CAMSA
CANCER ANALYTICS & MAPS FOR SMALL AREAS

HOW TO:

Getting Started

Abstract

This manual describes basic functions of CAMSA and how to get familiar with the tool.

Contents
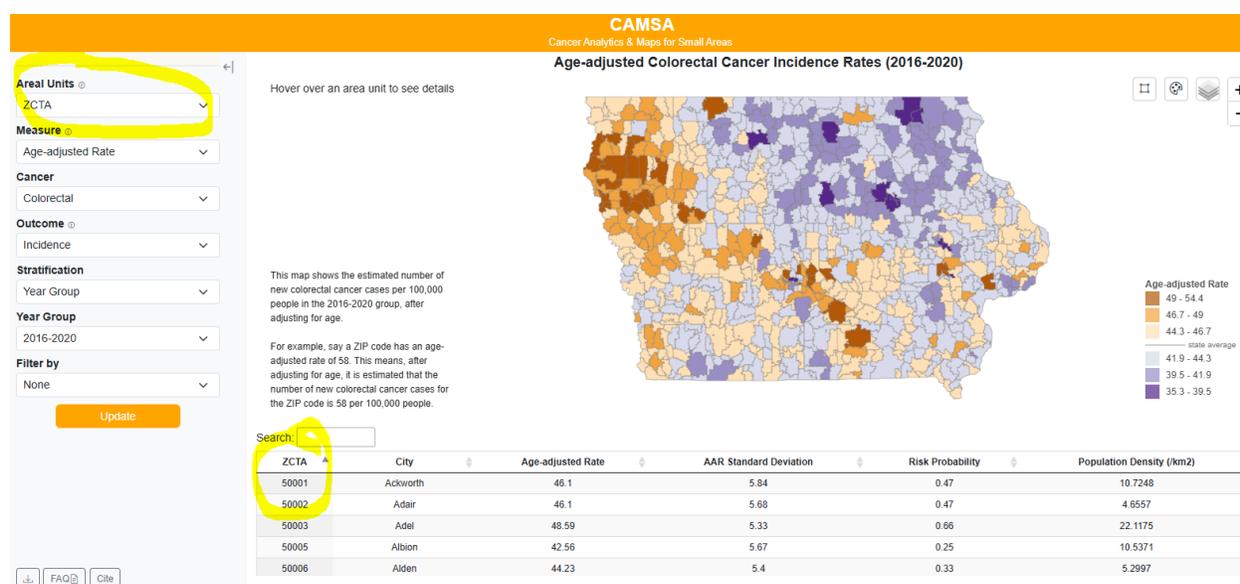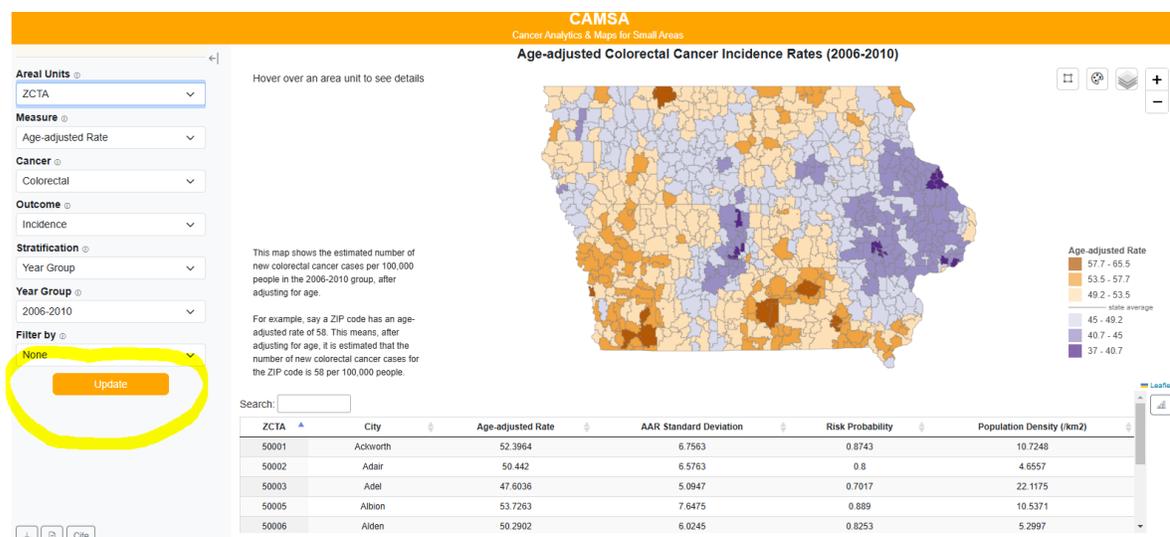
How To: Getting Started

Select areal units:

1. Navigate to the lefthand panel and select the type of geographic units you want to view. Options are County and ZCTA (ZIP Code Tabulation Areas; generalized representations of ZIP codes based on census blocks. While differing slightly than ZIP codes, there is a great amount of overlap between ZIP Codes and ZCTAs). The areal unit you select will be shown in the table below the maps and are searchable by unit in the table.
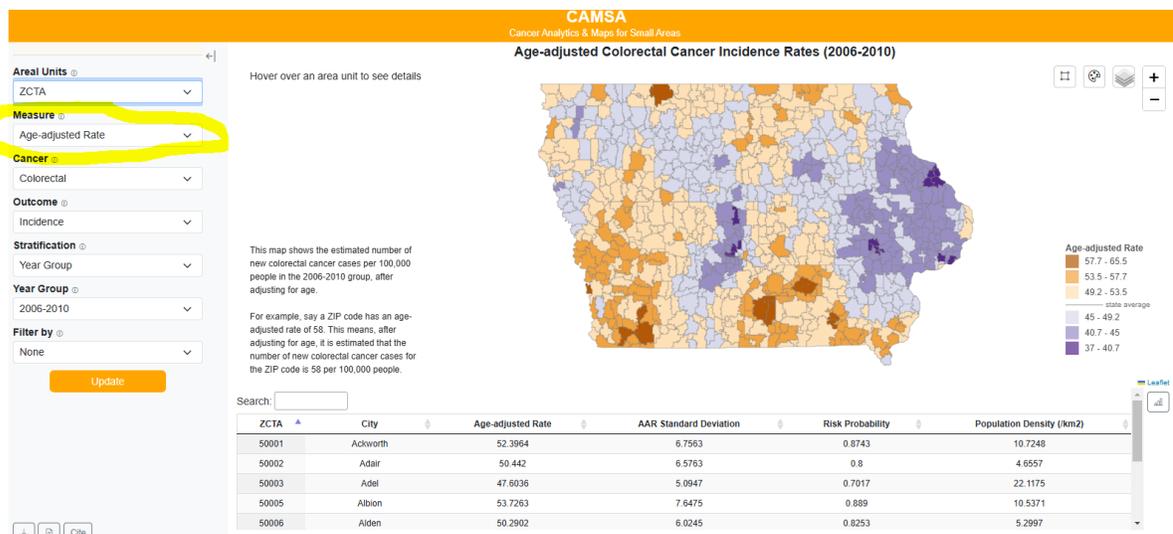

2. To reflect your selection on the map, select "Update" on the bottom of the lefthand panel
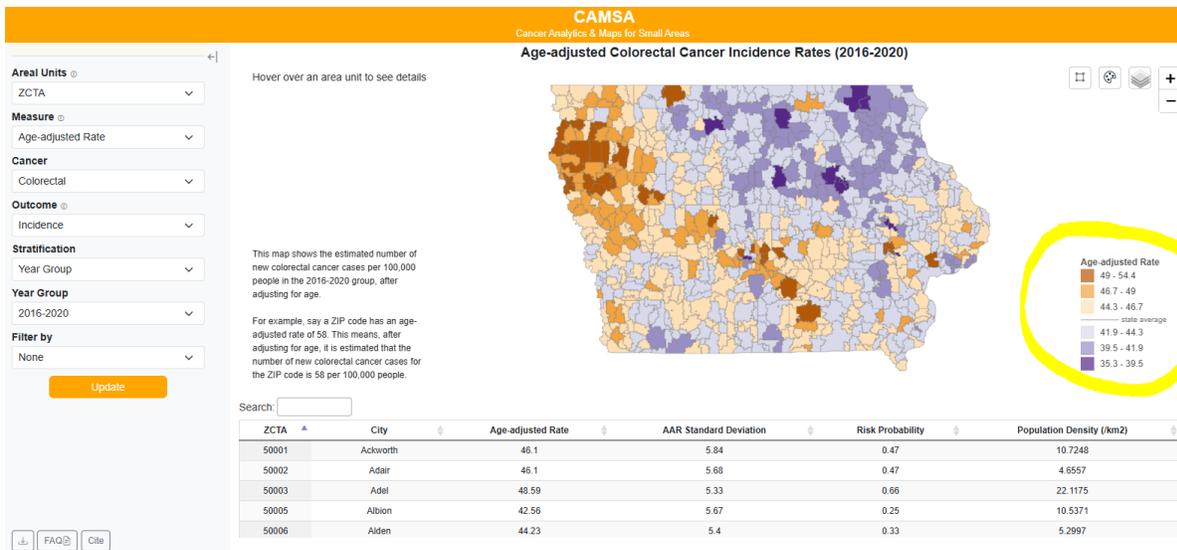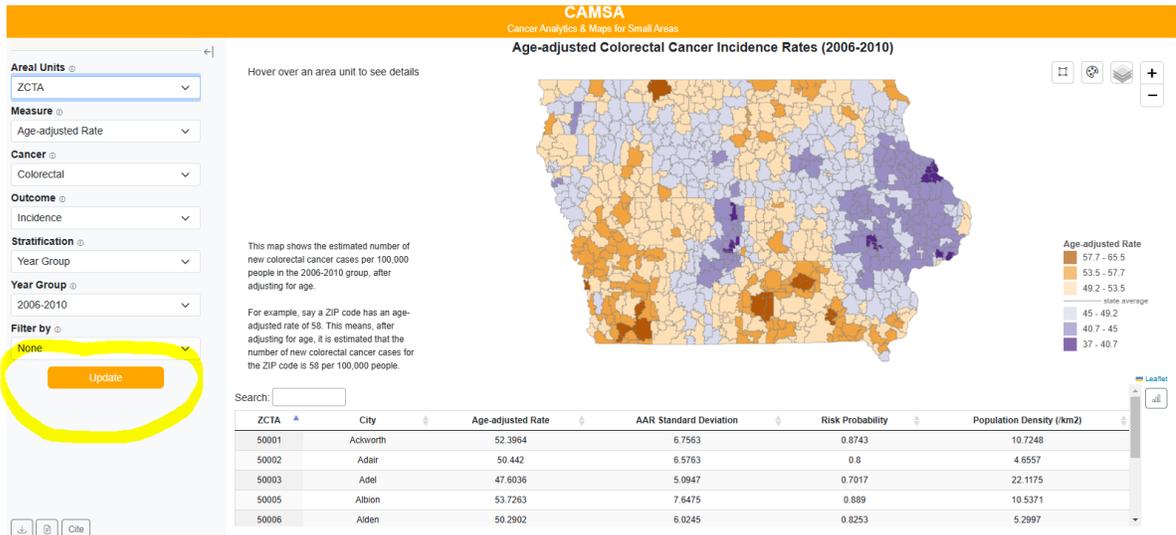
Select measurement:

