# Data for Decision Makers

## County *Data for Decision Makers* User's Guide

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The *Data for Decision Makers* (DDM) county profile provides current demographic, social, and economic indicators for Iowa's counties and the state. The county DDMs can be used to compare among counties and to compare counties to the state. They are meant to help Iowa's residents and policy makers understand the situations and contexts of people in the counties.

This user's guide provides an overview of the topics and indicator items that are in the DDM, gives background information about the indicators, as well as providing other online resources about the topics and the data. The DDMs are updated periodically[1] as new releases of data are available. The *Data for Decision Makers* are accessed from the Iowa State University Extension and Outreach Indicators Program site.[1]

**Population - Page One**
**Total population** for the county, communities in the county, and the state are on page one of the DDM. These data come from the 2000 through 2020 **Decennial Censuses**[2] carried out by the Census Bureau. Also included are the county populations by sex. The population totals are used to calculate the percentage changes that are shown for the county, surrounding counties, and the state of Iowa.

**Demographics - Page Two**
Data on race, Hispanic origin, age, households, families, and couples are on page two. These data are from the Decennial Censuses.[2] For **race**, respondents self-selected one or more categories.[3] 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.[3]

Various **age group**s are reported along with the median age,[4] age dependency ratios,[5] and a population pyramid.[6] The **median age** 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** indicate the typically dependent population compared with those of working age and show the population that usually relies on others for the goods and services they consume.[5] 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.

The **population pyramid**[6] visually shows the age and sex structure for the county and is a useful way to compare across age and sex groups. Each bar (except the top bar) represents a 5-year age group with females on the right and males on the left. In these visuals, the length of the bar shows the percent of the total population for each age/sex group. Use caution when visually comparing population pyramids among counties as the percentage scale used across the bottom may vary.

**Households**[7] (occupied housing units) are the main units for which Census Bureau survey data are collected. Each household has one designated householder and there may be from one to several persons living at each location. In the households table, the percentages given show each group's part of all households.

Households are divided into subcategories by two different methods, both of which are reported in this profile. One method (family or nonfamily)[7] is based on the presence or absence of family relationships among the household members and the householder. 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** have no relatives of the householder present and frequently are householders who are living alone. Using family relationships (birth, marriage, or adoption) has been the traditional way to classify households and the data using this method has good comparability across survey years.

The Census Bureau has introduced an additional way that households are divided into subcategories. This second method (couple or noncouple)[7] is based on the presence or absence of a **couples relationship** for the householder. The couples relationship can be as a married spouse or as an unmarried partner and can be of the opposite or same sex.[7] The reporting of same-sex couples changed between 2010 and 2020. The 2020 data reported for the couples categories (except for married couples) does *not* have good comparability with data from earlier surveys. In this profile, the 2020 data are reported but 2010 items for cohabiting couples, which are not comparable to 2020, are omitted.

**The American Community Survey**[8]
The information on income along with educational attainment, housing, occupation, employment, earnings, and poverty comes from the American Community Survey (ACS)[8] carried out by the Census Bureau. The ACS provides social, economic, and detailed housing information that is no longer included in the Decennial Censuses. The ACS information is gathered annually with a **sample survey** methodology that is different from the Decennial Census. Instead of counting every person and household as in the Decennial Census, the ACS samples households and reports **estimates** for each data item, not counts.

The ACS data in these county DDMs are **5-year, pooled estimates** rather than point-in-time counts. Although 1-year estimates[8] pooled across 12 months are available for large population areas (65,000+), the 1-year estimates are not available for most of Iowa's counties. In order to provide the DDM profiles for all the counties and to have comparability across the reported data, the estimates pooled across five calendar years are used for these profiles.

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Another aspect of the ACS that needs to be considered is that a methodology that uses sampling, as the ACS does, always involves some level of **uncertainty** in the estimates produced. A sampling estimate is not likely to be the exact value that is present in the population. The difference between the true population value and the sampling estimate is called sampling error.[9]

The Census Bureau provides a **margin of error** (MOE)[9] statistic for each estimate. The MOE indicates the level of uncertainty and reliability associated with the sample estimate. The MOE is reported as +/- a numerical value that should be added to or subtracted from the point estimate value and which gives 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%. In some cases, especially for *small geographic areas* or *subgroup populations*, margins of error can be relatively large. For this DDM, MOEs that are half or more of the size of the point estimate value are considered to be unreliable and the point estimate values and MOE values are suppressed in the DDM.[9] Any suppressed item is available, however, from the Census Bureau site. For areas or subgroups for which the county data are not given, users should use the state level estimates as an approximation of the level in a county.

