

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. It 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. Because of lags and variations in data collection processes as well as concerns for patient confidentiality, there are time and geographic gaps in the health data reported. 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 to protect confidentiality. The 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.¹

Page One - Covid-19 Cases, Rates, Deaths Covid-19 cases were first reported in Iowa in March, 2020. Included in the DDM are graphs showing the county's weekly number of cases, weekly rates/100,000 population, along with the monthly number of Covid-19 related deaths in the county. Iowa and most counties experienced especially high surges in cases and rates during November 2020, September 2021, and January 2022. These surges corresponded not only to the original strain of the Covid-19 virus but subsequent new strains as well. The graph showing weekly rates compares the county rates with the state rates. For some counties, there were times when county rates diverged from the

trend in the state levels. Rates are calculated using 2020 Decennial population counts.

Page one also shows a table with cumulative case counts and rates for both the county and the state. By the end of August, 2022, more than 25,000 Iowans per each 100,000 population had reported having Covid-19. In addition, 9,940 Iowans had Covid-19 related deaths. These Covid-19 data, as reported in the DDM, represent additional analysis with original data from the multiple web site locations that the Iowa Department of Public Health (IDPH) has used to report Covid-19 information.²

Page Two - Covid-19 Hospitalizations, Vaccinations, Other Causes of Deaths Covid-19 related hospitalized, intensive care unit (ICU), and ventilator patients were reported each week at the state level. These statewide weekly hospitalization trends are shown along with weekly reported deaths. The reporting of a death can lag, sometimes significantly, behind the actual week of the death. The hospitalization information was originally reported by IDPH and then by Health and Human Services.³ Ventilator patient data is no longer available.

Vaccinations for Covid-19 became available for some Iowans late in 2020 with most age groups eligible in 2021 and 2022. Booster shots for the virus are available as well. The cumulative percentages of county and state residents receiving the vaccination series and at least one booster are reported in a bar graph by age. Older Iowans have the highest levels of both vaccinations and boosters. The vaccination data are from the Center for Disease Control and Prevention (CDC) which uses the 2019 population estimates for calculating the percentages.⁴

The statewide provisional count of all deaths of Iowans for 2021 (34,201) reported by IDPH⁵ was lower than the number of deaths

for 2020 (35,975) due, in part, to deaths from Covid-19 being lower in 2021 (3,053) than in 2020 (4,306). Statewide, Covid-19 deaths were nearly 12% of all deaths in 2020 and 9% for 2021. For some Iowa counties for 2021, Covid-19 deaths ranged upwards of 15% or more of all deaths that year (see map).

IDPH annually reports births as well as deaths.⁵ County trends in births and deaths are graphed in 5-year intervals for 1940 - 2015 and annually for 2016 - 2021. 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. Many counties have had natural decrease for several 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 CDC tracks deaths resulting from a variety of causes. Ten-year counts and average annual counts are reported on page two in a table 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.⁶

An additional source of drug or alcohol related deaths is the Iowa Department of Transportation (IDOT). IDOT tracks vehicle crashes, resulting deaths and reports those that have drug or alcohol related causes. A bar graph on page two shows crash fatalities that are drug or alcohol related. 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 decedent.⁷

Page Three - Health Risk Factors, Cancer An annual report, *County Health Rankings and Roadmaps*,⁸ compiles health data and information from a wide variety of primary sources into a county-based data file and

resource. Data items from this file are the source for some of the indicators reported in this health DDM. References to items used in this DDM will include the *County Health* report⁸ as well as the original source cited in that report. The *County Health* report and the data provided are a joint project of the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute.⁹

The National Center for Health Statistics¹⁰ in the CDC provides mortality files used to calculate the years of life expectancy in the *County Health* report.⁸ For Iowa and many counties, life expectancy for the most recent reporting period (2018-2020) was shorter than that for the preceding period (2015-2017).

