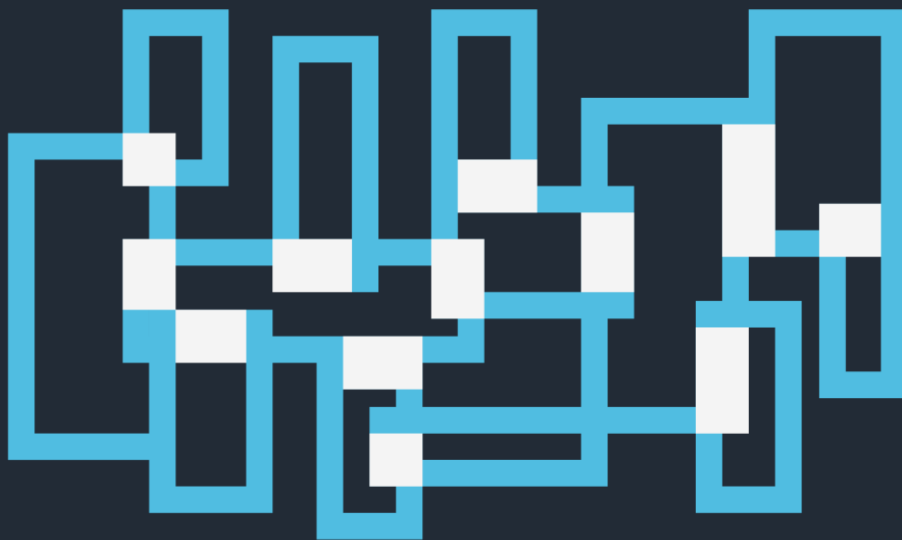# 2024 Milliman Qualified Entity Report User Guide

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Carol Bazell, MD, MPH
Cherie Dodge, RN, MPH
Harsha Mirchandani, FSA, MAAA
Hope Norris, MPH
Julia Weber, ASA, MAAA

Milliman

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About the Qualified Entity Program

The Qualified Entity (QE) Program of the Centers for Medicare and Medicaid Services (CMS) enables organizations approved as QEs to receive Medicare claims data under Parts A, B, and D for use in evaluating provider performance. As a certified QE receiving Medicare data for all 50 states and the District of Columbia, Milliman is required to combine the Medicare fee-for-service (FFS) claims data with claims data from other sources to create public reports that evaluate provider performance in all geographic regions. Milliman's public report does not identify specific providers. To maintain QE status, QEs must publish a report at least annually after receiving the Medicare data. For more information on the Qualified Entity Program, see: https://www.qemedicaredata.org.

Overview

Milliman developed an interactive tool that allows users to explore healthcare system quality measure performance in the context of social determinants of health (SDoH) characteristics such as race and ethnicity, socioeconomic status, and healthcare provider supply at various levels of geographic granularity, after accounting for the differences in underlying disease burden that are expected to impact quality measure performance.[a] The tool includes summaries for eight claims-based quality measures and a variety of SDoH characteristics. Note that two rates are reported for the quality measure Pharmacotherapy Management of COPD Exacerbation (PCE). The tool was developed using Microsoft Power BI and is hosted on Milliman's website at www.milliman.com/qualifiedentity.

For additional detail on the methodology and external data sources used to populate the interactive tool, refer to the Detailed Methodology.[1]

Interactive tool

The interactive tool allows users to view quality measure results for Medicare beneficiaries and commercially insured members in the combined data who live in a specified geographic area, as well as the SDoH characteristics for all residents living in the area (not limited to Medicare beneficiaries and commercially insured members in the combined data). **Bold text** throughout this user guide designates tool selections that can be changed by the user.

The interactive tool is divided into two primary map-based views—a single geographic view (**Metrics by Geography)** and a comparative geographic view (**Geographic Comparison)**:

- **Metrics by Geography**: This view allows users to view results for a single metric on a map of the United States—either an SDoH characteristic or a quality measure result. Depending on the geographic area selected on the map, the SDoH characteristics and quality measure results for the area selected and a relevant comparison population are displayed in a table below the map.
- **Geographic Comparison**: This view allows users to compare SDoH characteristics and quality measure results between a collection of small geographic areas in one U.S. census division and a collection of small areas in another census division. Users may select a range of values for select SDoH characteristics and the map and summaries update to reflect the collection of small areas that meet those criteria.

Users can navigate between the two views by clicking the links at the top of the tool. Both views contain a Summary Statistics table below the map(s) with summary results for SDoH characteristics and quality measures based on the user's selections. Additional detail related to the Summary Statistics table can be viewed by hovering on the (i) information indicator. Users can clear all selections using the **Clear all filters** button at the top of the tool.

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[a] Milliman uses race and ethnicity to identify historically marginalized racial and ethnic groups that may experience racism, where racism is the SDoH.

The default view is **Metrics by Geography**:

Metrics by Geography   Geographic Comparison   🔽✕ Clear all filters

Metric selection for map   Year   Geography

| Please select a metric ⌄ | 2021 ⌄ | **State** | County | ZCTA |

Select a single metric to display on the map below

Summary statistics ⓘ   **Please select a single area on the map to populate the table below**

Metric	None selected	None selected
⊟ **SDoH Characteristic**		
⊟ **Race and Ethnicity**		
% Non-Hispanic Black	-	-
% Non-Hispanic white	-	-
% Hispanic	-	-
% Other Race and Ethnicity	-	-

To view Alaska or Hawaii, the user should click and drag the map.

REQUIRED USER SELECTIONS

The following selections are required for the map(s) and/or Summary Statistics table to populate in either view:

- **Metric selection for map:** In each view, <u>users must select a single metric</u> (either a quality measure or an SDoH characteristic) to populate an interactive map of the United States in the **Metric selection for map** drop-down menu. Users can adjust the year using the **Year** drop-down menu, shown in the screenshot below. The default **Year** is 2021, which is the most recent year of data available. The interactive map(s) below the drop-down menus then updates to reflect the user's selections.

