

IA Data Drive User's Manual

Version 1.2

August 2022

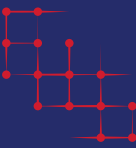


Iowa's Integrated Data System for Decision-Making
I2D2 | IOWA STATE UNIVERSITY



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What is IA Data Drive?

IA Data Drive is a free online interface developed by I2D2 at Iowa State University with a goal to improve understanding and provide support for decision-making relevant to early childhood programs in Iowa. In a nutshell, it provides information about key indicators at state and county levels for a period often covering more than one decade. IA Data Drive enables users to see both local and global trends and compare indicators for a specific county against other Iowa counties and/or statewide values.

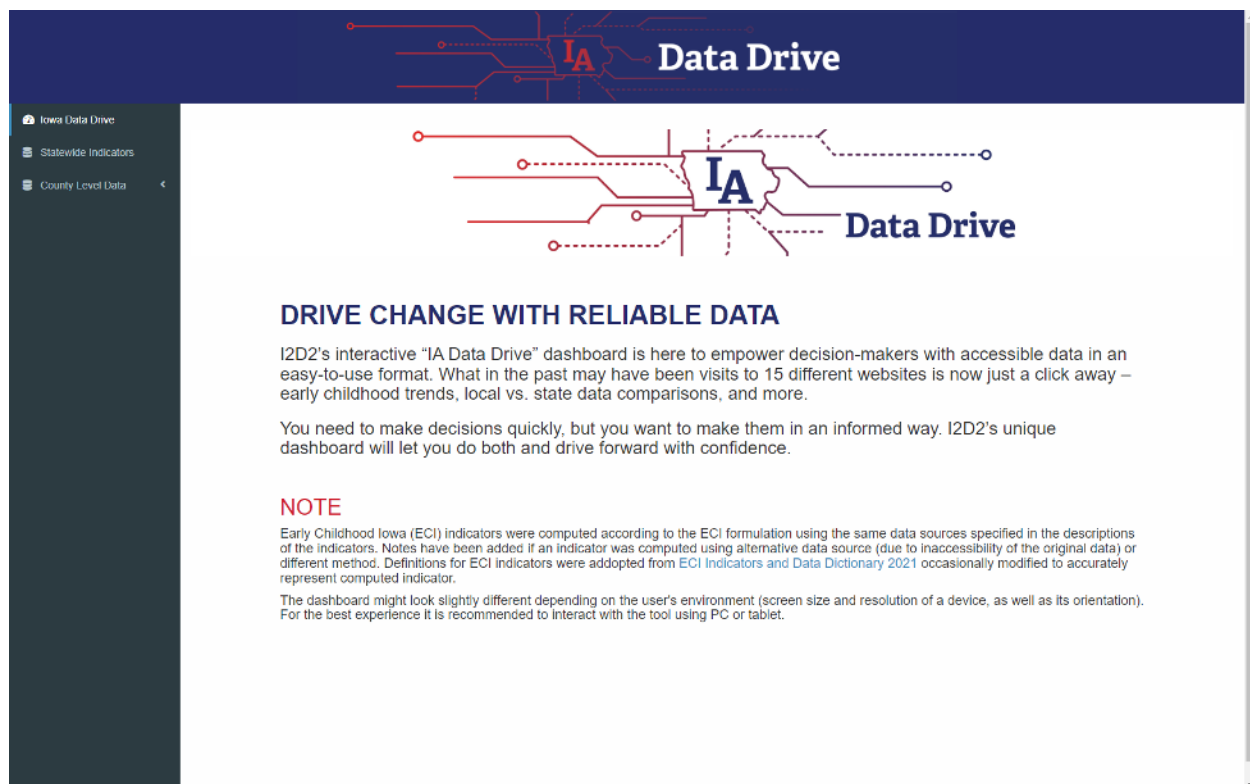
IA Data Drive uses publicly available administrative data to compute Early Childhood Iowa (ECI) approved indicators (see [Appendix A](#)). Currently there are 15 indicators for evaluating improvement in the quality of life of young children and their families, covering topics such as education, child health, available services, and others.