For more than a decade, a feature of the *County Health* report has been the rankings that it gives for a state's counties on health factors and health outcomes. Health outcomes include length of life and quality of life. Health factors are those that influence health such as health behaviors, access to health care, social and economic factors along with physical environmental characteristics. These rankings are produced for the counties of all the states. The health DDM graphs the county rankings on both outcomes and factors since 2011. The counties that are ranked as better off are those with *smaller* numbers.⁸

Two maps, a graph, and a table on page two show findings from an annual survey conducted by the Behavioral Risk Factor Surveillance System (BRFSS)¹¹ and included in the *County Health* report.⁸ The BRFSS survey provides data from individuals on a number of health-related conditions and behaviors. Reported in the DDM are indicators from BRFSS for smoking, excessive drinking, obesity, inactivity, insufficient sleep, along with measures of fair or poor health, physical distress, and mental distress. Statewide and in many counties, a higher percentage of respondents reported excessive drinking than reported smoking in both 2018 and 2019. Statewide in 2019, around 34% of respondents reported being obese but the proportion ranged up to 40% or higher for several counties (see map). The BRFSS survey is conducted in Iowa with support from IDPH and the CDC.¹¹

Iowa's Cancer Registry¹² reports cancer cases and deaths as well as cancer by type. Cancer cases and cancer deaths are shown in a graph for 2000 through 2018. Cancer deaths in any given year can result from cases

reported in any earlier year. Also included is a graph for 5-year counts for lung, female breast, and colorectal cancers.¹² Five years of counts are combined to limit data suppression as much as possible due to small counts in some counties.

Page Four - Hospitalizations, Social Factors
IDPH maintains a health data tracking portal¹³ which provides access to a variety of state and county-level health information. Among the items tracked and graphed in the DDM are: heart attack hospitalizations, ER visits and hospitalizations due to chronic obstructive pulmonary disease, along with ER visits and hospitalizations due to falls. Falls are a common reason for ER visits and hospitalizations. Annual data are graphed and reported in the DDM for these items, but because data for small counts may be suppressed, some years will have no data reported.

Social and economic factors have an impact on health. One of these is having sufficient food. A measure of food access comes from Map the Meal Gap.^{14,8} These data are graphed showing the percentage of county residents who are considered to be food insecure. 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.¹⁵ In addition, average dollar benefits paid per SNAP recipient show that benefits increased significantly in both 2020 and 2021.

Air quality, when it is poor, can impact health outcomes. The CDC's environmental tracking network¹⁶ includes several air quality indicators. The DDM shows average annual air particulate matter data for the county and the state for 2001 through 2018.

Financial stress can often play a role in health. 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. Measures of both renter and owner households spending 30% or more of household income on housing costs are provided in the American Community Survey (ACS) conducted by the U.S. Census Bureau.¹⁷ 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.

The health DDM reports several other indicators that come from the ACS which has been providing data annually since 2005. The ACS now provides basic social, economic, and detailed housing information that previously was included in the Decennial Census. 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 2016-2020 and is used for ACS items in the health DDM. A new 5-year set is usually released in December of each year.

As an additional ACS consideration, because the data are from a sampling methodology, there is some level of uncertainty or sampling error for each estimate. Along with the estimate value, the ACS provides a margin of error (MOE) value for each estimate. The MOE is a numerical value that, when added to or subtracted from the point estimate value, gives the range of a 90% confidence interval around the estimate. The interval is the range for which there is a 90% probability that it contains the true estimate value.¹⁸

Page Five - Disability, Health Providers, Age
The American Community Survey 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. Those age 75 and above have the highest percentages reporting problems across a range of disability types.¹⁷

Education is a factor having influence on most aspects of life including health status. Once again, the ACS is used to show 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.¹⁷

The presence or lack of various health facilities and providers influences health care. Hospital and nursing facilities along with the number of beds for each are reported from the *Iowa Health Fact Book*.¹⁹ Some of Iowa's smallest counties do not have a local hospital. Another aspect of the health care environment is the presence or absence of physicians, dentists, and mental health providers. Having these types of providers nearby allows residents easier access than when they have to travel farther for these services. The *County Health* report⁸ includes both the number of these providers at the county level as well as the population per provider.

Age is a crucial factor in health. Various age groups are reported in the DDM along with the median age and age dependency ratios. The age data come from the Decennial Censuses.²⁰ 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 reporting of data from the 2020 Decennial Census has been delayed because of the Covid-19 pandemic. When the age data from 2020 are available, the health DDMs will be updated with the new information.

The median age²¹ 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 ratios²² 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.