The **Metric selection for map** and **Year** drop-down menus are linked across both views, which means that a selection made on one view is reflected on the other view as well. For example, if the user selects "% Non-Hispanic Black" as the **Metric selection for map** on the **Metrics by Geography** view, **the Metric selection for map** on the **Geographic Comparison** view updates to "% Non-Hispanic Black."

Geographic area: For the Summary Statistics table below the map to populate, <u>users must select a single Geographic area</u> of interest by clicking the area on the map itself. To navigate to the desired geography, the user can zoom in on the map to highlight the geographic area on the map. *The Summary Statistics table is blank unless an area on the map is selected*. The example on the following page shows the map and Summary Statistics table populated when the state of Georgia is selected.

Metrics by Geography   Geographic Comparison   ▽× Clear all filters

Metric selection for map   Year   Geography
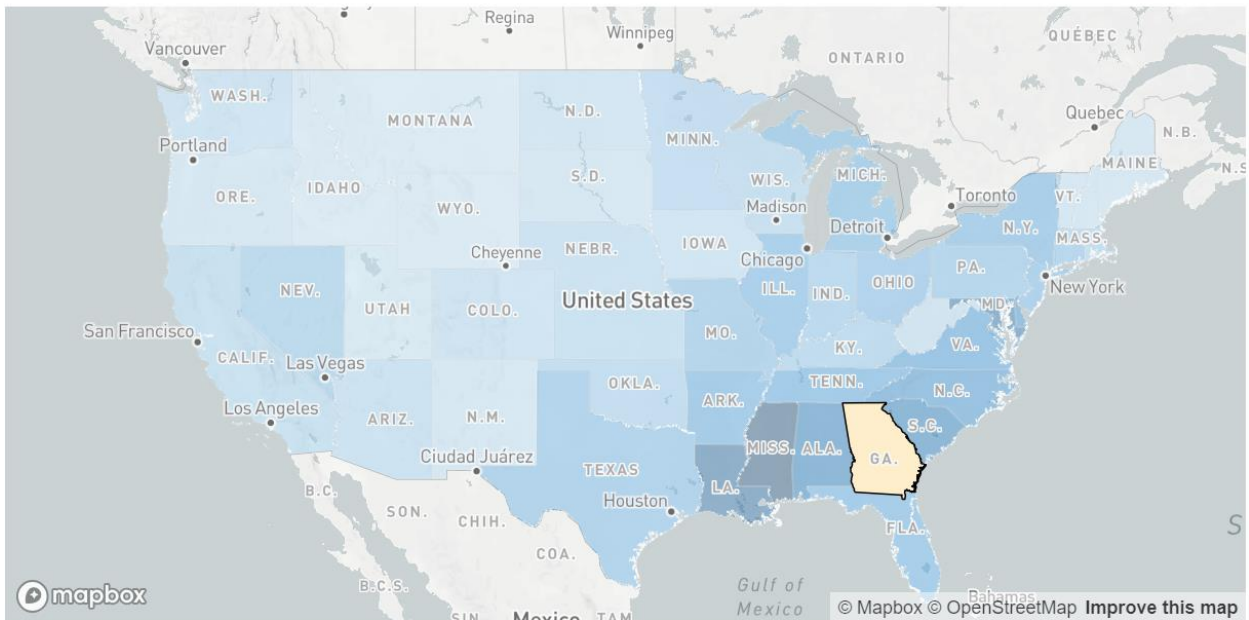
| % Non-Hispanic Black   ⌄ | | 2021 ⌄ | | **State** | County | ZCTA |

Select a single metric to display on the map below

0.5% ▭▭▭▭▭▭▭ 43.8%
% Non-Hispanic Black

Summary statistics ⓘ

| Metric	Georgia	USA
⊟ **SDoH Characteristic**		
⊟ **Race and Ethnicity**		
% Non-Hispanic Black	31.1%	12.2%
% Non-Hispanic white	51.4%	59.4%
% Hispanic	9.9%	18.4%
% Other Race and Ethnicity	7.6%	9.9%
⊟ **Rural/Urban Location**		
Rural/Urban Classification	Metropolitan	-

METRICS BY GEOGRAPHY
User selections specific to the Metrics by Geography view

In this view, users can visualize results by **Year** for each of the quality measures and SDoH characteristics at three levels of **Geography**—State, County, and ZIP Code Tabulation Area (ZCTA). ZCTAs are generalized area representations of United States Postal Service (USPS) ZIP Code service areas. ZCTA is a trademark of the U.S. Census Bureau and ZIP Code is a trademark of USPS. In most instances, the ZCTA code is the same as the ZIP Code for an area.[2] Users must select their desired level of geographic granularity by clicking on the associated **Geography** button near the top right section of the tool, as shown in the screenshot below. The default **Geography** is "State."