**Socioeconomics - Pages Three - Four**
Income, housing, education, earnings, poverty, and other socioeconomic data from the ACS are reported on pages three and four of the DDM. An **income distribution**[10] for households is provided along with **median income** for households and families. Because families may have more than one person with income, family household median income is usually higher than that for all households. **Per capita income** is the average income per person. There can be significant differences among the counties in these income indicators.

**Housing**[11] data provided in the DDM include the total number of **housing units**, occupancy by **owners or renters**, along with median **housing value** and median **rent**. The **age of the housing** is indicated by the percentages built by decade. Some counties have significant portions of their housing built before 1940. Median housing values, median rents, and the age of housing units vary significantly among the counties.

**Educational attainment**,[12] reported for persons age 25 and older, shows those completing at least high school and those with a bachelor's degree or higher. There

are often significant variations among the counties in the percentage of residents who have completed at least a bachelor's degree.

The five **occupation groups**[13] reported in the DDM are the main, broad categories used to classify work Occupation describes and categorizes the kind of work, main activities, and duties that a person does on the job. These five groups are the broadest categories used to summarize more than 30,000 job titles. In Iowa, questions may arise about farm occupations. There is not just one single category for all farmers. In general, persons engaged in farm management or ownership are likely classified in the management/business category but farm workers and hired labor are classified in the natural resources category.

The DDM includes estimates of **employment** and **unemployment**.[10] Persons who are considered to be in the **labor force** are those who are employed along with those who are not employed but are looking for work. A portion of the persons categorized as not in the labor force are those who are retired.

**Earnings**[14] are reported for persons who have wage or salary income from employment. One set of **median earnings**, reported by sex, is for all persons that are employed regardless of the extent or hours that they work and includes persons who work part-time. Earnings are also reported separately for those who work **full-time and year round**. In general, the median earnings for males tend to be higher than those for females. In some cases, the median earnings of women working full-time and year round may be less than the amount for all men even though that figure includes men working part-time.

**Poverty**[15] is usually thought about in terms of not having enough money to meet basic needs of food, clothing and shelter. It is usually measured by income indicators. Poverty data from the ACS show, based on household or family size and composition, the number or percent of households or persons whose income fell below a set of dollar value thresholds specified by the U.S. Department of Health and Human Services.[15] If a family's or an individual's income was less than the dollar value of the appropriate threshold, then that family and every individual in it was 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.

Although the DDM has tables for poverty status by race and Hispanic origin and by

family status, for many smaller counties the estimates for some of these subgroups are suppressed. This is due to the small numbers of persons in these groups in many of Iowa's counties resulting in poverty estimates that are unreliable with large margins of error.[9] For subgroups for which the county poverty data are not given, users should use the state level estimates as an approximation of the level in the county.

The *Data for Decision Makers* provide the most recent ACS, Decennial Census, and estimate data that are available when the DDMs are updated and published. The ACS items are updated annually, usually in December while the Decennial Census items are only updated every 10 years. The dates reported for any specific set of data items are the time frame during which the **data were collected**.

One aspect of any data collection process is that there is *lag time* between when the data are collected, the time needed to process the data, and the time when the data can be published by an agency. Most often, these data processes cannot be sped up without compromising data quality or reliability. The Community and Economic Development data team makes every effort to report the most recent data that are available at the time when the DDM reports are published, however, we can only report data that official sources have released.

**For Further Consideration**
One way to utilize these *Data for Decision Makers* is to think about and review some of the specific indicators that can be relevant for your county. Included here are some thoughts and questions that may help guide your review.

How would you characterize the population trends for your county? How does the county trend compare with that for the state and with communities within the county?

Some of Iowa's counties have had moderate to significant changes with regard to the race and Hispanic Origin of its residents. What are the trends for your county? How might your county compare with statewide trends?