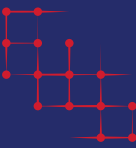
IA Data Drive includes tools allowing users to interact with maps and charts, explore data tables, and download figures and underlying data for further use or integration. It also provides accurate descriptions of the indicators, references to the data sources, and other important details.

This manual is intended to assist users navigate IA Data Drive, efficiently utilize its tools and obtain data of interest. It explains the general structure of the interface, shows main elements and their functionality, and highlights key features of the web-tool.

Homepage

The IA Data Drive home page displays general information about the web-tool. From here, users can navigate the system using the sidebar menu positioned on the left.





Sidebar Menu

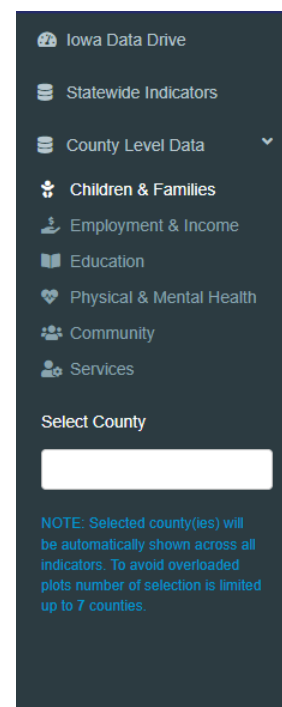
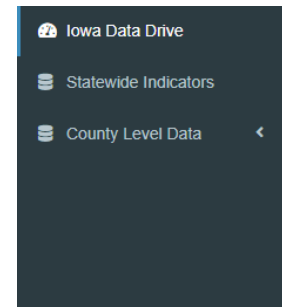
The sidebar menu is a primary way to navigate across main parts of IA Data Drive. This menu contains three options: “Iowa Data Drive”, “Statewide Indicators”, and “County Level Data”.

“Iowa Data Drive” takes users to the homepage that shows general information about the tool.

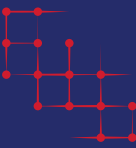
“Statewide Indicators” is used to go to a dashboard that summarizes statewide values for all indicators.

“County Level Data” is used to unfold suboptions for navigating county level data and selecting counties of interest (note that in order to avoid clutter during visualization, selection is limited to 7 counties). Users can show or hide subitems by clicking them. Currently “County Level Data” contains six subitems that groups the indicators as follows:

- “Children & Families”:
 - Incidence of Child Abuse
 - Teen Births
 - Domestic Violence
- “Employment & Income”:
 - Children in Poverty
 - Working Parents
 - Unemployment
- “Education”:
 - Educational Attainment of Mothers
 - Early Literacy Skills
 - Preschool Enrollment
- “Physical & Mental Health”:
 - Immunized Children
 - Low Birth Weight
- “Community”:
 - Serious Crime
 - Juvenile Arrests
- “Services”:
 - Dental Services
 - Availability of Child Care