The map updates to display results based on the user's selected **Metric selection for map**, **Year**, and **Geography**. The map is displayed as a choropleth map (i.e., a filled area map), where the geographic areas corresponding to the selected **Geography** are shaded according to the **Metric selection for map** and **Year**. For the numeric values, darker color shading indicates higher results for the **Metric selection for map** at the selected **Geography**. For the rural/urban classification, the darker color shading indicates more populated areas (i.e., metropolitan will be darker than rural). The example below reflects a **Metric selection for map** of "% Non-Hispanic Black," **Year** of "2021," and **Geography** of "State," where darker shading indicates a higher relative percentage of Non-Hispanic Black residents in that state compared to other states and lighter shading indicates a lower relative percentage of Non-Hispanic Black residents in that state compared to other states.
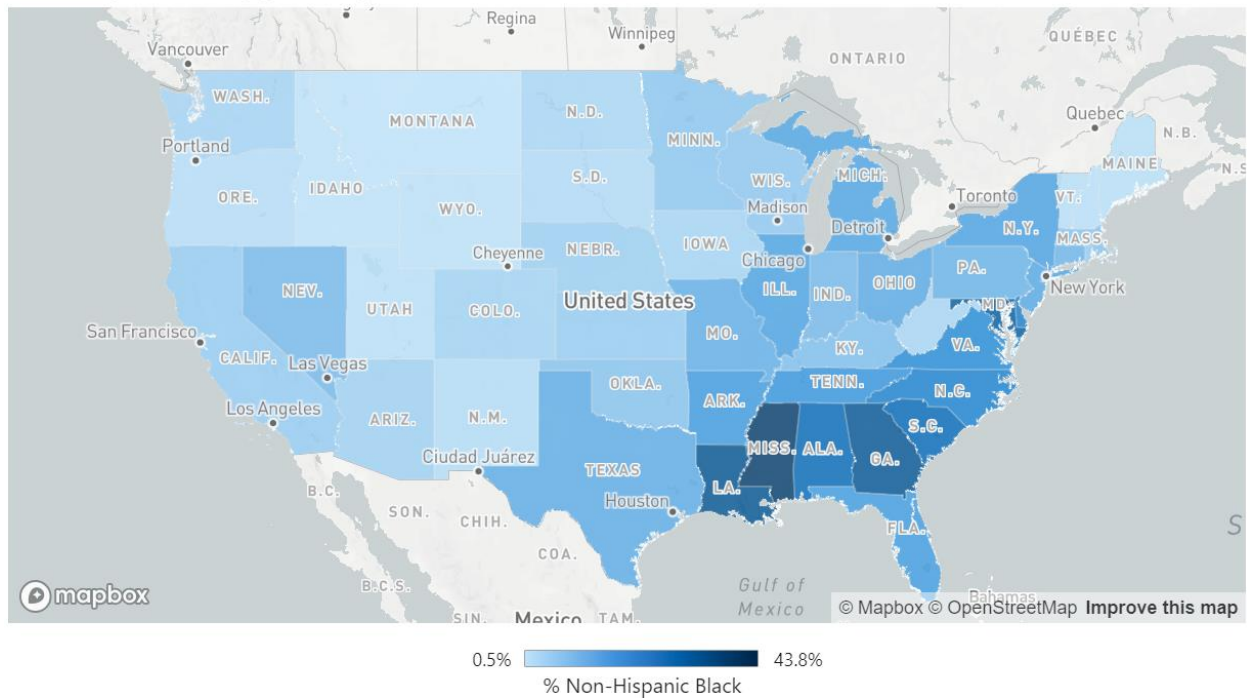
Summary statistics

Directly below the map is a table of summary statistics, which contains a row of results for each SDoH characteristic and quality measure for the selected area on the map and a relevant comparison group. When a user selects a single **Geographic area**, that area is highlighted on the map while the nonselected areas fade out slightly. To deselect an area, users must hold the CTRL button on the keyboard and click the selected area on the map. The example below demonstrates the map and a screenshot of the Summary Statistics table when the user selects the state of Georgia on the map.

Metrics by Geography   Geographic Comparison   ⊽x Clear all filters

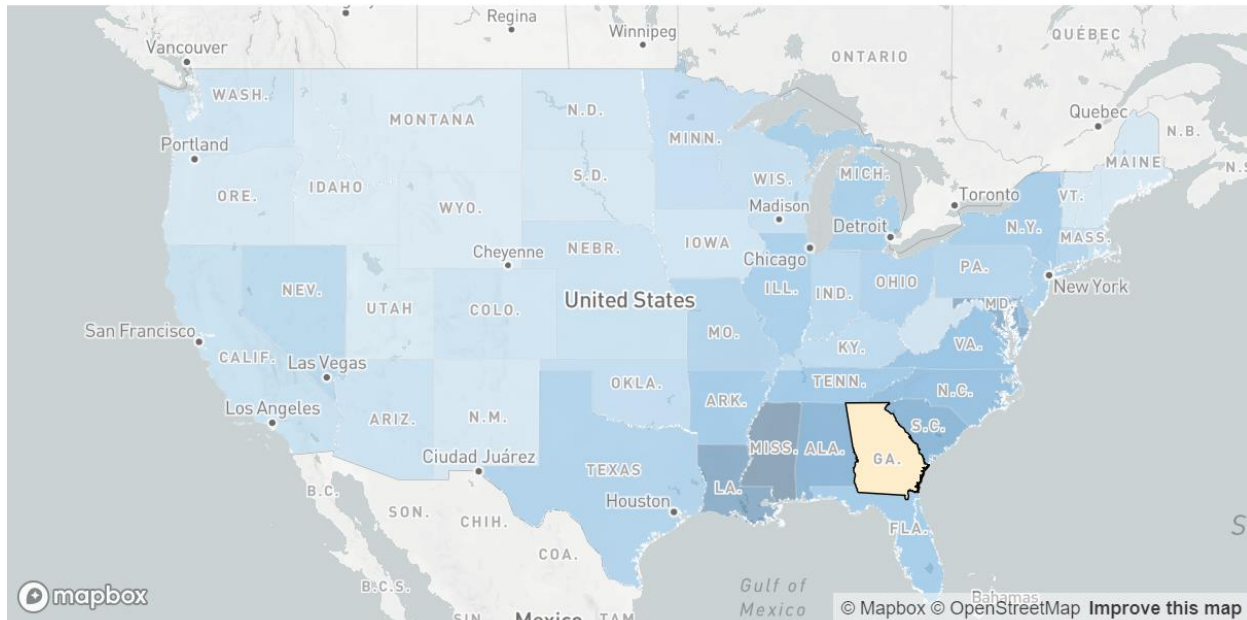Metric selection for map   Year   Geography

| % Non-Hispanic Black ⌄ | 2021 ⌄ | State | County | ZCTA |

Select a single metric to display on the map below

0.5% ▭▭▭▭▭ 43.8%
% Non-Hispanic Black

Summary statistics ⓘ

Metric	Georgia	USA
⊟ **SDoH Characteristic**		
⊟ **Race and Ethnicity**		
% Non-Hispanic Black	31.1%	12.2%
% Non-Hispanic white	51.4%	59.4%
% Hispanic	9.9%	18.4%
% Other Race and Ethnicity	7.6%	9.9%
⊟ **Rural/Urban Location**		
Rural/Urban Classification	Metropolitan	-

SDoH characteristics and quality measures are grouped into categories in the Summary Statistics table, and the categories may be expanded or collapsed as desired by clicking the ⊞ and ⊟ buttons, respectively, on the left side of the table.

