Data for Decision Makers

Health *Data for Decision Makers* User's Guide

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The health ***Data for Decision Makers*** (DDM) county profile provides a wide range of health data and information to help residents, health providers, and policy makers understand the health situations and needs of county residents. The information includes both medical and non-medical data recognizing that social determinants of health[1] have an important impact on people's health, well-being, and quality of life. The health DDM can be used to compare across counties, regions, and the state. It can be a starting point for discussions on health issues and a guide to help shape future programming and policies.

This user's guide provides an overview of the topics and indicators that are in the health DDM, gives background information about the indicators, as well as providing online resources about the topics and the data. There are more than 20 sources for the data items in the DDM which uses visuals, tables, and maps to show the trends. Although specific citations are noted, some of the most important resources are: the Iowa Department of Health and Human Services (IAHHS);[2] the U.S. Centers for Disease Control and Prevention (CDC);[3] the U.S. Census Bureau;[4] the *County Health Rankings and Roadmaps* (CHR&R);[5] and the Behavioral Risk Factor Surveillance System (BRFSS).[6]

Because of lags and variations in data collection, as well as concerns for patient confidentiality, there are time and geographic gaps in the reported health data. If a small population county has few persons with a reported health issue, the county data may be suppressed to protect confidentiality. For some of these topics, counts and rates are reported over a period of several years rather than just for one year. This allows more information for small population counties to be reported as small counts for just one year would be suppressed. The health DDMs are updated periodically as new releases of data are available. The *Data for Decision Makers* are accessed from the ISU Extension and Outreach Indicators Portal.[7]

Page One: Health Risk Factors

The annual data collected by BRFSS[6] and released in the CHR&R[5] report, show the percentage of Iowans who say they smoke, drink excessively, are obese, have diabetes, are inactive, or have insufficient sleep. These factors clearly affect health and well-being. For Iowans statewide in 2021, 15.5% reported smoking and nearly 37% reported being obese. Counties that year ranged from 32.6% to a high of 43% for obesity (see map). Findings on these factors for 2021 can be compared to those for 2019 and 2020.

These health risk factors are among several that impact length of life. Statewide for the period 2019-2021, life expectancy was 78.1 years, more than a year *shorter* than the 79.5 years reported for the 2015-2017 period. Many counties also showed shorter life expectancy in the second period.[5, 8] It is highly likely that COVID-19 mortality contributed to the shorter life expectancy reported for the second period. For the 2019-2021 period, counties ranged from 74.5 years of life expectancy to 83.1 years, an 8.5 year difference (see map).

Page Two: Health Status, Deaths, Cancer

Iowans rate their overall health status, their mental distress, and their physical distress in the BRFSS survey.[5, 6] For many counties, the percent rating their health as fair or poor has been variable, being up and down across the several years reported. In contrast, many counties show higher levels of mental distress in the more recent years than earlier. The percent of persons reporting frequent physical distress has been relatively constant across the years for many counties.

Deaths overall, as well as by several causes, are reported in this DDM. Using CDC[3] data, ten-year counts and average annual counts are reported for deaths by alcohol or drugs, suicide, homicide, transport accidents, and other accidents. These data are reported by the CDC by the county of residence of the decedent.

An additional source of drug or alcohol related deaths is the Iowa Department of Transportation (IDOT).[9] IDOT tracks and reports vehicle crashes, those resulting in deaths or injuries, and reports those that have drivers under the influence of drugs or alcohol. A bar graph on page two shows counts of deaths and injuries from these types of crashes. It is important to note that for these data, the deaths are reported by the county location of the crash, not the county of residence of the victims.

IAHHS annually reports births as well as deaths.[10] County trends in births and deaths are charted in 5-year intervals for 1940 - 2015 and annually for 2017 onward. The gap between births and deaths shows natural change, either increase (births > deaths) or decrease (deaths > births). The "baby boom" years of 1946 - 1964 had especially large numbers of births. In contrast, many counties have had natural decrease or very little natural increase for several recent years. Because of increased deaths due to COVID-19, many counties recorded larger number of deaths in 2020 and 2021 than in the two or three preceding years.

The Iowa Cancer Registry[11] provides data on cancer cases, rates, and deaths both as totals and by type of cancer. For most counties, cancer cases have shown year-to-year variations across the reported years of 2001 through 2021. As reported here, cancer cases include both invasive and non-invasive cancer diagnoses. Cancer deaths in any given year can result from cases diagnosed in multiple previous years.