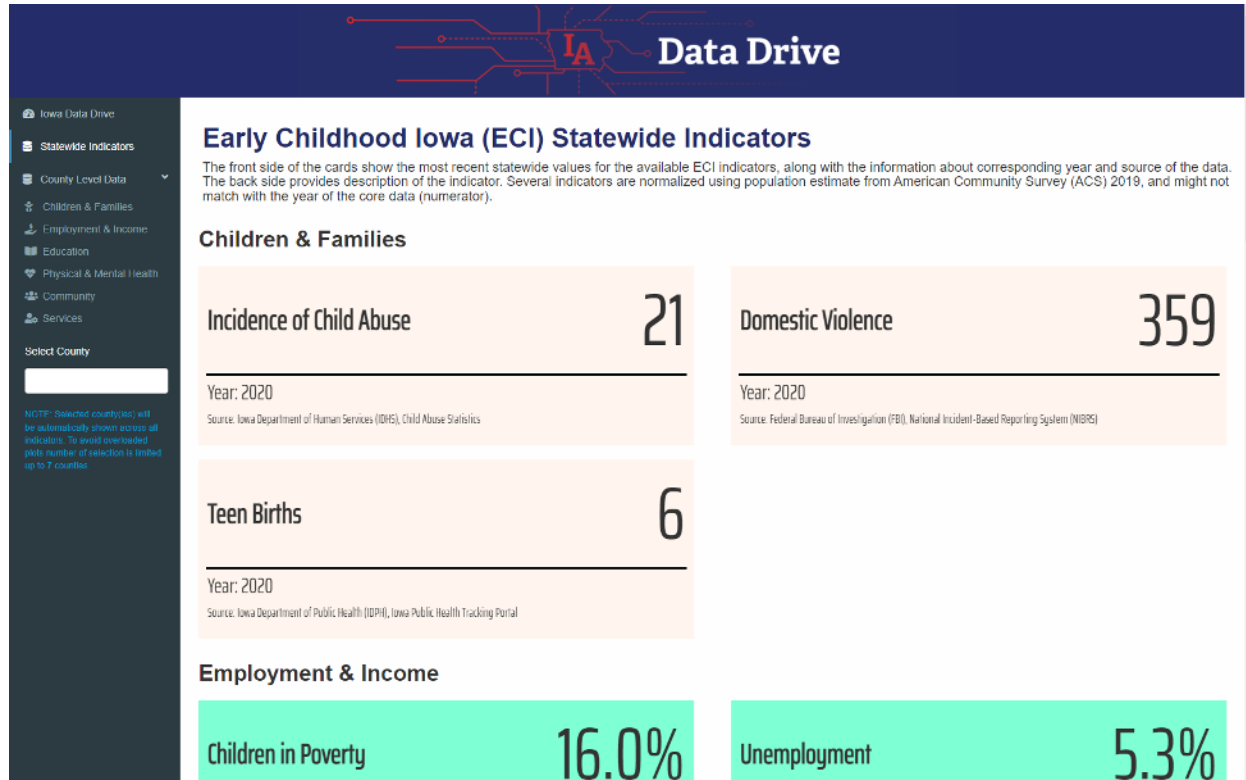


For detailed description of each indicator see [Appendix B](#).



Statewide Indicators

“Statewide Indicators” provides at-a-glance views of the most recent statewide values of the indicators. It should be noted that the most recent year can be different for each indicator and depends on the latest available year for the relevant data.



Flip Boxes

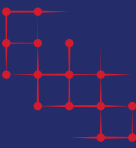
Information about indicators is shown in the boxes that flip when users hover over them, thus revealing additional details about the indicator. The boxes are organized based on their belonging to the seven data categories (described in Sidebar Menu) and color-coded accordingly (only the front side).

Following details can be found in the boxes:

- Front Side
 - Name of the indicator
 - Statewide value
 - Year the measurement corresponds to
 - Data source (of the numerator)
- Back Side
 - Description of the indicator adopted from the ECI Indicators and Data Dictionary.