Once a user has selected a single **Geographic area**, the two columns in the summary statistics table populate with results, where the first column contains summary results for the selected geographic area and the second column contains summary results for the corresponding comparison population described in Figure 1.

FIGURE 1: COMPARISON POPULATIONS FOR EACH LEVEL OF GEOGRAPHY

LEVEL OF GEOGRAPHIC GRANULARITY	COMPARISON POPULATION
State	National
County	State
ZCTA	County

The example below shows a screenshot of the populated Summary Statistics table after selecting the state of Georgia on the map.

| Summary statistics ⓘ		
Metric	Georgia	USA
⊟ **SDoH Characteristic**		
⊟ **Race and Ethnicity**		
% Non-Hispanic Black	31.1%	12.2%
% Non-Hispanic white	51.4%	59.4%
% Hispanic	9.9%	18.4%
% Other Race and Ethnicity	7.6%	9.9%
⊟ **Rural/Urban Location**		
Rural/Urban Classification	Metropolitan	-
⊟ **Composite Index**		
Social Deprivation Index	-	-
Milliman Health Disparity Risk Index	-	-
⊟ **Provider Density**		
Clinician Density per 100,000	569.2	625.9
Facility Density per 100,000	2.1	2.3
⊟ **Insurance Coverage**		
% Commercial	47.0%	48.0%
% Medicare	12.3%	14.1%
% Medicaid	12.4%	14.9%
% Other Insurance Coverage	15.1%	14.2%
% Uninsured	13.1%	8.8%

Note that SDoH characteristics and quality measure values that do not meet credibility thresholds at the selected level of geography are not populated. The Metrics by Geography view at the ZCTA level is only populated for a selected measure when a minimum of five ZCTAs meet the credibility threshold. For additional detail related to the credibility thresholds, refer to the Detailed Methodology.

GEOGRAPHIC COMPARISON
User selections specific to the Geographic Comparison view

In this view, users can visualize results for each of the quality measures and SDoH characteristics at the ZCTA level for selected **Census Division(s)**. Census Divisions are collections of states defined by the U.S. Census Bureau and are displayed below in Figure 2.[3,4]

FIGURE 2: U.S. CENSUS DIVISIONS
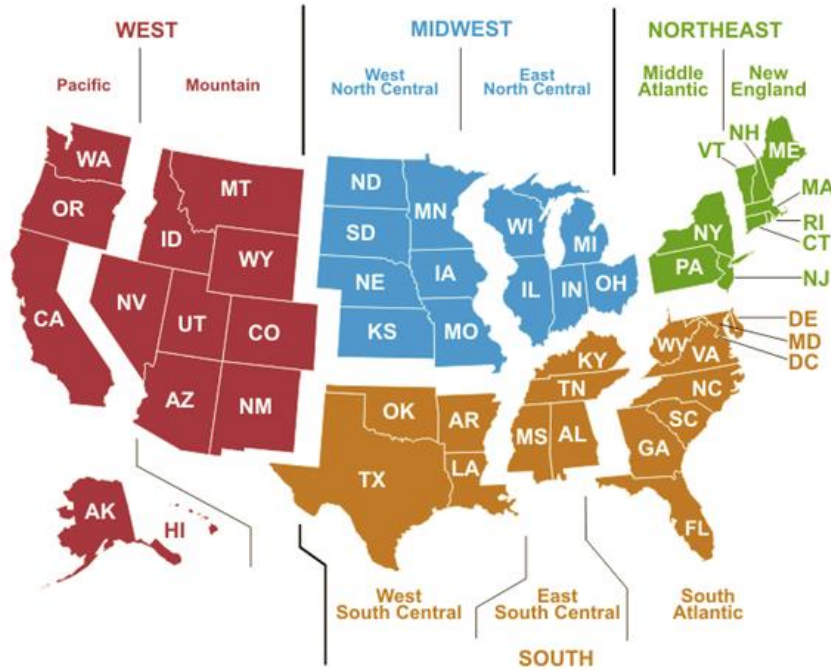
Users can select between two **Comparison levels**—the Census Division level and the National level. The default is the Census Division **Comparison level**, where users are prompted to select a single Census Division using a drop-down menu:

When the user selects the National **Comparison level**, the user is prompted to select two **Census Divisions** to compare using a set of drop-down menus:

Below the **Census Division** drop-down menus is a series of sliders under the **Decile selection** header, which represent the decile distribution of five SDoH characteristics within the selected **Census Division**: Historically Marginalized Racial and Ethnic Groups, Clinician Density per 100,000, Facility Density per 100,000, Social Deprivation Index, and Milliman Health Disparity Risk Index (MHDRI). The distributions are established differently depending on the selected **Comparison level**. In the Census Division **Comparison level**, the distributions for each SDoH characteristic are established using credible ZCTAs (i.e., ZCTAs with a denominator encounter count greater than or equal to 100) in the selected **Census Division**.

The sliders function as follows:

▪ If a user selects a range of deciles for a given **Metric selection for map**, the map updates to include only ZCTAs where the ZCTA's value for that **Metric selection for map** is in a decile range of values for the respective region.

▪ Example: In the Census Division **Comparison level**, if a user selects the top six deciles for a **Metric selection for map** of "Clinician Density per 100,000" and a **Census Division** of "East North Central," the map updates to show only ZCTAs where the corresponding "Clinician Density per 100,000" value is in the top 60% of "Clinician Density per 100,000" values for the "East North Central" **Census Division**.

▪ Example: In the National **Comparison level**, if a user selects the top six deciles for a **Metric selection for map** of "Clinician Density per 100,000," a **Census Division 1** of "East North Central," and a **Census Division 2** of "South Atlantic," the map updates to show only ZCTAs where the corresponding "Clinician Density per 100,000" value is in the top 60% of "Clinician Density per 100,000" values across the United States.