1. Navigate to the lefthand panel and select the type of measurement you want to view. Options include:
   - **Age-adjusted rate:** Estimated cases per 100,000 people, adjusted for the ages of individuals in the location
   - **Risk Probability:** The probability that the risk in the region exceeds the overall state risk after adjusting for age. Values closer to 1 signify higher risk while values closer to 0 mean lower risk for the location compared to overall state risk. A score of 0.5 represents an area with risk equal to the state average.
   - **Population Density:** The population count from the 2010 U.S. Census, stratified by sex or race/ethnicity, divided by the area measured in units of 1,000 km^2
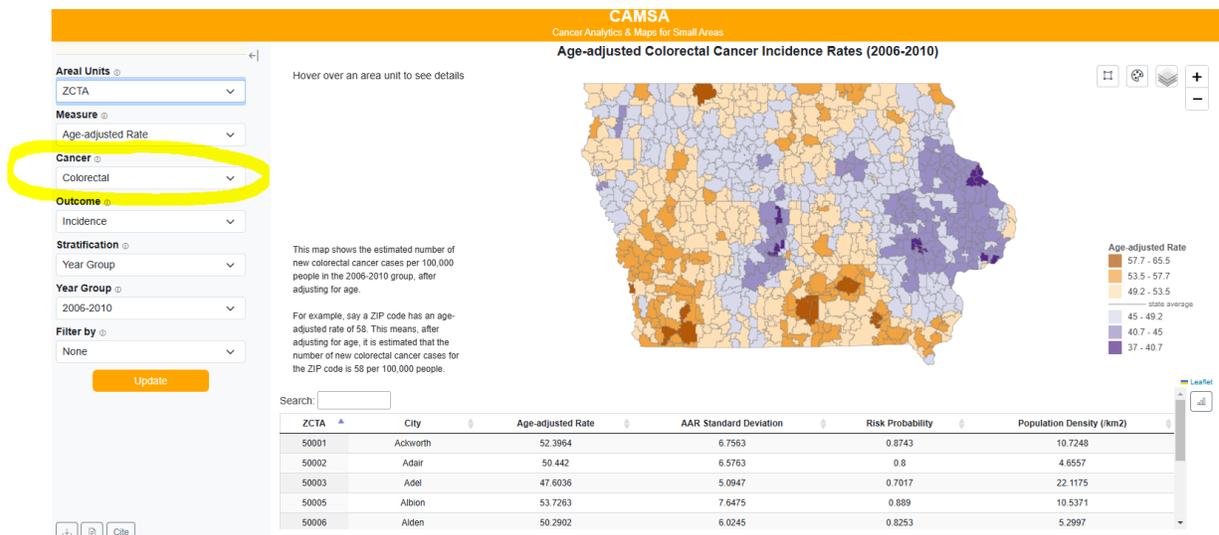

2. To reflect changes on the map, select "Update" on the bottom of the lefthand panel. The legend on the righthand side of the screen will update to reflect the measure you have chosen.

CAMSA
Cancer Analytics & Maps for Small Areas

Age-adjusted Colorectal Cancer Incidence Rates (2006-2010)

Hover over an area unit to see details

Areal Units ⓘ
ZCTA

Measure ⓘ
Age-adjusted Rate

Cancer ⓘ
Colorectal

Outcome ⓘ
Incidence

Stratification ⓘ
Year Group

Year Group ⓘ
2006-2010

Filter by ⓘ
None

Update

This map shows the estimated number of new colorectal cancer cases per 100,000 people in the 2006-2010 group, after adjusting for age.

For example, say a ZIP code has an age-adjusted rate of 58. This means, after adjusting for age, it is estimated that the number of new colorectal cancer cases for the ZIP code is 58 per 100,000 people.

Age-adjusted Rate
- 57.7 - 65.5
- 53.5 - 57.7
- 49.2 - 53.5
- state average
- 45 - 49.2
- 40.7 - 45
- 37 - 40.7

Search:

ZCTA ▲	City	Age-adjusted Rate	AAR Standard Deviation	Risk Probability	Population Density (/km2)
50001	Ackworth	52.3964	6.7563	0.8743	10.7248
50002	Adair	50.442	6.5763	0.8	4.6557
50003	Adel	47.6036	5.0947	0.7017	22.1175
50005	Albion	53.7263	7.6475	0.889	10.5371
50006	Alden	50.2902	6.0245	0.8253	5.2997

CAMSA
Cancer Analytics & Maps for Small Areas

Age-adjusted Colorectal Cancer Incidence Rates (2016-2020)

Hover over an area unit to see details

Areal Units ⓘ
ZCTA

Measure ⓘ
Age-adjusted Rate

Cancer ⓘ
Colorectal

Outcome ⓘ
Incidence

Stratification ⓘ
Year Group

Year Group ⓘ
2016-2020

Filter by ⓘ
None

Update

This map shows the estimated number of new colorectal cancer cases per 100,000 people in the 2016-2020 group, after adjusting for age.

