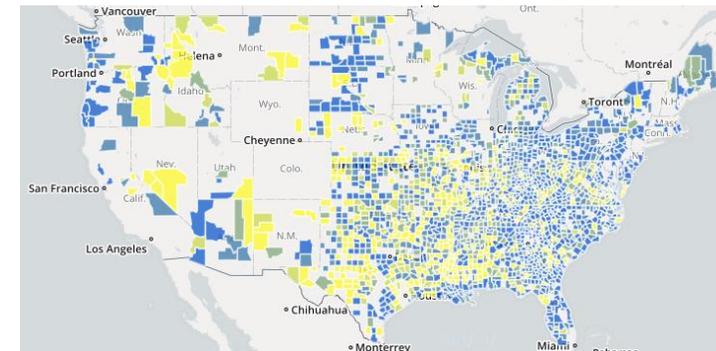
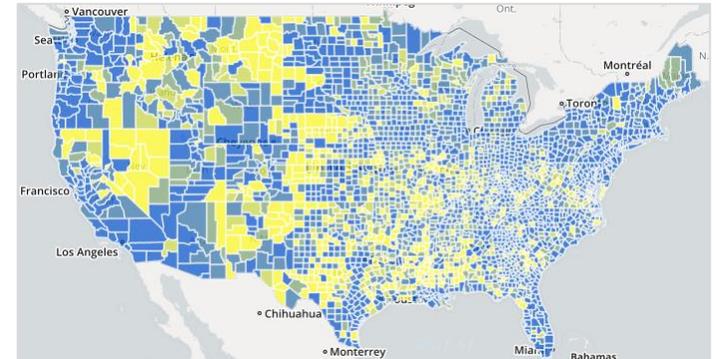
Mapping Broadband Health in America



Sample Maps

Broadband Gaps in America. This baseline map visualizes broadband access at the county level and highlights where connectivity gaps exist -- the lighter the color the lower the percentage of households with broadband access.

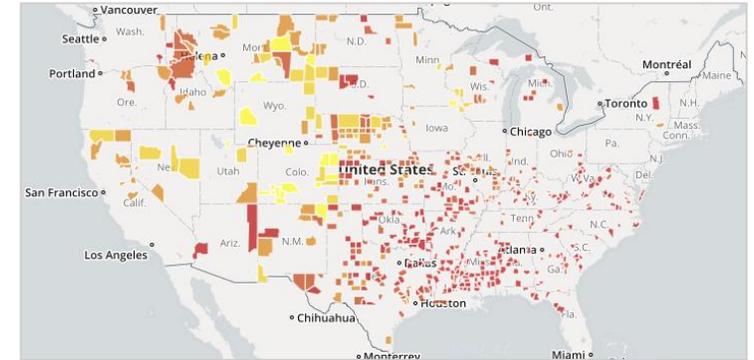
Broadband and Chronic Disease. According to the CDC, over 29 million Americans have diabetes, a gateway to a variety of other health conditions. Broadband access can enable solutions that help manage chronic diseases, like diabetes. This map shows the widely varying levels of broadband access in areas where diabetes prevalence exceeds the national average (over 10 percent).



Mapping Broadband Health in America



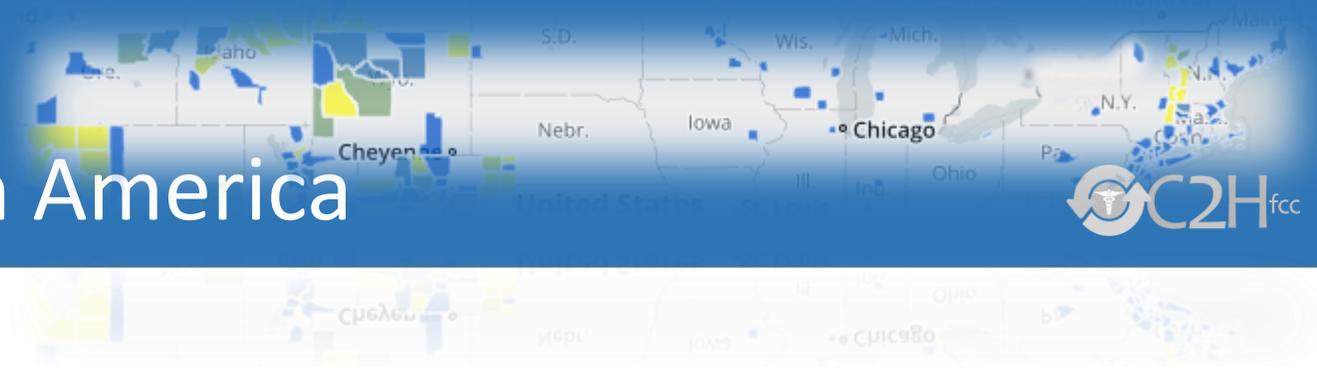
Broadband and Preventable Hospitalizations. Broadband enabled services can empower consumers to manage conditions effectively within the community so they don't become so severe as to require hospitalization. This map shows preventable hospitalizations (areas in red have highest levels) in counties with less than 30% broadband access. The larger map shows rural and the inset map reflects urban areas.