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Annual estimated counts of specific types of cancer are provided for lung, female breast, and colorectal cancer. Using four, specific 5-year periods, the *annual* estimated count is based on dividing the five-year total by five. By using the five-year, combined count and then dividing helps to limit data suppression as much as possible due to small counts in some counties.

Five-year cancer rates for the three cancer types are provided both for the county and the state, allowing comparisons among counties and with the state. Cancer rates are calculated as per 100,000 of the population at risk. For lung and colorectal cancers it is the total population that is at risk while for female breast cancer it is just the female population that is at risk. The rates provided are crude rates and are not adjusted for the age structure of the county. Because cancer rates are higher for older populations, a higher rate for any specific county may result from the county having a higher proportion of older persons living there.

Page Three: Hospitalizations, Food Issues

IAHHS maintains a health data tracking portal[12] which provides access to a variety of state and county-level health information. Among the items tracked and provided here in the DDM are: ER visits due to asthma, ER visits and hospitalizations due to chronic obstructive pulmonary disease (COPD), heart attack hospitalizations, along with ER visits and hospitalizations due to falls. Falls are a common reason for ER visits, in most cases showing the highest number of visits of the types included here. Annual data are reported in the DDM for these items, but since data for small counts are suppressed, some years may have no entries.

The availability and affordability of food impacts health. A measure of food access and security comes from *Map the Meal Gap*.[13] These data show the percentage of children as well as all county residents who are estimated to be food insecure. For the state as a whole and almost all the counties, food insecurity increased for children between 2021 and 2022. For some counties in 2022, 20% or more of children were food insecure (see map). It is likely that some of this change is due to food policy and support changes that took place during and after the initial years of COVID-19.

Other food indicators reported in the DDM are the number of county households and recipients receiving food benefits from the Supplemental Nutrition Assistance Program (SNAP/Food Stamps) in Iowa.[14] In addition, show that benefits increased significantly in both 2020 and 2021 only to decline in 2022 and 2023. This, again, shows the food policy and benefit changes enacted during and after the COVID-19 period.

Page Four: COVID-19, Health Providers, Substance Use Treatment

COVID-19 cases were first reported in Iowa in March, 2020. IAHHS reported data on COVID-19 during a three-year period through March, 2023.[15] The graph with the county's weekly number of cases shows especially high surges in cases during November 2020, September 2021, and January 2022. During that three-year period, Iowa recorded more than 900,000 cases of COVID-19. These Covid-19 data, as reported in the DDM, represent additional analysis with original data from the several web site locations that IAHHS (then the Iowa Department of Public Health (IDPH))used to report Covid-19 data and information.[15]

In 2020, the first year of COVID-19, deaths statewide from the virus numbered 4,306, accounting for 12.0% of all deaths that year. For several counties, COVID-19 deaths exceeded 20% of all deaths in 2020. Since the initial year of COVID-19, annual deaths from it have declined, numbering 1,700 (5%) in 2022.[10]

Vaccinations for COVID-19 became available for most age groups in 2021 and 2022. Booster shots for the virus are available as well. The cumulative percentages of county and state residents having received the vaccination series and at least one booster are reported by age. Older Iowans have had the highest levels of both vaccinations and boosters. These vaccination data are from the Center for Disease Control and Prevention (CDC) which recorded the counts and data through May, 2023.[16]

With the many social and economic issues that arose in the U.S. with the COVID-19 pandemic, the U.S. Census Bureau started a new survey procedure in 2020, the Household Pulse Survey (HPS),[17] to quickly collect and report data on emergent issues impacting U.S. households. The questions and issues in these monthly surveys included several on health and COVID-19. Data from the HPS are only available for states and for the U.S., not at the county level.

The HPS has asked respondents if they have had COVID-19, have had any vaccinations for the virus, and if they have had symptoms lasting 3 months or more, ie."long COVID." The specific questions are comparable for the months of 2024 and the health DDM includes the responses from the HPS on these questions. In general, a majority of Iowans responding (age 18 or older) report having had COVID and around 80% say they have had at least one vaccination. A portion (20%) of the Iowa respondents report they have had times when the COVID symptoms lasted for several months. The Iowa findings have been very consistent across the monthly surveys for 2024 and the Iowa trends are quite similar to those for the U.S. overall.

The Census Bureau labels these HPS data as "experimental" in that the sampling, response method (online only) and time frames differ from the procedures used for other Census Bureau surveys. Estimates from the HPS are likely less reliable than information that is collected in other ways, nevertheless, these health HPS items are useful to include in the DDM as there are limited other updated sources for this COVID-related information.