For example, say a ZIP code has an age-adjusted rate of 58. This means, after adjusting for age, it is estimated that the number of new colorectal cancer cases for the ZIP code is 58 per 100,000 people.

Age-adjusted Rate
- 49 - 54.4
- 46.7 - 49
- 44.3 - 46.7
- state average
- 41.9 - 44.3
- 39.5 - 41.9
- 35.3 - 39.5

Search:

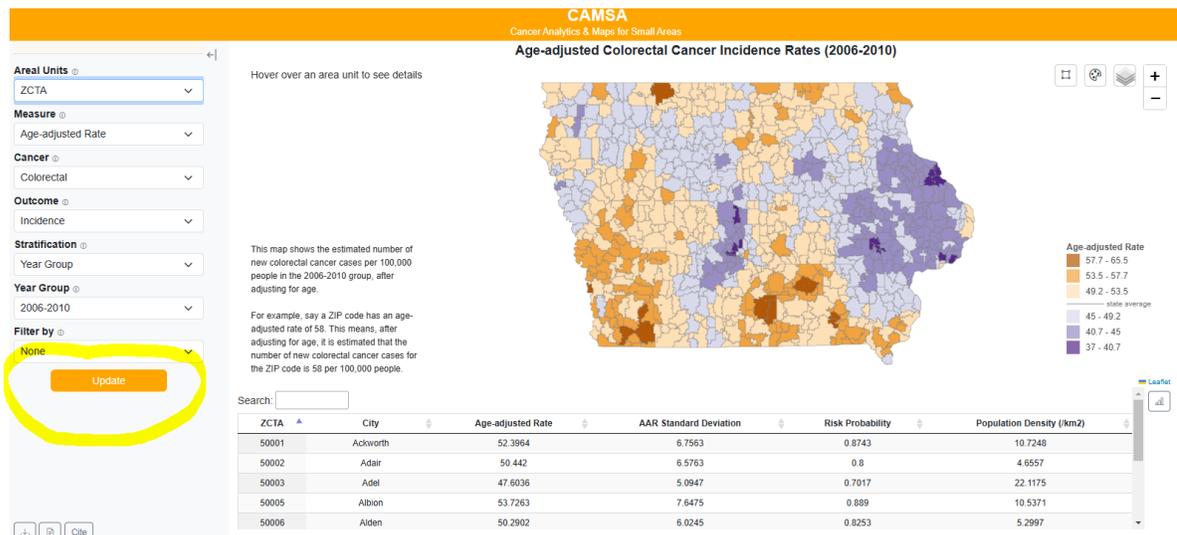| ZCTA ▲	City	Age-adjusted Rate	AAR Standard Deviation	Risk Probability	Population Density (/km2)
50001	Ackworth	46.1	5.84	0.47	10.7248
50002	Adair	46.1	5.68	0.47	4.6557
50003	Adel	48.59	5.33	0.66	22.1175
50005	Albion	42.56	5.67	0.25	10.5371
50006	Alden	44.23	5.4	0.33	5.2997

Select cancer type:

1. Navigate to the lefthand panel and select the cancer type you want to view. The eight cancer type options include:
   - Colorectal
   - Female breast
   - Cervical
   - Liver
   - Lung
   - Melanoma
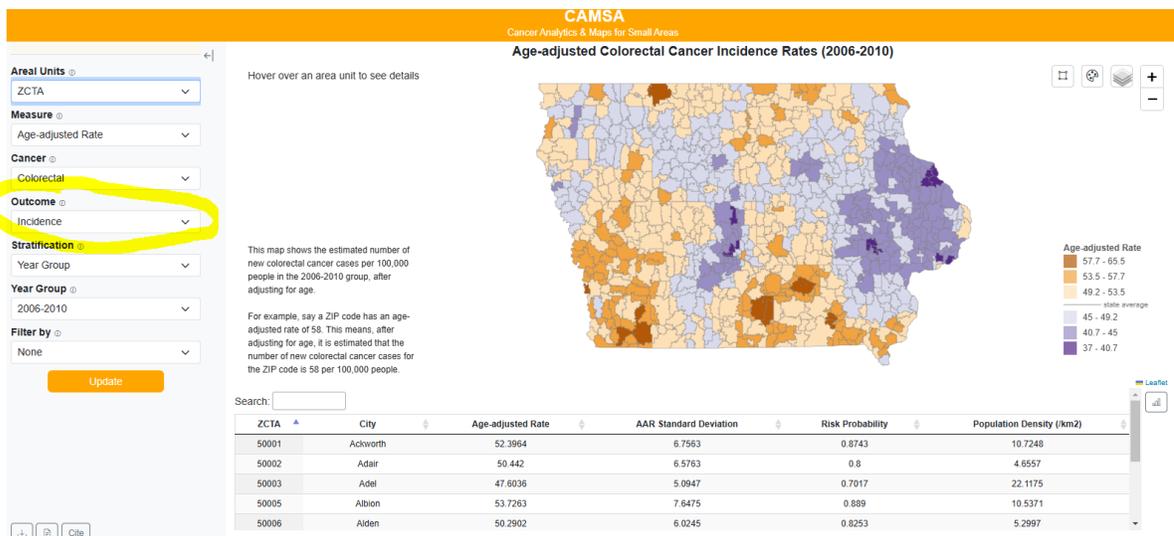   - NHL (Non-Hodgkins Lymphoma)
   - Prostate