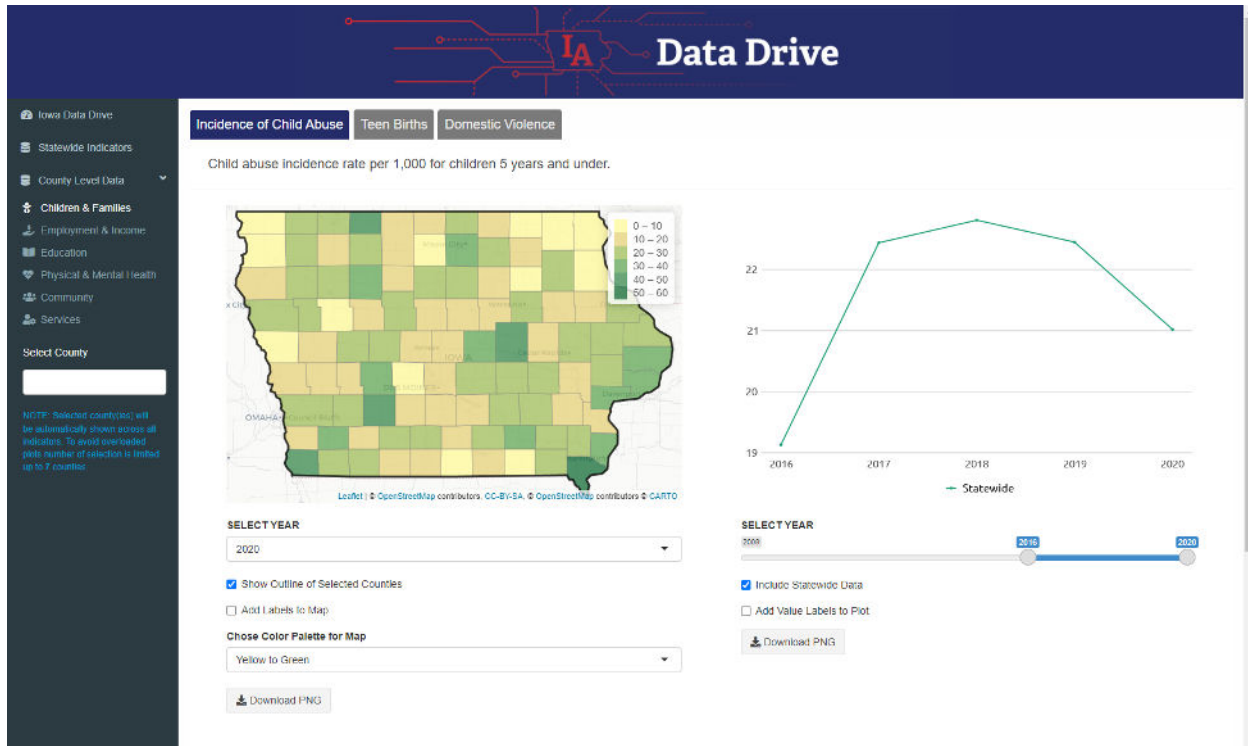


Several boxes also include additional information specifying level pertinent to an indicator if applicable. For example, Educational Attainment of Mothers is individually reported for different levels of maternal education. Those levels are shown in the front side of the box right under the name of the indicator.



County Level Data

“County Level Data” provides in-depth views of all indicators both at state-wide and county levels. The data are grouped under six categories that can be accessed via the left sidebar (see Sidebar Menu). There are different numbers of indicators under each data category, currently varying from 1 to 3. Nevertheless, dashboards for individual indicators are designed and set similarly, providing identical tools for uniform user experience.

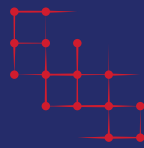


Select Indicator

In order to display the dashboard for an indicator, a user should:

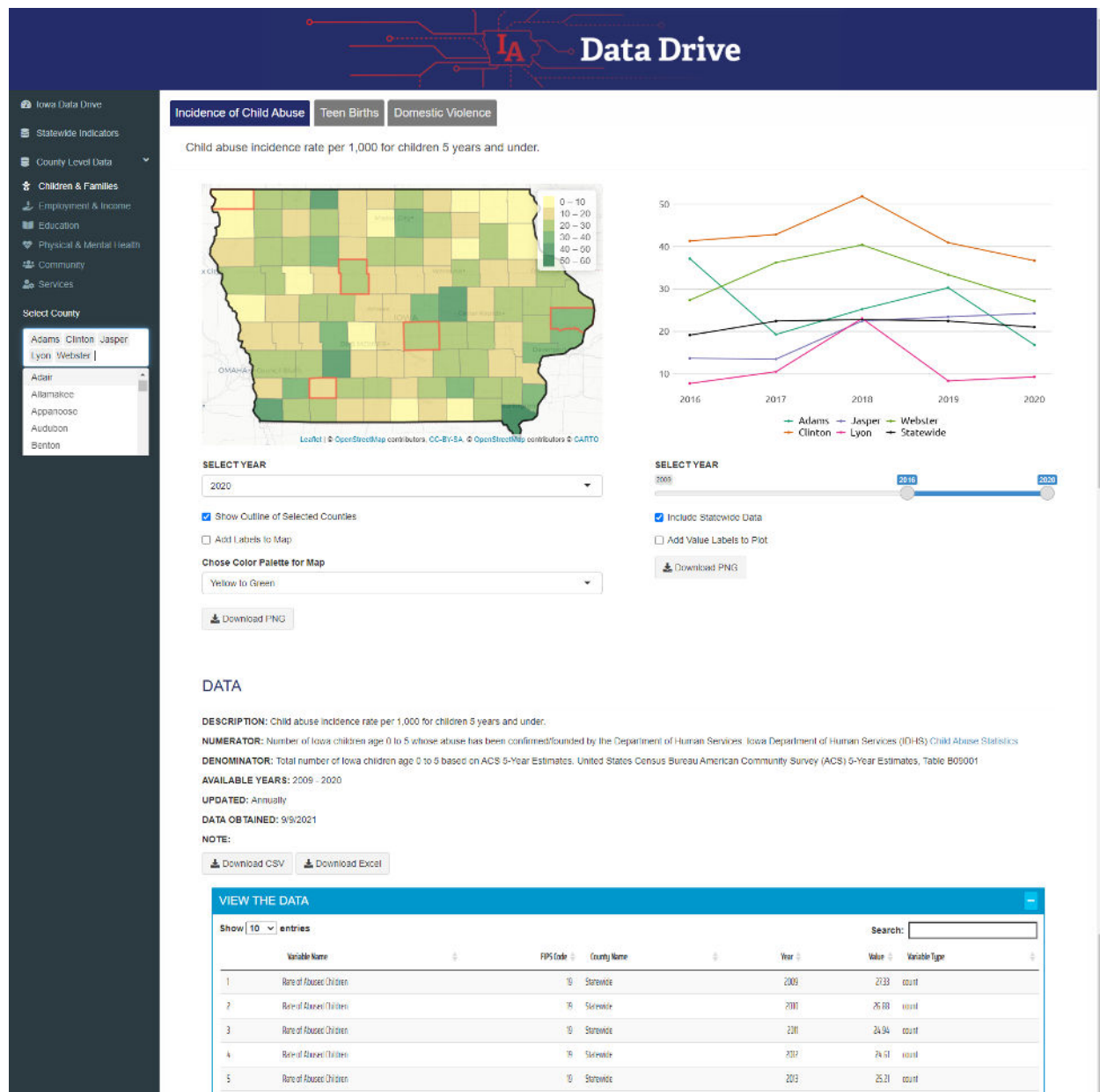
- **Unfold the “County Level Data”** by clicking on the corresponding text (or small white arrow) in the left sidebar, if it’s not already expanded.
- **Click on the data category containing the indicator of interest** (see Sidebar Menu for grouping of indicators). This will reveal a page with map, trend chart, drop-down selectors and other elements for the first (default) indicator affiliated with that data category. The name of the active indicator and its description can be found above the map. Names of other indicators belonging to the same data category (if there are more than one) can be found next to the active indicator’s name.
- **Click on the name of the indicator of interest.** The tab for the selected indicator will change to blue, while the others will be shown in gray.

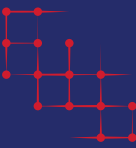
To see an indicator affiliated with another data category, users should repeat the last two steps explained above.