The health care environment is made up of health providers and facilities and influences health care access for county residents. Having health personnel nearby allows residents much easier access than when they have to travel farther for these services. Reported in the DDM are the counts of primary physicians, dentists, and mental health providers as well as the population per provider.[5] Comparisons of the population per provider is a way to see if a county is underserved compared with other counties and the state overall.

Hospital and nursing facilities along with the number of beds for each are reported from the *Iowa Health Fact Book*.[18] These counts typically do not change much from one year to the next. Some of Iowa's smallest counties do not have a local hospital in the county.

IAHHS monitors substance use treatments in Iowa.[19] These data are reported for several

types of substance treatments. In both 2022 and 2023 more than 17,000 persons were treated for substance use problems. These counts are unduplicated person counts in that a person receiving more than one treatment is only counted once.

For Iowa overall, alcohol and methamphetamine were the substances for which the most persons received treatment. The category of "Other Substances," is a sum of treatments for cocaine/crack, heroin, other opiods and synthetics, and other unnamed substances. Statewide, the Other Substances accounted for less than 10% of all persons treated. For most counties, the counts for these other substances are small and frequently are suppressed for confidentiality reasons.

Page Five - Disability, Demographics

The American Community Survey (ACS)[20], includes questions about disability status and provides information about hearing, vision, cognitive, ambulatory, self-care, and independent living disabilities by several age categories. The data for Iowa and most counties show that, in general, persons age 65 or older are more likely to report disabilities than younger persons. For those age 75 and above, 43% statewide reported at least one disability. Hearing and ambulatory issues were the most reported types of disabilities for these older persons, but some also had problems with independent living. The tables with data from the ACS contain a margin of error value (MOE) that helps to assess the reliability of the estimate.[20]

Education influences most aspects of life including health status. The ACS[20] is the source for the educational attainment of county and state residents. Two levels of achievement are provided: the percentage of residents who are at least high school graduates and the percentage of those who have a Bachelor's or higher degree. There are often significant variations among the counties in the percentage of residents who have completed at least a bachelor's degree.

Age is a significant factor in health. Various age groups are reported in the DDM along with the median age and age dependency ratios.[21] Counties can vary significantly in the proportion of persons 17 and younger as well as the percentage 65 and older. The age data come from the Decennial Censuses[22] which survey and count every household and person in the United States every 10 years.

Statewide in 2020, 18% of Iowa's population was 65 or older, an increase of more than three percentage points from 2010. This increase is related to how age is reported. Instead of reporting individual ages, categories are used to simplify reporting. In 2010, none of the "baby boom" group had yet turned 65, but by 2020 an important segment of the boomers had passed the 65 year age mark and thus were counted in the 65+ age rather than in the 45-64 age group.

The median age[21] shows the midpoint of the age distribution with half of the residents being below the median in age and the other half being above. A higher median age is an indicator of an overall older population. Age dependency ratios[21] indicate the typically dependent population compared with those of working age thus showing the population that usually relies on others for the goods and services they consume. A higher age dependency ratio can result from larger numbers of children, larger numbers of older persons, or both relative to the working age population.

Data on race and Hispanic origin, are from the Decennial Censuses.[22] For race, respondents self-selected one or more categories.[23] Those choosing more than one race are reported in the "two or more races"category in this profile. Hispanic origin is considered to be an ethnic group, not a race category. Persons of Hispanic origin can be of any race.

Housing costs, generally being a large component of a household budget, can be a contributing factor to stress and negative health outcomes. It is generally thought that financial stress is indicated if a household is spending 30% or more of their income on housing costs.[24] Measures of the spending of both renter and owner households on housing costs are provided in the ACS.[20] For the periods reported, renter households are significantly more likely to spend more than 30% of their income on housing costs than are owner households. Statewide, for the three time periods reported, about 40% of renter households were spending at least 30% of their income on housing.

Page Six - Socioeconomic Factors

Health insurance, income, and poverty data are reported on page six of the DDM. Lacking health insurance can be a major contributing factor to untimely and delayed treatment of acute and chronic health problems. Trends in the lack of health insurance since 2008 are shown for two age groups: those who are age 0 to 18 and also for persons age 18 to 64. In addition, the data are also reported by poverty level for both age groups. Likely because of federal and state support for health insurance for children, uninsured rates for children are lower than those for adults age 18-64. In addition, there is relatively little difference in uninsured rates for children whose family is below the poverty level compared with families at all income levels. In recent years, the uninsured rate for children has hovered around 5 percent.