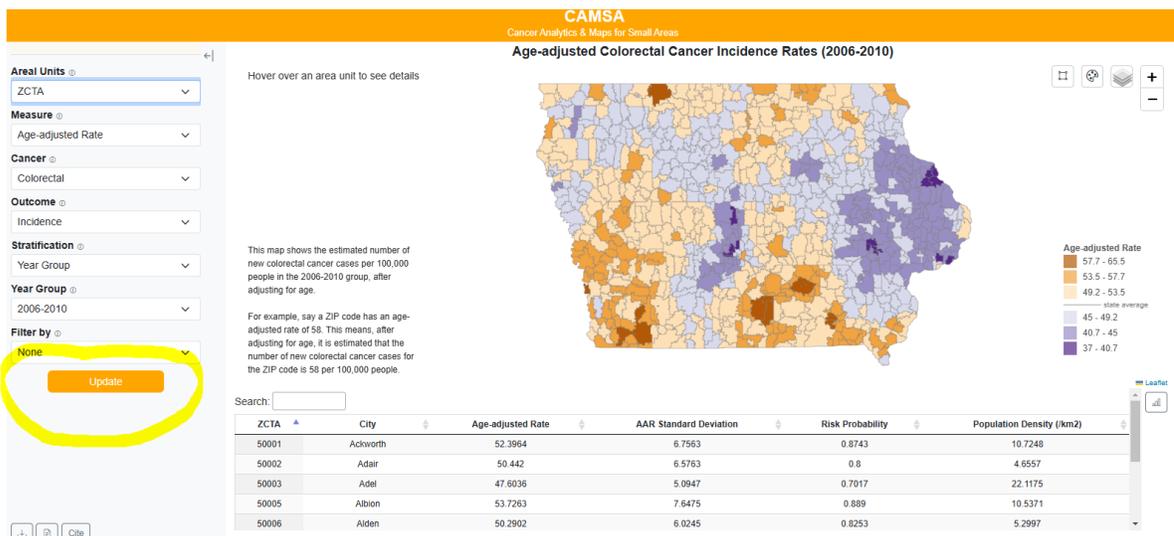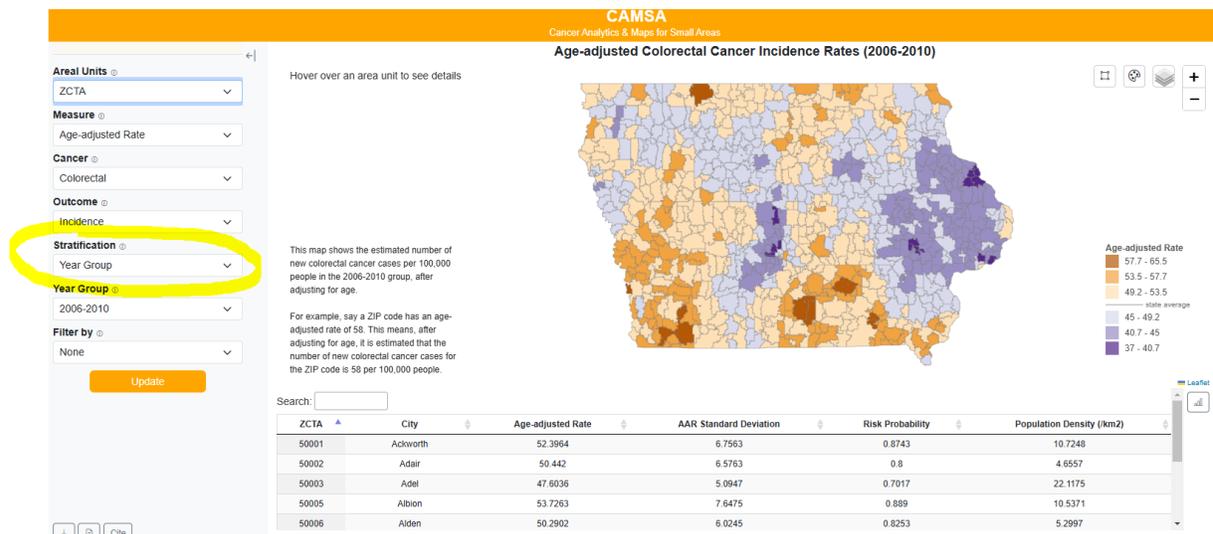2. To reflect changes on the map, select "Update" on the bottom of the lefthand panel

Select outcome type:

1. Navigate to the lefthand panel and select the type of outcome you want to view. All outcomes below are age-adjusted rates and estimates based on the statistical model used. The rates that CAMSA produces are comparable to rates published elsewhere despite having a five year window for the cases to occur. Options include:
   - **Incidence:** Incidence rate is a measure of the number of new cases of a specific cancer type in a specific area over a specific period of time.
   - **Late-stage Incidence:** The number of new cancer cases diagnosed at a more advanced stage per 100,000 people in specific geographical area over a specified period of time