Dashboard Panels

The dashboard consist of three main panels: map, trend chart and data table. Each panel allows users to explore data in interactive ways via its own set of web-elements (drop-down menu, check-boxes, slider selector, and search field). It should be noted that the panels are independent and interact only with its own web-elements, hence filtering or clicking on one will not affect the other in any way. Furthermore, the panels are independent across indicators, i.e. changes applied to one indicator will not propagate to others. Only exception is “Select County” located at the bottom of the sidebar menu. Counties selected via “Select County” will apply to all indicators and affect their maps and trend charts (data table is not altered by county selection).





Select County

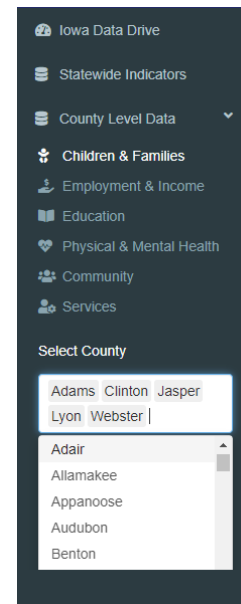
“Select County” located in the sidebar menu allows users to select counties of interest. Selected counties will be outlined on the map and trends for corresponding counties will be added to the trend chart. Please note that in order to avoid clutter in the graphs, selection is limited up to 7 counties.

To select counties, a user should:

- **Click on the input box under “Select County” in the left sidebar.** This will reveal a drop-down menu with names of Iowa counties.
- **Select a county or counties of interest from drop-down list by clicking on it.** Selected counties will disappear from the drop-down list and will be added to the box above.
- **A County can also be selected by typing its name in the input box then pressing enter or clicking on its name in the drop-down list.** As you type the drop-down list will automatically update displaying counties that partially match the entered string. This can be used to provisionally limit the options of drop-down list when looking for a county.

To remove selected county, a user should:

- **Click on the name of the county in the input box then press delete or backspace key.** The name of the county will disappear from the input box and will be added back to the drop-down list.



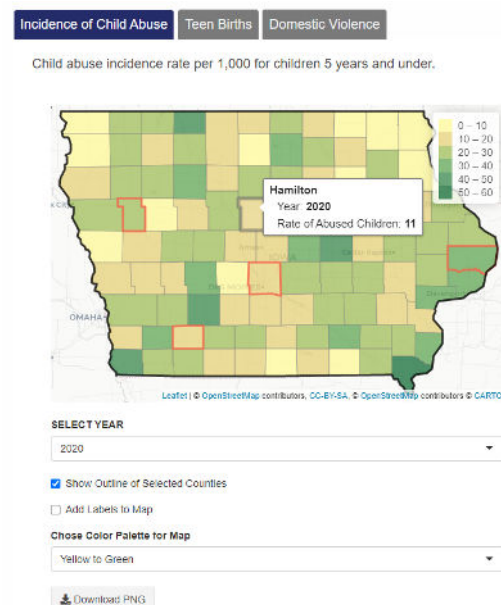
Map

Map is a very effective web-tool that allows users to explore data in interactive ways. It is used to demonstrate spatial variation of an indicator across Iowa for a specific year (by default the most recent year is selected). Note that any county selected via “Select County” will be outlined on the map.

The first way to interact with the map is to hover over it and observe the content of the tooltip (text box next to a pointer). Hovering over a county will display following information for that county:

- Name of the county
- Year the data corresponds to
- Metric of the indicator and its value

Under the map there is a set of the tools that allows users to interact with it. Each tool and its functionality is explained below.





Select Year

“SELECT YEAR” allows users to switch between years. The drop-down list will show all available years for that specific indicator. By default the most recent year is selected.

Show Outline of Selected Counties

“Show Outline of Selected Counties” allows users to show or hide outline for selected counties. By default the checkbox is checked.