The trends in health insurance coverage for adults age 18 to 64 differ from those for children. Uninsured rates for these adults have been and continue to be significantly higher than those for children. Statewide, uninsured rates for persons age 18-64 who were at the poverty level or below were around 30% in the 2009-2011 period. In the most recent report years, the rates have been much lower, less than 15% statewide. It is likely that the Affordable Care Act,[25] enacted in 2010, has contributed to more adults having health insurance in these recent years. These data on health insurance coverage come from the Census Bureau's program of Small Area Health Insurance Estimates (SAHIE) that annually estimates these coverage rates.[26]

Most aspects of life as well as health status are impacted by income. This report includes estimates of median[21] household income, median family income along with per capita income. Because families[27] may have more than one person with income, family median income is usually higher than that for all households which includes persons living alone. Per capita income is the average income per person. Income levels can vary significantly among the counties. These income data come from the ACS.[20]

Poverty is usually thought about in terms of not having enough money to meet basic

needs of food, clothing and shelter and it is usually measured by income indicators.[28] Based on household or family size and composition, the number or percent of households or persons whose income falls below a set of dollar value thresholds are considered to be in poverty. The dollar value thresholds are revised annually based on inflation in the prices of consumer goods.

In general, poverty status is not determined for people who live in group quarters such as college dorms or institutions.[28]

There are several Census Bureau programs and surveys that report poverty levels. The annual poverty estimates in the DDM are from the Census Bureau's Small Area Income and Poverty Estimates (SAIPE) Program.[29] These estimates include the percent below poverty for all ages as well as for those under age 18. In general, the poverty rates for those under age 18 are higher than for all ages combined. Poverty rates in recent years have tended to be lower than a decade earlier.

How to find the Data for Decision Makers
Web site at: https://indicators.extension.iastate.edu
Click on "DDM" at the top of the page, see Figure 1. That will take you to the main DDM page, Figure 2. From that DDM main page click on the counties map, then choose your county from the drop-down menu. In the drop-down menu for "Select Topic Type," choose Health Profile. This users guide will appear as a link in the main selection menu. You will also find DDMs for Iowa's counties, cities, the state's Senate and House Legislative Districts, the state as a whole, and Extension Districts. Trend reports for many of the indicators in the DDMs are available from the indicators home page by clicking on "Census 2020" (Figure 1). Other topics and reports available from the indicators web site are for county and city retail trade and government finance. These along with other topics can be accessed by clicking on "Programs" at the top of the indicators home page (Figures 1, 3).

Figure 1.

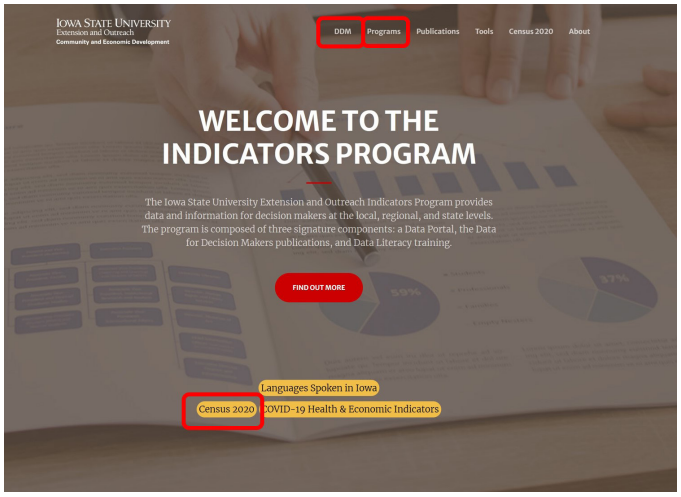


Figure 2.