Internet Adoption and Diabetes Prevalence. This sample map asks “what is the picture of Internet adoption in areas where diabetes prevalence is higher than the national average of 10%?” The map shows that in many of these high health need areas, including the “diabetes belt”, Internet adoption is surprisingly low – the lighter the color (i.e., yellow and green), the lower the percentage of households who subscribe to basic Internet at home.



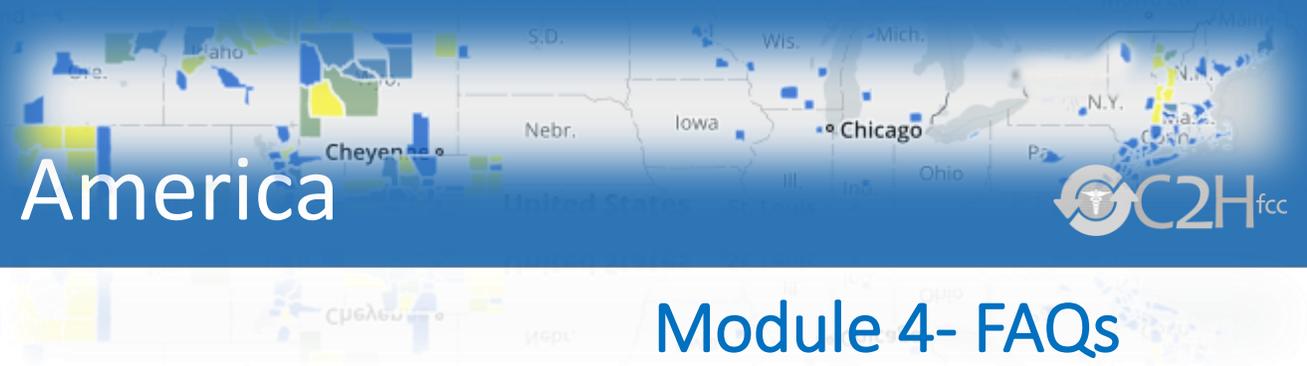
Mapping Broadband Health in America



Module 4 – Next Steps

FAQs, Community Engagement, Contact Us

Mapping Broadband Health in America



Module 4- FAQs

We've created a FAQ page on our website with frequently asked questions about the Mapping Broadband Health in America tool, including the goals of the project, data sources, and more. You can access this section through our website: www.fcc.gov/health/maps/FAQs.

This section will grow and evolve over time as we learn more from users. Is there a question that you would like to see addressed? Send an e-mail to engageC2H@fcc.gov, with "Mapping" in the subject line.

Mapping Broadband Health in America



Module 4 – Next Steps

- The Connect2Health^{FCC} Task Force welcomes your suggestions and feedback as we continue to develop and refine the tool.
 - How can we improve the user experience?
 - What other data points would be useful to display?
 - Are there other changes in methodology that would be helpful and informative?
- You may ask questions or provide informal feedback by emailing engageC2H@fcc.gov, with “Mapping” in the subject line. Or, you can file more formal comments or submit additional data for the record via the FCC’s Electronic Comment Filing System, GN Docket 16-91.
- To learn more about how different stakeholders can use the mapping tool, check out our Stakeholder Tutorial.