Note that the distributions for each SDoH characteristic for both **Comparison levels** are established using all credible ZCTAs in the country. To move the sliders, users must click and drag the circles underneath the sliders to their desired decile range. Alternatively, users may type in the desired decile in the text box above the circles. Once selections are made using the sliders, only ZCTAs that fall between the upper and lower selections of all sliders are shaded on the map. The sliders are displayed in the screenshot below:

Census Division level

Once users have selected a single **Census Division** from the drop-down menu, the map updates to display results corresponding with the user's selected **Metric selection for map** and **Year** for the selected **Census Division**. The map's shade range is based on the distribution of results for the **Metric selection for map** and **Year** within the selected **Census Division**. The example below contains the map for the "South Atlantic" **Census Division** with "% Non-Hispanic Black" as the **Metric selection for map** and "2021" as the **Year**. The map's shade range in this example represents the distribution of the percentage Non-Hispanic Black across all ZCTAs in the South Atlantic **Census Division**.

0.0% ▭ 100.0%
% Non-Hispanic Black
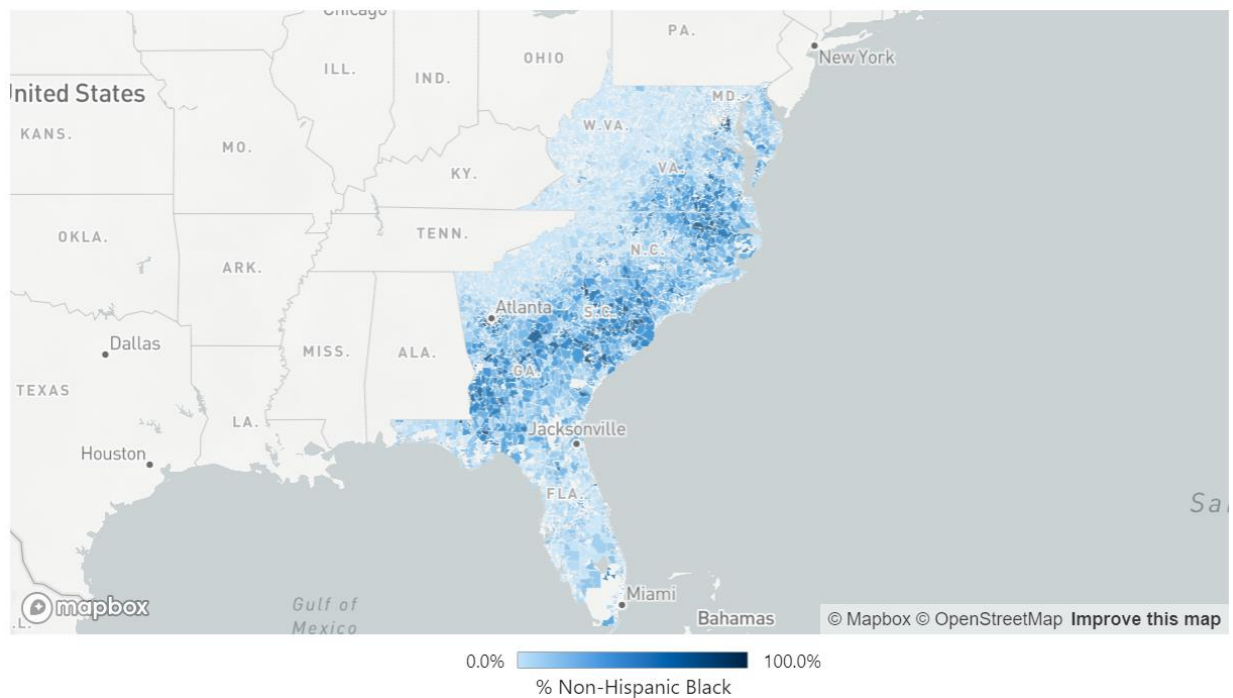
Similar to the **Metrics by Geography** view, the Summary Statistics table underneath the map contains two columns of results with a row for each SDoH characteristic and quality measure. The first column contains results for the ZCTAs corresponding to the selected slider ranges. As a comparison, the second column contains results for the entire selected **Census Division** and does not update when selections are made to the sliders. If no changes are made to the selected slider ranges, the results in both columns are the same. ZCTAs must meet *all* criteria set by the user in both the drop-down menus and the sliders to be shaded on the map to be included in the first column of the Summary Statistics table.

The example is continued on the following page with screenshots for the default slider selection and for a slider selection of the top six deciles of Historically Marginalized Racial and Ethnic Groups for a **Metric selection for map** of "Plan All-Cause Readmissions."

Default view:

Metric selection for map

| Plan All-Cause Readmissions ⌄ | | 2021 ⌄ |

Year

Select a single metric to display on the map below

Census Division

| South Atlantic ⌄ |

Comparison level

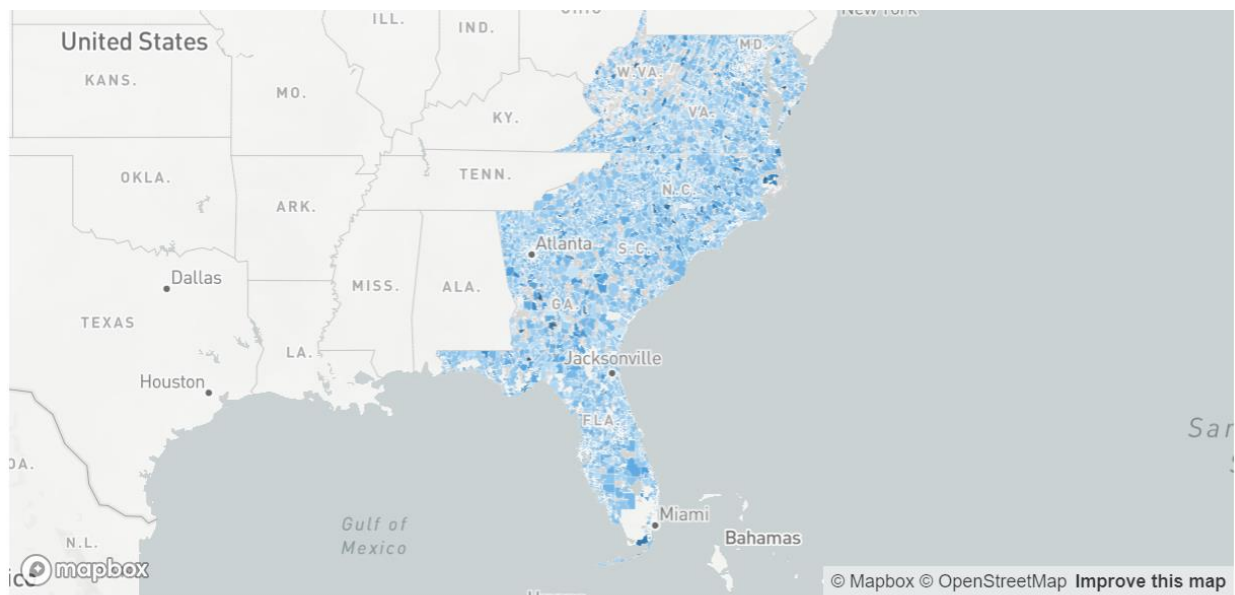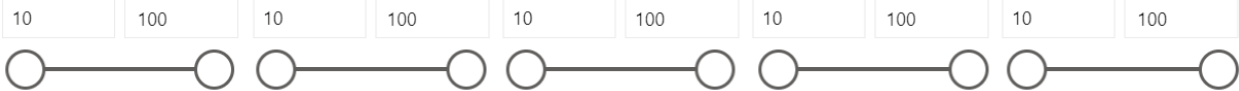| **Census Division** | National |