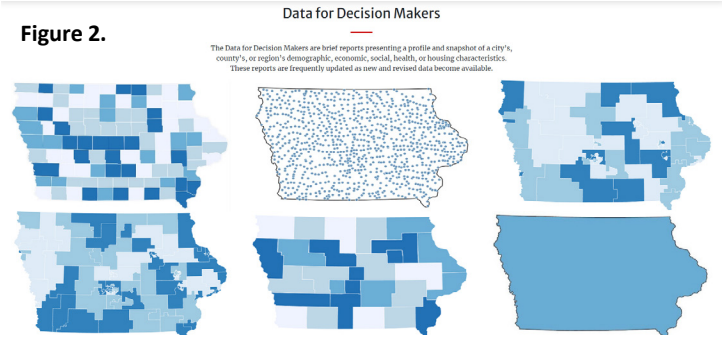
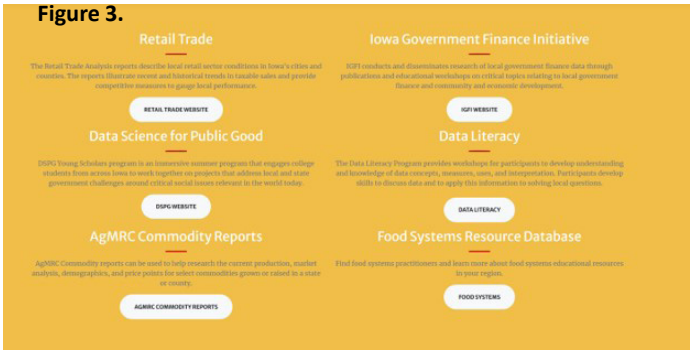


Figure 3.



References and Notes:

[1]Social Determinants of Health are the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks. https://health.gov/healthypeople/priority-areas/social-determinants-health and https://www.cdc.gov/public-health-gateway/php/about/social-determinants-of-health.html and https://www.communitycommons.org/collections/Seven-Vital-Conditions-for-Health-and-Well-Being

[2]The Iowa Department of Health and Human Services (IAHHS), formerly the Iowa Department of Public Health (IDPH). https://hhs.iowa.gov/

[3]U.S. Centers for Disease Control and Prevention (CDC): https://www.cdc.gov/ and CDC Wonder, Multiple Cause of Death https://wonder.cdc.gov/mcd.html

[4]U.S. Census Bureau https://www.census.gov/

[5]For more than a decade, *County Health Rankings and Roadmaps* (CHR&R) has provided an annual report and county-level health data. CHR&R compiles health data and information from a wide variety of primary sources into a county-based health data file. Data items from this file are the source for some of the indicators reported in this health DDM including the county-level BRFSS[6] items. CHR&R is a program of the University of Wisconsin Population Health Institute with support from the Robert Wood Johnson Foundation https://www.countyhealthrankings.org/

[6] The Behavioral Risk Factor Surveillance System (BRFSS) is a federally funded randomized telephone survey of Iowa residents ages 18 and older. , The questions collect data related to a variety of health behaviors, conditions, and preventative health practices. The BRFSS survey is conducted in Iowa with support from IAHHS[2] and the CDC.[3] The source for the BRFSS items included in the health DDM is the CHR&R[5] annual county health file. https://www.cdc.gov/brfss/ and https://hhs.iowa.gov/performance-and-reports/brfss

[7]*Data for Decision Makers* for Iowa's counties, cities, legislative districts, Extension regions, health and housing are updated as new data become available. They can be found at: https://indicators.extension.iastate.edu/#DDMs**.** The Indicators Data and Portal Project https://indicators.extension.iastate.edu/ is a website for finding, visualizing, and mapping data. It is supported by Iowa State University Extension and Outreach through the data team of Extension to Communities and Economic Development.

[8]The National Center for Health Statistics (NCHS) in the CDC provides mortality files used to calculate the years of life expectancy in the CHR&R[5] health data file. https://www.cdc.gov/nchs/about/

[9]Iowa Dept of Transportation, Iowa Crash Analysis Tool: https://icat.iowadot.gov/

[10]The Iowa Department of Health and Human Services, *Vital Statistics of Iowa* https://hhs.iowa.gov/public-health/health-statistics

[11]The Iowa Cancer Registry/State Health Registry of Iowa, a member of the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) Program is a population-based cancer registry located at the University of Iowa. Cancer data in the health DDM are from a custom requested data file. https://shri.public-health.uiowa.edu/

[12]The Iowa Department of Health and Human Services, Iowa Public Health Tracking Portal: https://hhs.iowa.gov/public-health/data

[13]*Map the Meal Gap,* custom data request https://map.feedingamerica.org/

[14] U. S. Department of Agriculture, Food and Nutrition Service, Supplemental Nutrition Assistance Program (SNAP) https://www.fns.usda.gov/snap/supplemental-nutrition-assistance-program and Iowa Data Portal: https://data.iowa.gov/browse?category=Health+%26+Human+Services