2. To reflect changes on the map, select "Update" on the bottom of the lefthand panel

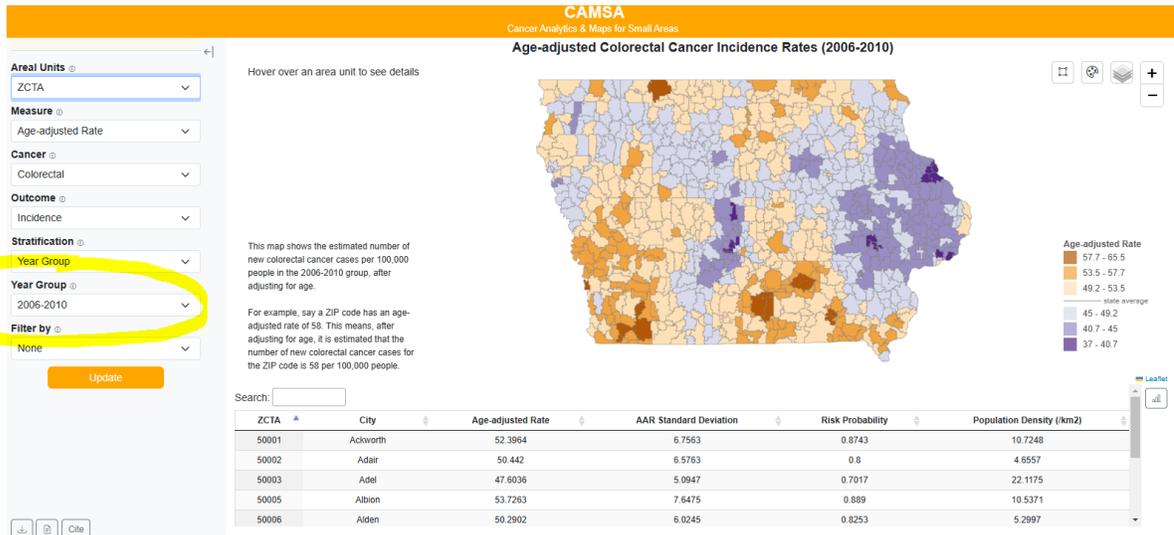# Select stratification type:

1. Navigate to the lefthand panel and select how you want to stratify, or separate, the data. Options include:
   - Year Group
   - Sex Group
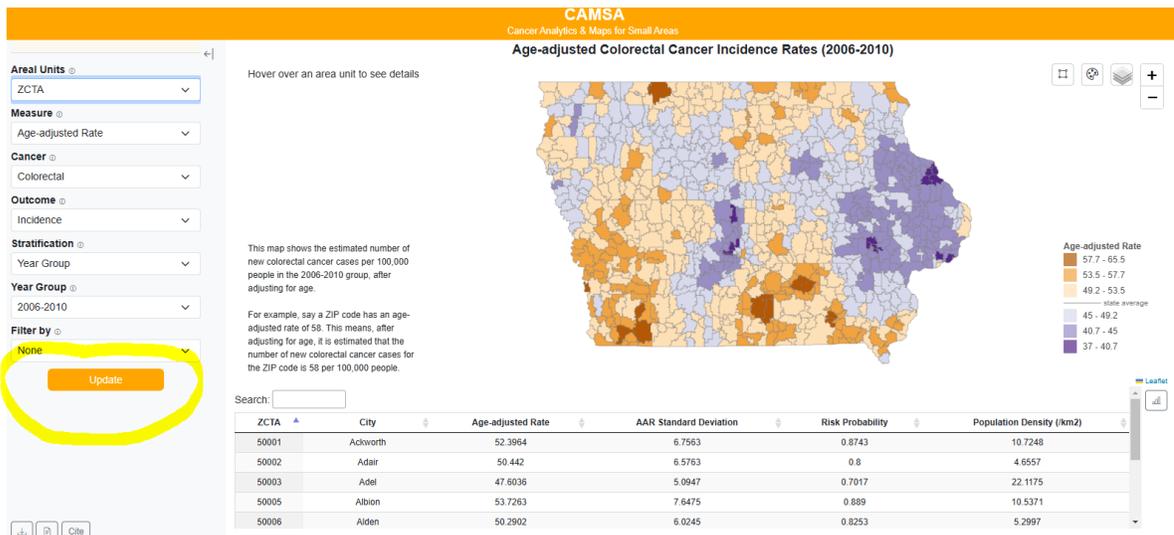   - Race/Ethnicity group
   - Sex and Year Group