Were youth more prevalent in your county in 2020 than in 2010? How about persons age 65 or older? The bars in the population pyramid that represent the "baby boom" group are those for ages 55 through age 74. How do those groups compare with persons younger than age 20? With persons age 25 through 54?

In most counties, family households and those of married couples are the most prevalent types. Is this the case for your county? Are there more males living alone than females living alone? Are cohabiting couples a significant portion of households in your county?

How might the education levels in your county relate to the age structure? Would the race or Hispanic Origin profile of the county residents impact the education levels?

How do the median value of owner housing, median rent, and age of housing in your county compare with the overall state levels? Where in the county would you find the older housing? Where would the newer housing be?

How might the age structure of your county impact the proportion of persons in the labor force? How would the occupations of county residents influence income levels? Do males tend to have higher earnings than females in your county?

Which race or Hispanic groups have the lowest poverty rates in your county? (use state levels if suppressed for county) Which groups have the highest? How do the poverty rates for those age 65 or older compare with the rates for youth? How much difference is there in the poverty rates for married couple families compared with the rates for female householders with no spouse present?

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**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.

This users guide will appear as a link in the drop down menu. You will also find DDMs for Iowa's cities and the state's Senate and House Legislative 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).
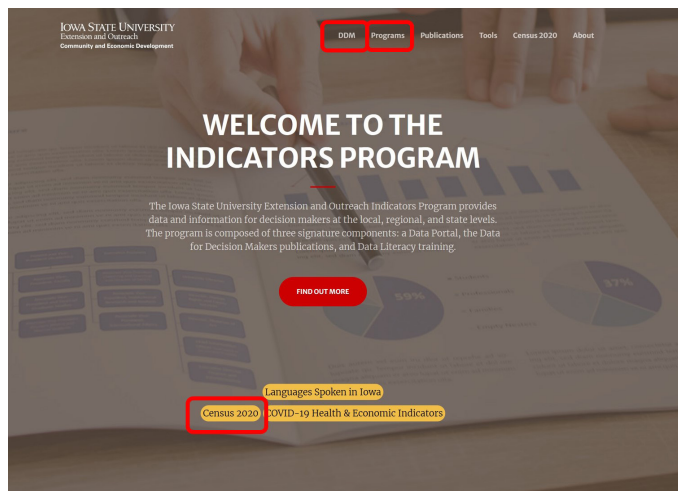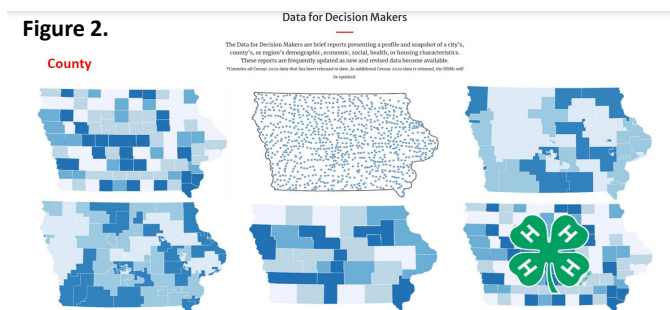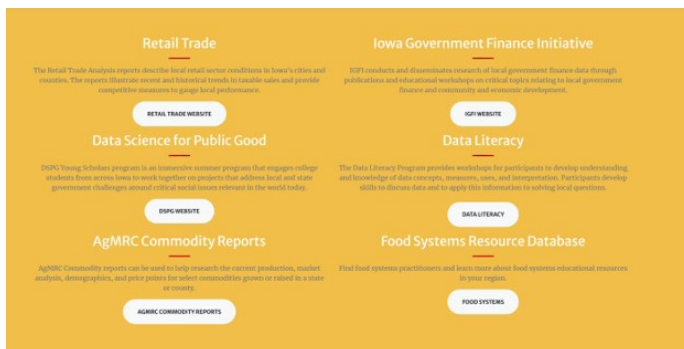
**Figure 1.**