[15]The Iowa Department of Health and Human Services (IAHHS), formerly the Iowa Department of Public Health (IDPH) The COVID-19 web sites are no longer updated but were: https://idph.iowa.gov/Emerging-Health-Issues/Novel-Coronavirus/COVID-19-Reporting and https://coronavirus.iowa.gov/

[16]U.S. Department of Health and Human Services. The COVID-19 web sites are no longer being updated but were: : https://public-data-hub-dhhs.hub.arcgis.com/ and. Centers for Disease Control and Prevention: https://data.cdc.gov/Vaccinations/COVID-19-Vaccinations-in-the-United-States-County/8xkx-amqh

[17]U.S. Census Bureau, Household Pulse Survey (HPS) https://www.census.gov/programs-surveys/household-pulse-survey.html

[18]*Iowa Health Fact Book*: https://iowahealthfactbook.org/

[19]Iowa Department of Health and Human Services, Division of Behavioral Health, Iowa Behavioral Reporting System (IBHRS), special data request: https://hhs.iowa.gov/programs/mental-health/substance-use-disorder/behavioral-health-reporting-system

[20]U.S. Census Bureau. The American Community Survey (ACS) is an ongoing survey that provides annual information for the U.S., states, counties, towns, and many other geographic regions. The ACS is the primary source for social, economic, and housing data. The health DDM reports several indicators that come from the ACS. Because the ACS information is gathered with a sample survey methodology that is different from the Decennial Census, the reporting for small population areas gives a 5-year pooled estimate rather than a point-in-time count. The most recent 5-year set covers the years of 2018-2022. Because the ACS data are based on samples of the population, there is some level of uncertainty or sampling error associated with each estimate. The Census Bureau provides a margin of error (MOE) that helps to assess the amount of sampling error and the reliability associated with the estimate. The MOE is reported as +/- a numerical value that should be added to or subtracted from the point estimate value and which give the upper and lower bounds of a 90% confidence interval around the estimate. The interval represents the range within which the true value of the estimate is expected to be with a level of confidence of 90%. A smaller MOE relative to the size of the estimate represents a more precise and reliable estimate. As MOEs become relatively larger, the less confidence there is that the point estimate is close to the true population value. In some cases, especially for small geographic areas or subgroup populations, margins of error can be relatively large. https://www.census.gov/programs-surveys/acs/ and https://www.census.gov/programs-surveys/acs/library/handbooks.html

[21]A median is the middle value of a distribution. Half of the values are above the median and half are below. The age dependency ratio compares, by age, those typically not in the labor force with those who typically are in the labor force. Old Age dependency is persons 65+ per 100 persons age 18-64. Child dependency is persons under age 18 per 100 persons age 18-64. The total age dependency ratio is persons under age 18 plus persons 65 or older per 100 persons age 18-64.

[22]The Decennial Census surveys and counts every household and person in the United States. A Decennial Census is carried out every 10 years in the years ending in zero and is required by the U.S. Constitution to reapportion Congress. The most recent Decennial Census was conducted in 2020. More information can be found at: https://www.census.gov/programs-surveys/decennial-census/decade/2020/2020-census-main.html

[23]The basic race categories include: White, Black or African American, American Indian or Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, and Some Other Race. Hispanic Origin is considered to be an ethnic group, not a race category. More information regarding the reporting of race and Hispanic Origin can be found at: https://www.census.gov/topics/population/race.html and https://www.census.gov/topics/population/hispanic-origin.html

[24]Detailed housing information can be found at: https://www.census.gov/topics/housing.html and https://www.census.gov/topics/housing/guidance.html

[25]Affordable Care Act: https://www.hhs.gov/healthcare/about-the-aca/index.html

[26]U.S. Census Bureau, Small Area Health Insurance Estimates Program (SAHIE) https://www.census.gov/programs-surveys/sahie.html

[27]Households (occupied housing units) are the main units for which ACS data are collected. There may be from one to several persons living at each location. In order to be classified as a family, a household must have at least two persons living together, one of whom is related to the householder by birth, marriage, or adoption. Non-family households, with no relatives of the householder, frequently are householders who are living alone.
https://www.census.gov/topics/families/data.html

[28]Poverty topics and guidance: https://www.census.gov/topics/income-poverty/poverty.html and
https://www.census.gov/topics/income-poverty/poverty/guidance.html

[29]U.S. Census Bureau, Small Area Income and Poverty Estimates: https://www.census.gov/programs-surveys/saipe.html

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