2. An additional dropdown menu will prompt you to select specific stratification criteria based on your selection in step 1.
   - Year groups are given in three sets of 5-year groupings (for example: 2006-2010, 2011-2015, 2016-2020)
   - Sex group options include male or female
   - Race/Ethnicity groups include White (non-Hispanic), Hispanic, Black (non-Hispanic), Asian and Pacific Islander (non-Hispanic), American Indian and Alaska Native (non-Hispanic)
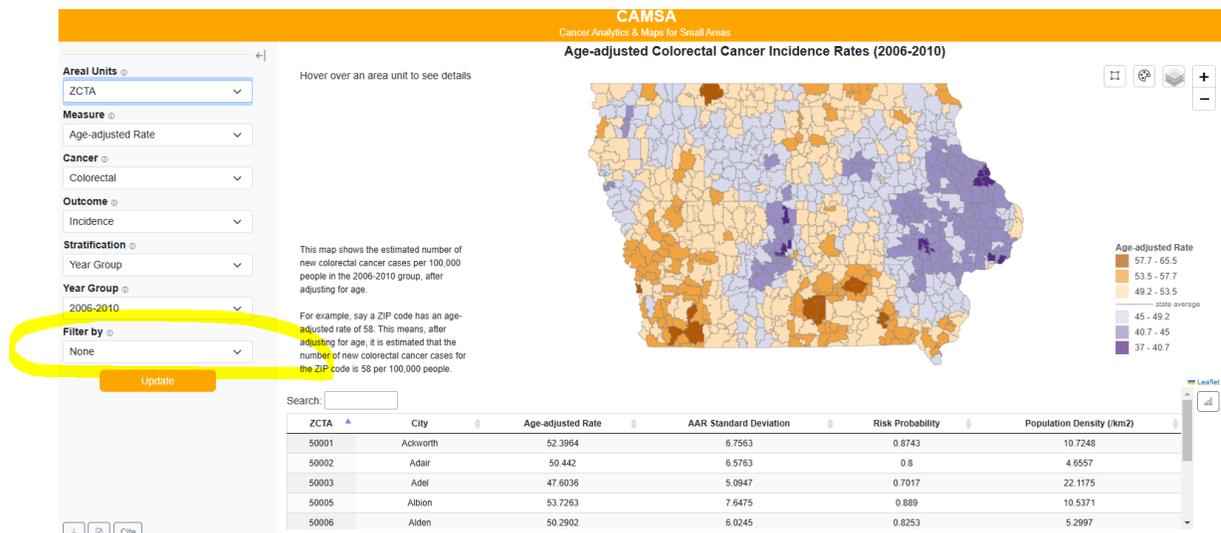   - Sex and Year group include options for each sex by the three 5-year groupings

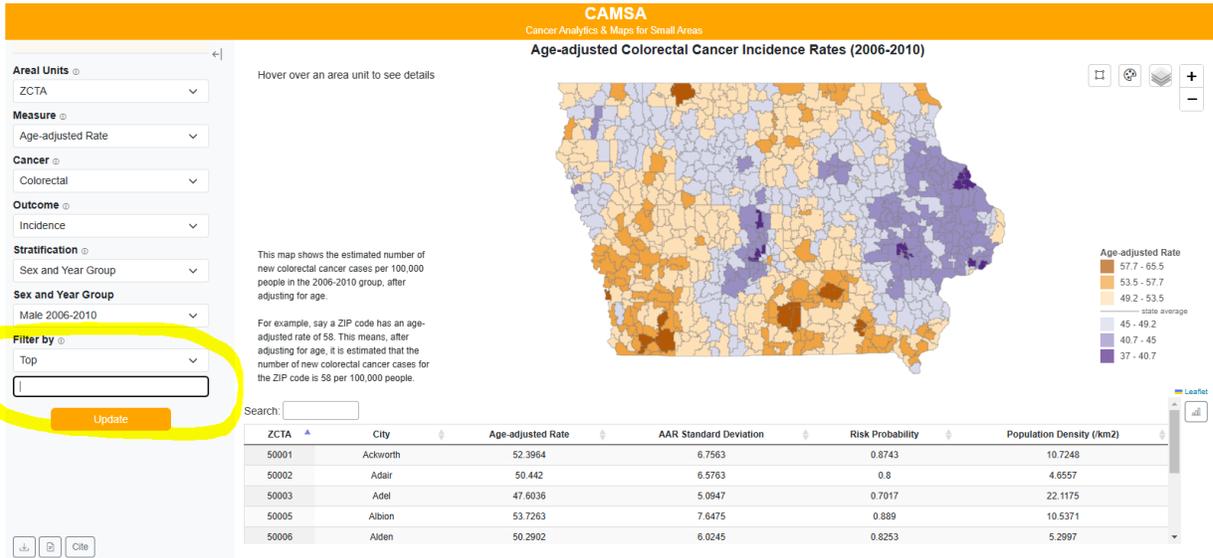3. To reflect changes on the map, select "Update" on the bottom of the lefthand panel
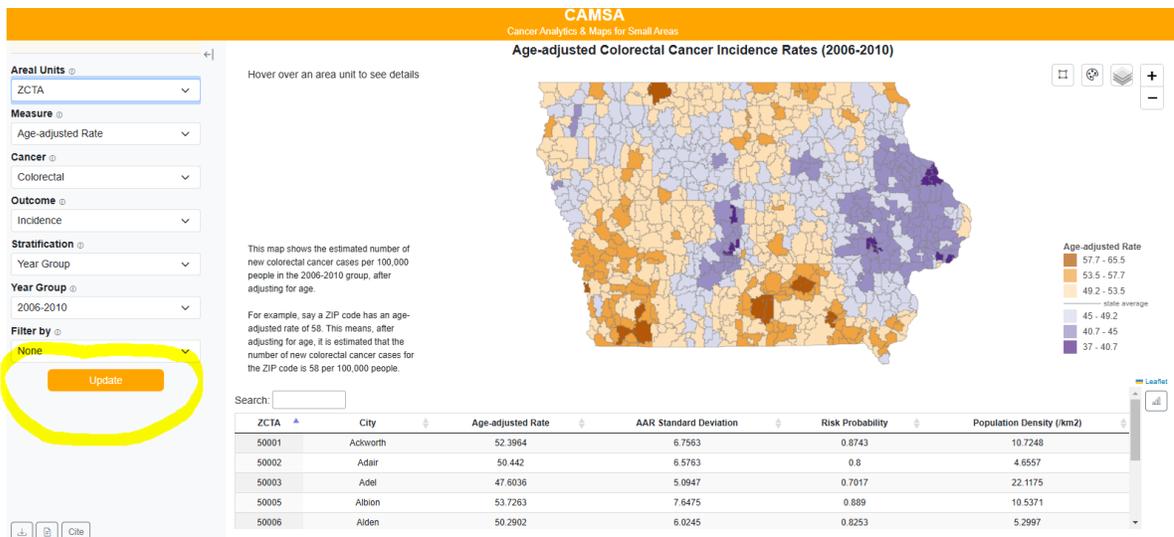
Select filter options:

1. Navigate to the lefthand panel and select the filter type options you want to view. Options are categorized by Top/Bottom, Risk Probability percentages, and Age-adjusted Rate percentages.