Page Six - Economic 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 timely treatment of acute and chronic health problems and issues. 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 both for the counties and for the state. 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 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 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%. It is likely that the Affordable Care Act,²³ enacted in 2010, has contributed to more adults having health insurance in these recent years. These data on health insurance coverage rates come from the Census Bureau's program of Small Area Health Insurance Estimates (SAHIE) that annually estimates these coverage rates.²³

Income can impact health status. This report includes estimates of median²¹ household income, median family income along with per capita income. Because families²⁴ 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.¹⁷

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.²⁵ 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.²⁵

There are several Census Bureau programs and surveys that report poverty levels.²⁵ The annual state and county-level poverty estimates in the DDM are from the Census Bureau's Small Area Income and Poverty Estimates (SAIPE) Program.²⁶ 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.

This health *Data for Decision Makers* provides a wide range of health data and information. It is updated periodically as new data become available. It can serve as a guide to health-related needs of county residents.

References and Notes:

¹*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.

²Rates are calculated using 2020 Decennial Census population counts. Iowa Department of Public Health: <https://idph.iowa.gov/Emerging-Health-Issues/Novel-Coronavirus/COVID-19-Reporting> and previously (but no longer active) <https://coronavirus.iowa.gov/>

³U.S. Department of Health and Human Services: <https://public-data-hub-dhhs.hub.arcgis.com/> and <https://idph.iowa.gov/Emerging-Health-Issues/Novel-Coronavirus/COVID-19-Reporting> and previously (but no longer active) <https://coronavirus.iowa.gov/>

⁴Rates are calculated using 2019 population estimates. Centers for Disease Control and Prevention: <https://data.cdc.gov/Vaccinations/COVID-19-Vaccinations-in-the-United-States-County/8xkx-amqh>

⁵Vital Statistics of Iowa and Vital Statistics of Iowa in Brief, Iowa Dept of Public Health: <https://idph.iowa.gov/health-statistics/data>

⁶Centers for Disease Control and Prevention: <https://wonder.cdc.gov/Deaths-by-Underlying-Cause.html>

⁷Iowa Dept of Transportation, Iowa Crash Analysis Tool: <https://icat.iowadot.gov/>

⁸County Health Rankings and Roadmaps: <https://www.countyhealthrankings.org/>

⁹Robert Wood Johnson Foundation: <https://www.rwjf.org/> and University of Wisconsin Population Health Institute: <https://uwphi.pophealth.wisc.edu/>

¹⁰National Center for Health Statistics: <https://www.cdc.gov/nchs/index.htm>

¹¹Behavioral Risk Factor Surveillance System: <https://www.cdc.gov/brfss/index.html> and <https://idph.iowa.gov/brfss>

¹²Iowa Cancer Registry: <https://www.cancer-rates.info/ia/>

¹³Iowa Public Health Tracking Portal: <https://tracking.idph.iowa.gov/>

¹⁴Map the Meal Gap: <https://www.feedingamerica.org/search/node?&q=map%20the%20meal%20gap>

¹⁵Supplemental Nutrition Assistance Program: <https://www.fns.usda.gov/snap/supplemental-nutrition-assistance-program> and Iowa Data Portal: <https://data.iowa.gov/>

¹⁶CDC National Environmental Public Health Tracking Network: <https://ephtracking.cdc.gov/DataExplorer/>

¹⁷The 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: <https://www.census.gov/programs-surveys/acs/> and <https://www.census.gov/programs-surveys/acs/library/handbooks.html>

¹⁸Because 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.

¹⁹Iowa Health Fact Book: <https://iowahealthfactbook.org/>

²⁰The 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>

²¹A median is the middle value of a distribution. Half of the values are above the median and half are below.

²²The 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.

²³Affordable Care Act: <https://www.hhs.gov/healthcare/about-the-aca/index.html> and Small Area Health Insurance Estimates: <https://www.census.gov/programs-surveys/sahie.html>

²⁴Households (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.

²⁵<https://www.census.gov/topics/income-poverty/poverty.html> and <https://www.census.gov/topics/income-poverty/poverty/guidance/poverty-measures.html>

²⁶Small Area Income and Poverty Estimates: <https://www.census.gov/programs-surveys/saipe.html>

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