Decile selection

Historically Marginalized Racial and Ethnic Groups	Clinician Density per 100,000	Facility Density per 100,000	Social Deprivation Index	Milliman Health Disparity Risk Index
10 · · · 100	10 · · · 100	10 · · · 100	10 · · · 100	10 · · · 100

0.0% ▬▬▬▬▬ 53.8%
Plan All-Cause Readmissions

Summary statistics ⓘ

Metric	Selected ZCTAs	South Atlantic
⊟ **SDoH Characteristic**		
⊟ **Race and Ethnicity**		
% Non-Hispanic Black	21.3%	21.3%
% Non-Hispanic white	56.4%	56.4%
% Hispanic	14.7%	14.7%
% Other Race and Ethnicity	7.5%	7.5%

With Historically Marginalized Racial and Ethnic Groups slider selection:

0.0% ▬▬▬▬▬ 53.8%
Plan All-Cause Readmissions

Summary statistics ⓘ

Metric		Selected ZCTAs	South Atlantic
⊟ **SDoH Characteristic**			
⊟ **Race and Ethnicity**			
	% Non-Hispanic Black	23.3%	21.3%
	% Non-Hispanic white	52.8%	56.4%
	% Hispanic	16.0%	14.7%
	% Other Race and Ethnicity	7.9%	7.5%

National level

Once users have selected **Census Division 1** and **Census Division 2** from the set of drop-down menus, the maps update to display results corresponding with the user's selected **Metric selection for map** and **Year** for the selected **Census Divisions**. The maps' shade range is based on the distribution of results for the **Metric selection for map** and **Year** across the country. The example below contains the map for "South Atlantic" as **Census Division 1** and "Mountain" as **Census Division 2**, " Plan All-Cause Readmissions " as the **Metric selection for map**, and "2021" as the **Year**. The maps' shade range in this example represents the distribution of the percentage Plan All-Cause Readmissions across all credible ZCTAs nationwide.

0.0% ▬▬▬▬ 100.0%
Plan All-Cause Readmissions
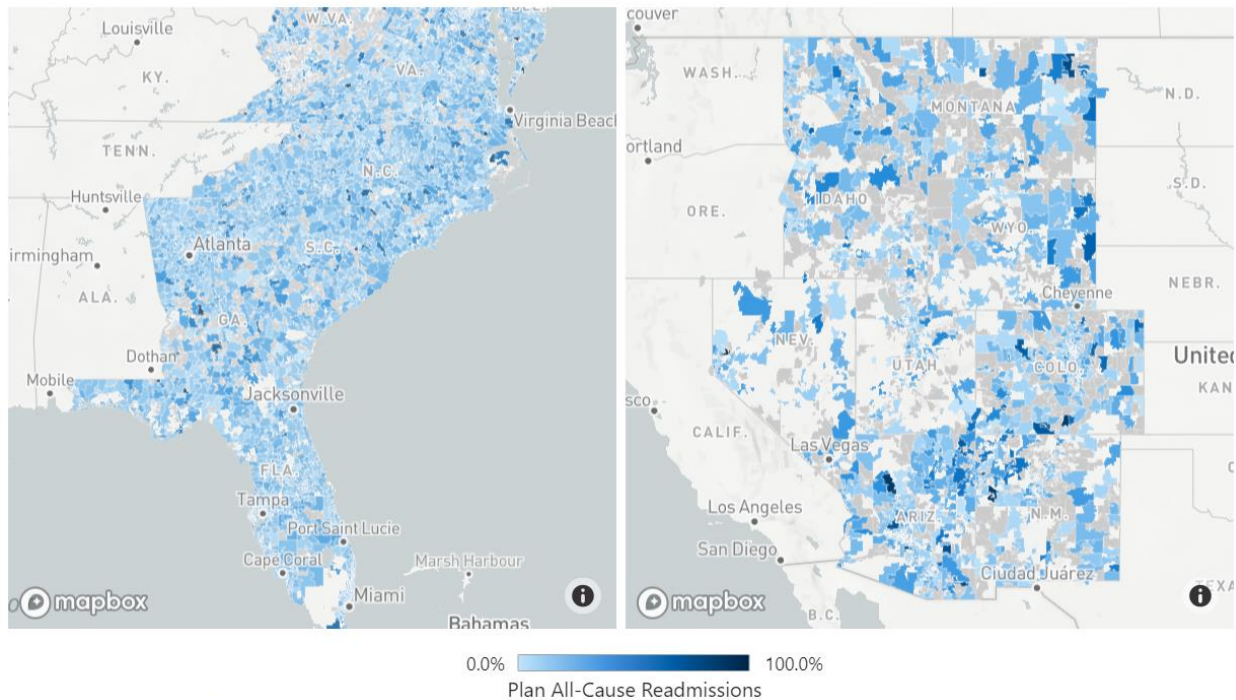
The Summary Statistics table underneath the maps contains two columns of results with a row for each SDoH characteristic and quality measure. The first column contains results for the ZCTAs corresponding to the selected slider ranges in **Census Division 1**. The second column contains results for the ZCTAs corresponding to the selected slider ranges in **Census Division 2**. If no changes are made to the selected slider ranges, then the results in each column represent results for the entire Census Division. ZCTAs must meet *all* criteria set by the user in both the drop-down menus and the sliders to be shaded on the map and to be included in the Summary Statistics table.