   - **Top or Bottom** options allow you to select the "Top" or "Bottom" areal units in a state.
     - For example, you would select this option if you want to know the top number of counties with highest cancer incidence, or the bottom number of ZCTAs with mortality rates
   - **Risk probability** options include percentages from above 50% to above 95%
     - this indicates that you want to show areal units that have the greatest risk probability for the cancer selected compared to the state average
   - **Age-adjusted rate** percentages include above 90% and above 95%
     - this indicates that you want the areal units with the top 10% or 5% of age-adjusted rate outcome to be shown

2. If you select "Top" or "Bottom", an additional box will appear for you to specify how many areal units you wish to include. For example, you type '10' if you want the top or bottom 10 ZCTAs or counties (based on areal units you previously selected) to show on the map.
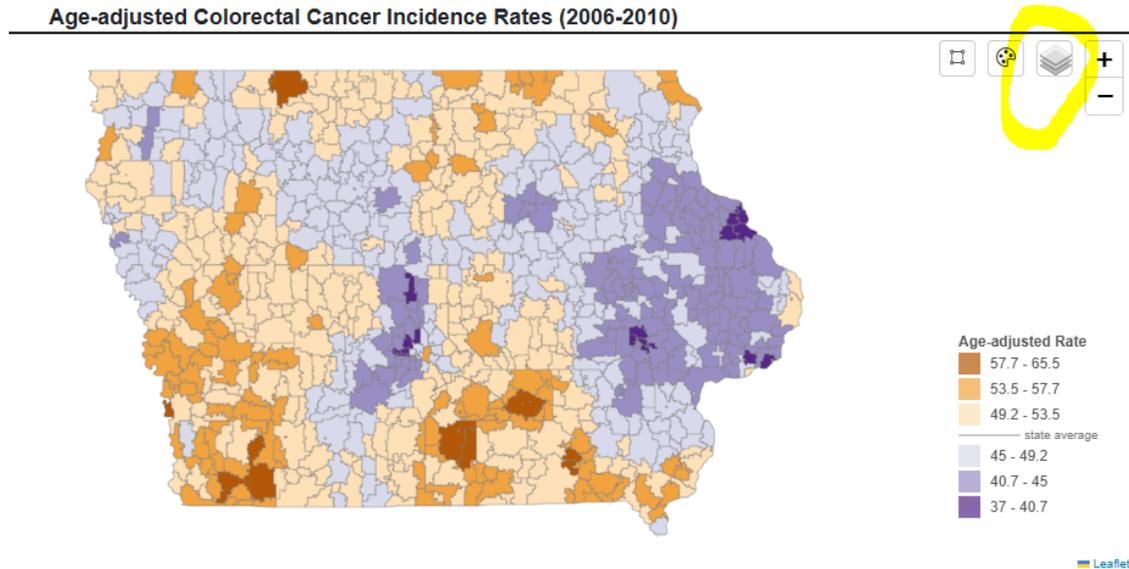
3. To reflect changes on the map, select "Update" on the bottom of the lefthand panel

Select overlay options:

1. Navigate to the upper right-hand corner to hover over the overlay options.

Age-adjusted Colorectal Cancer Incidence Rates (2006-2010)

Age-adjusted Rate
- 57.7 - 65.5
- 53.5 - 57.7
- 49.2 - 53.5
- state average
- 45 - 49.2
- 40.7 - 45
- 37 - 40.7

2. Select one or multiple overlay options and the map will automatically update. There are six overlay options:

    *   **Health Planning Areas:** these include regional community health consultant coverage areas. The community health consultants provide consultation and technical assistance to the Local Board of Health and Local Public Health Agencies as part of the Local Public Health Services.
        *   For more information, visit Bureau of Local Public Health Services
    *   **County:** county borders within the state.
        *   Data source
    *   **Superfund Sites:** Sites of national priority of releases or threatened releases of hazardous substances, pollutants or contaminants.
        *   Data source
    *   **Roads and Border:** As you zoom in or out, the roads and borders adjust accordingly, displaying different levels of roads (e.g., highways, main roads, and local streets) and borders.
    *   **Labels:** Displays different places and road names as you zoom in or out on the map
    *   **Uncertainty:** This layer shows how confident we are in estimating the age-adjusted rate for each areal unit. It is divided into three levels: low, medium, and high uncertainty. Low uncertainty means the estimate is more reliable, while high uncertainty means there is more variation in the data. These levels are determined by ranking all standard deviations of the age-adjusted rate from highest to lowest and dividing them into three equal groups. The first group, with the highest standard deviations, represents high uncertainty. The second group, with moderate values, represents medium uncertainty. The third group, with the lowest standard deviations, represents low uncertainty.