**Figure 2.**



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**Figure 3.**



**References and Notes:**
[1]*Data for Decision Makers* for Iowa's counties, cities, state legislative districts, federal Congressional districts, Extension regions, health, and housing are updated as new data become available, generally annually. The DDMs can be found at https://indicators.extension.iastate.edu/#DDMs. The *Data for Decision Makers* are part of the Indicators Data Project that is supported by Iowa State University Extension and Outreach through the data team of Extension Community and Economic Development. Additional topics, data, and reports on population trends, retail trade, government finance, and food system resources can be found at: https://indicators.extension.iastate.edu

[2]The **Decennial Census** surveys and counts every housing unit 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 data from the Decennial Census includes total population, age, sex, race, Hispanic Origin, households, families, couples, household relationships, housing units, and housing tenure of owners or renters. More information can be found at: https://www.census.gov and https://www.census.gov/programs-surveys/decennial-census/decade/2020/2020-census-main.html

[3]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.

[4]A **median** is the middle value of a distribution.  Half of the values are above the median and half are below.

[5]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.

[6]In a **population pyramid**, the length of each bar shows the size of each age/sex group relative to the other groups.  The length of the bar represents each group's percent of the total population.  The pyramid is a useful way to compare across age and sex groups.  More information on population pyramids can be found at: https://www.census.gov/newsroom/blogs/random-samplings/2016/06/americas-age-profile-told-through-population-pyramids.html.

[7]**Households** are **occupied housing units** with at least one person living there.  One person in the household is designated as the householder and other persons are categorized by their relationship to the householder.  For the 2020 Decennial Census, households were divided into subcategories by two different methods, both of which are reported in the county profile. One method (family or nonfamily) is based on the presence or absence of **family relationships** among the household members and the householder.  **Non-family households** have no relatives of the householder present.  Using family relationships (birth, marriage, or adoption) has been the usual way to classify households and the data using this method have good comparability between 2010, 2020, and previous Decennial Censuses.  In 2020, the Census Bureau introduced an additional method to divide households into subcategories.  This second method (couple or noncouple) is based on the presence or absence of a **couple relationship** for the householder.  The relationship can be as a **married spouse** or as an **unmarried partner** and can be of the opposite or same sex**.**  The 2020 data reported for the second method (except for married couples) does not have good comparability with data from 2010 or earlier Decennial Censuses.  The reporting of **same-sex couples** changed between 2010 and 2020.  In this profile, the 2020 data are reported, but items for 2010 are omitted.  More information is at: https://www.census.gov/topics/families/families-and-households.html and https://www.census.gov/topics/families/same-sex-couples.html

[8]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 detailed housing data for most geographic levels in the country.  These socioeconomic data are no longer included in the Decennial Census.  ACS estimates are updated annually with the newest set of 5-year estimates usually released in December for the previous 5-year period.  The home page for the American Community Survey and guidance is: https://www.census.gov/programs-surveys/acs/.

[9]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.  For this DDM, MOEs that are half or more of the size of the point estimate value are considered to be unreliable and the point estimate values and MOE values are suppressed.  Any suppressed item is available from the Census Bureau site.  For areas or subgroups for which the county data are not given, users should use the state level estimates as an approximation of the level in a county.  See: https://www.census.gov/programs-surveys/acs/library/handbooks.html   and   https://data.census.gov/

[10]Concepts and measurement of **income, earnings, occupation, and employment** can be found at: https://www.census.gov/topics/income-poverty/poverty.html; https://www.census.gov/topics/employment/labor-force.html; and https://www.census.gov/topics/employment/industry-occupation.html.html**.**

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

[12]For **education** measures and information see:  https://www.census.gov/topics/education/educational-attainment.html  and https://www.census.gov/topics/education.html

[13]Occupation classification details are available at: https://www.bls.gov/soc/2018/major_groups.htm

[14]A discussion on earnings is at: https://www.census.gov/newsroom/blogs/random-samplings/2010/09/income-vs-earnings.html

[15]**Poverty concepts** and measurement as used in the ACS can be found at:  https://www.census.gov/topics/income-poverty/poverty.html   and https://www.census.gov/library/publications/2023/demo/p60-280.html**.**  Persons in the various types of group quarters who are not included in the population for whom poverty is determined were excluded from the numerator and denominator when calculating poverty rates.  Federal poverty information and guidelines can be found at: https://aspe.hhs.gov/poverty-guidelines**.**

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