The example is continued on the following page with screenshots for the default slider selection and for a slider selection of the top six deciles of Historically Marginalized Racial and Ethnic Groups for a **Metric selection for map** of "Plan All-Cause Readmissions."

Default view:

Metric selection for map

| Plan All-Cause Readmissions ⌄ |

Year

| 2021 ⌄ |

Select a single metric to display on the map below

Census Division 1

| South Atlantic ⌄ |

Census Division 2

| Mountain ⌄ |

Comparison level

| Census Division | **National** |

Decile selection

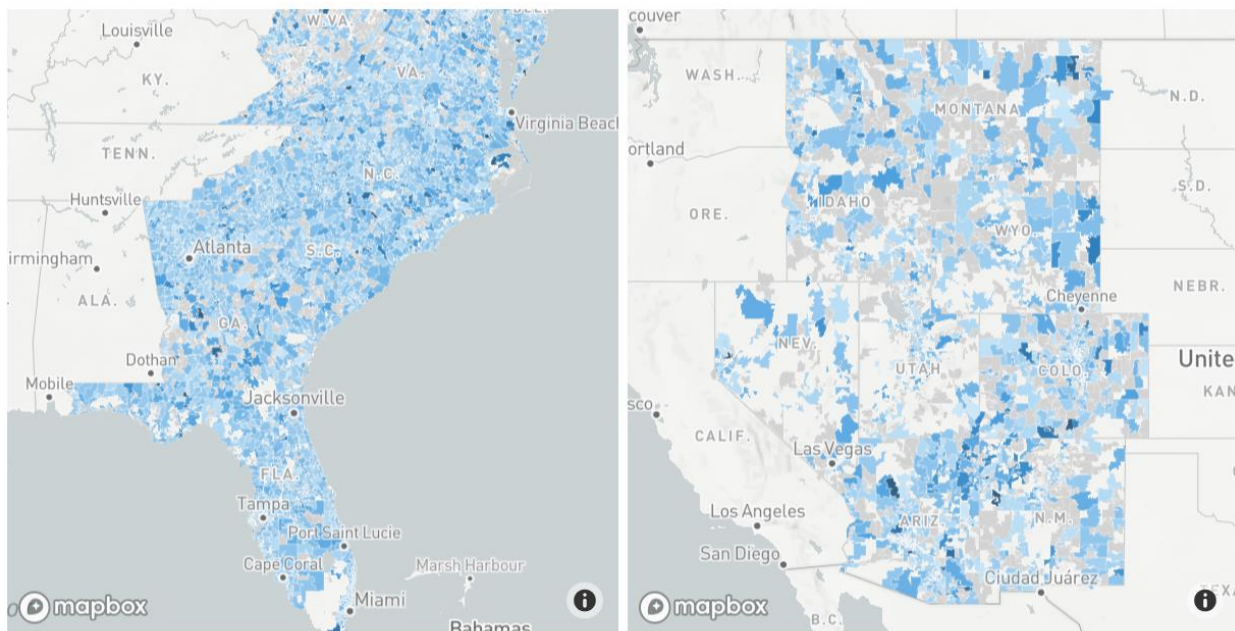| Historically Marginalized Racial and Ethnic Groups	Clinician Density per 100,000	Facility Density per 100,000	Social Deprivation Index	Milliman Health Disparity Risk Index
10 — 100	10 — 100	10 — 100	10 — 100	10 — 100

0.0% ▬▬▬ 100.0%
Plan All-Cause Readmissions

Summary statistics ⓘ

Metric	South Atlantic	Mountain
⊟ **SDoH Characteristic**		
⊟ **Race and Ethnicity**		
% Non-Hispanic Black	21.3%	3.6%
% Non-Hispanic white	56.4%	61.4%

With Historically Marginalized Racial and Ethnic Groups slider selection:

Metric selection for map

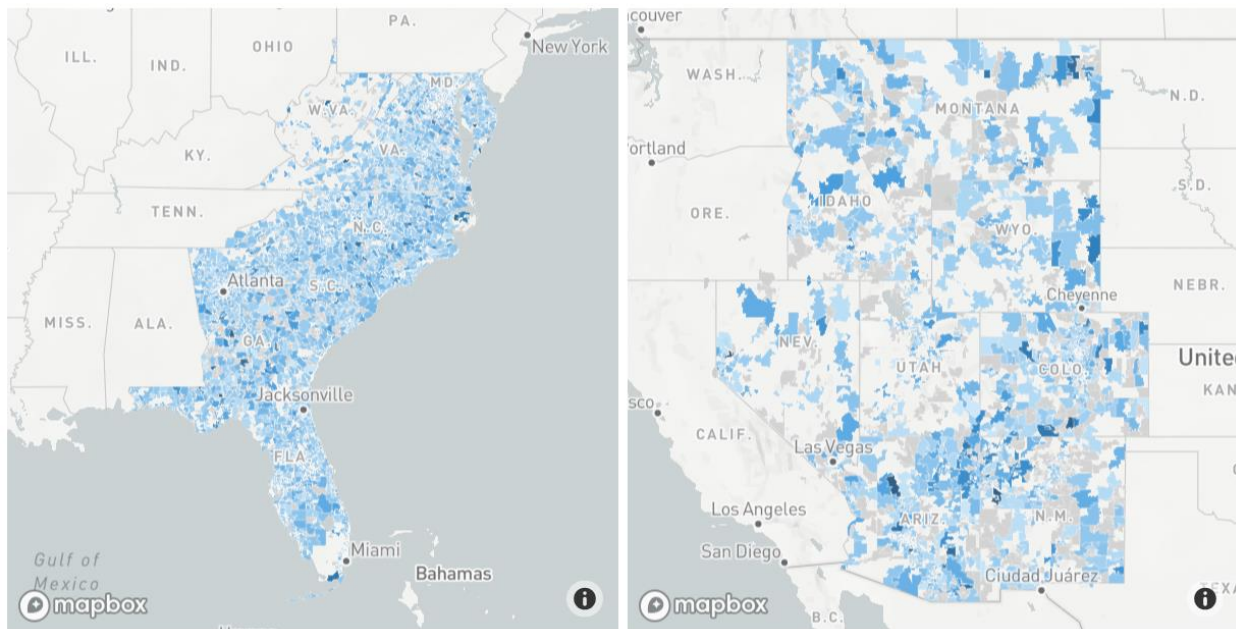| Plan All-Cause Readmissions | ∨ |

Year

| 2021 | ∨ |

Select a single metric to display on the map below

Census Division 1	Census Division 2	Comparison level
South Atlantic ∨	Mountain ∨	Census Division / **National**

Decile selection

Historically Marginalized Racial and Ethnic Groups	Clinician Density per 100,000	Facility Density per 100,000	Social Deprivation Index	Milliman Health Disparity Risk Index
40 · 100	10 · 100	10 · 100	10 · 100	10 · 100

0.0% ▬▬▬ 100.0%
Plan All-Cause Readmissions

Summary statistics ⓘ

Metric	South Atlantic	Mountain
SDoH Characteristic		
Race and Ethnicity		
% Non-Hispanic Black	22.0%	3.7%
% Non-Hispanic white	55.1%	60.7%

Caveats and limitations

The interactive tool was developed using three key resources—medical claims data, external reference data, and quality measure specifications from various measure stewards—all of which have their own limitations. The most significant limitations not already mentioned throughout the user guide and in the Caveats and Limitations section of the Detailed Methodology are described below.

- The maps provided are based on a combination of the U.S. Census Bureau's Master Address File/Topologically Integrated Geographic Encoding and Referencing (MAF/TIGER) shapefiles from the U.S. Census Bureau and map data from Mapbox and OpenStreetMap.[5,6,7]

- ZIP Code Tabulation Areas (ZCTAs) are generalized area representations of United States Postal Service (USPS) ZIP Code service areas. ZCTA is a trademark of the U.S. Census Bureau. Starting with the 2010 Census, the U.S. Census Bureau's MAF/TIGER ZCTA-level shapefiles do not cover the full extent of the nation, meaning that "holes" exist when mapping ZCTAs on a nationwide basis.[8]

- Percentile distributions were established for the Geographic Comparison view using results for individual ZCTAs to develop the distribution. To reduce the impact of outliers skewing the distribution, ZCTAs with a denominator encounter count less than 100 were deemed non-credible for the purposes of developing a percentile distribution and excluded from the creation of the percentile distribution.

- Milliman has developed certain models to estimate the values included in this report. The intents of the models were to estimate the results for eight quality measures and to develop a composite index using SDoH characteristics. Milliman has reviewed the models, including their inputs, calculations, and outputs, for consistency, reasonableness, and appropriateness to the intended purpose and in compliance with generally accepted actuarial practice and relevant actuarial standards of practice (ASOP).

- In developing this interactive tool, Milliman relied on data maintained by third parties such as the U.S. Census Bureau's American Community Survey (ACS). Milliman has not audited or verified this data or the combined data. If the underlying information is inaccurate or incomplete, the content of our report may likewise be inaccurate or incomplete.

- To maximize the number of credible geographies, five-year estimates for the ACS variables were used in the interactive tool. While quality measures are calculated for each calendar year, the ACS estimates do not represent a specific point in time during the five-year collection period but rather a pooling of the data collected during the entire period.[9] Therefore, year-over-year comparisons should not be made for data obtained from the ACS.

- Any user of this interactive tool should possess a certain level of expertise in areas relevant to this analysis to appreciate the significance of the limitations and the impact of these limitations on the results. The user should also be advised by their own qualified professionals competent to properly interpret the material.

- The information displayed in the interactive tool may not be appropriate for all uses. If users leverage information from the interactive tool for purposes beyond the Milliman website, Milliman requests that the information be distributed with a reference to Milliman's QE Report.

References

[1] Social Deprivation Index (SDI) data was used with permission from the American Academy of Family Physicians.

[2] U.S. Census Bureau. ZIP Code Tabulation Areas (ZCTAs). Retrieved July 3, 2024, from https://www.census.gov/programs-surveys/geography/guidance/geo-areas/zctas.html.

[3] U.S. Energy Information Administration. Maps. Retrieved July 3, 2024, from https://www.eia.gov/consumption/commercial/maps.php.

[4] U.S. Census Bureau. Census Regions and Divisions of the United States. Retrieved July 3, 2024, from https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf.

[5] U.S, Census Bureau. Cartographic Boundary Files. Retrieved July 3, 2024, from https://www.census.gov/geographies/mapping-files/time-series/geo/cartographic-boundary.html.

[6] Mapbox. Available at: https://www.mapbox.com/about/maps.

[7] OpenStreetMap. Available at: http://www.openstreetmap.org/copyright.

[8] U.S. Census Bureau. ZIP Code Tabulation Areas (ZCTAs), op cit.

[9] U.S. Census Bureau. Comparing ACS Data. Retrieved July 3, 2024, from https://www.census.gov/programs-surveys/acs/guidance/comparing-acs-data.html.

Milliman

Milliman is among the world's largest providers of actuarial, risk management, and technology solutions. Our consulting and advanced analytics capabilities encompass healthcare, property & casualty insurance, life insurance and financial services, and employee benefits. Founded in 1947, Milliman is an independent firm with offices in major cities around the globe.

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CONTACT

Carol Bazell
carol.bazell@milliman.com

Cherie Dodge
cherie.dodge@milliman.com

Harsha Mirchandani
harsha.mirchandani@milliman.com

Hope Norris
hope.norris@milliman.com

Julia Weber
julia.weber@milliman.com