Add Labels to Map

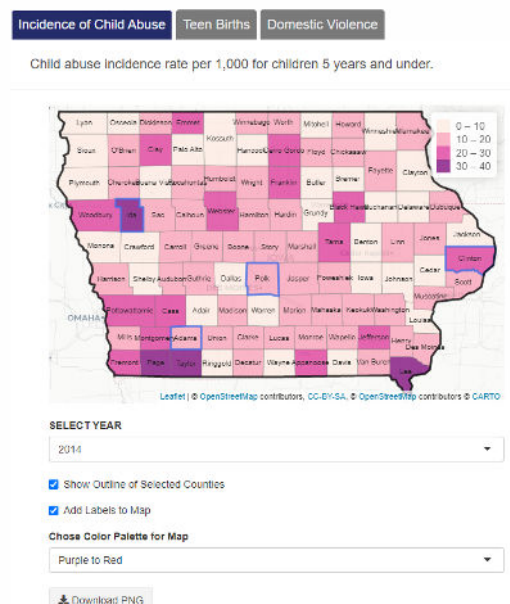
“Add Labels to Map” allows users to display names of all Iowa counties on the map. By default the checkbox is unchecked.

Chose Color Palette for Map

“Chose Color Palette for Map” allows users to switch between four different color palettes. By default “Yellow to Green” color palette is selected.

Download PNG

“Download PNG” button allows users to download a static image of the map as a .png file. Options selected above (year, outline, labels, color palette) will hold for the downloaded map. In addition, the map will include details such as title with name of the corresponding indicator and measurement year, and caption specifying data source and crediting IA Data Drive.



Trend Chart

Trend chart is another web-tool that allows users to explore and compare data in interactive ways. It is used to illustrate change of an indicator over time for the entire state and/or for individual counties (if selected).

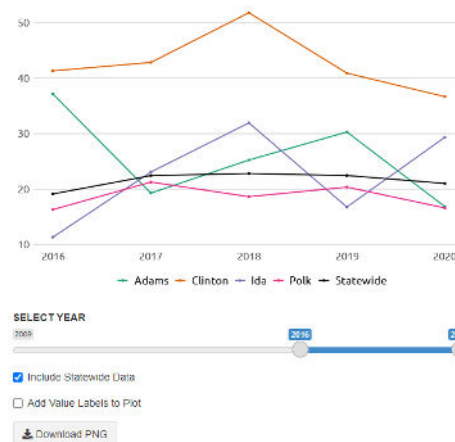
Like the map, under the trend chart there is a set of tools that allows users to interact with it. Each tool and its functionality is explained below.

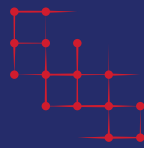
Select Year

The top element of the trend chart is a “SELECT YEAR” slider selector. It allows users to select data between the lower bound and the upper bound. The bounds will change based on available years for that specific indicator. By default the sliders have selected the last 5 years of data.

Include Statewide Data

“Include Statewide Data” allows users to show or hide the trend line for statewide values of the indicator. By default the checkbox is checked.



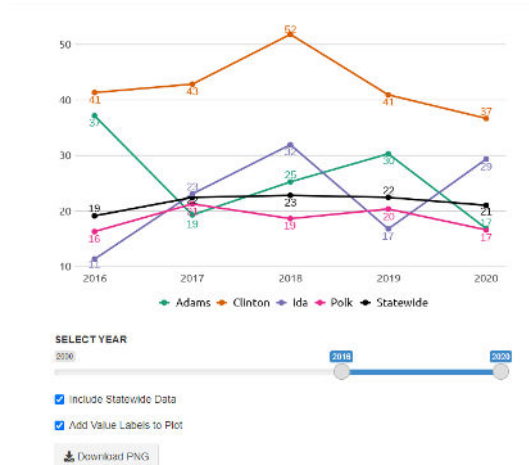


Add Value Labels to Plot

“Add Value Labels to Plot” allows users to display numeric values of plotted lines. By default the checkbox is unchecked.

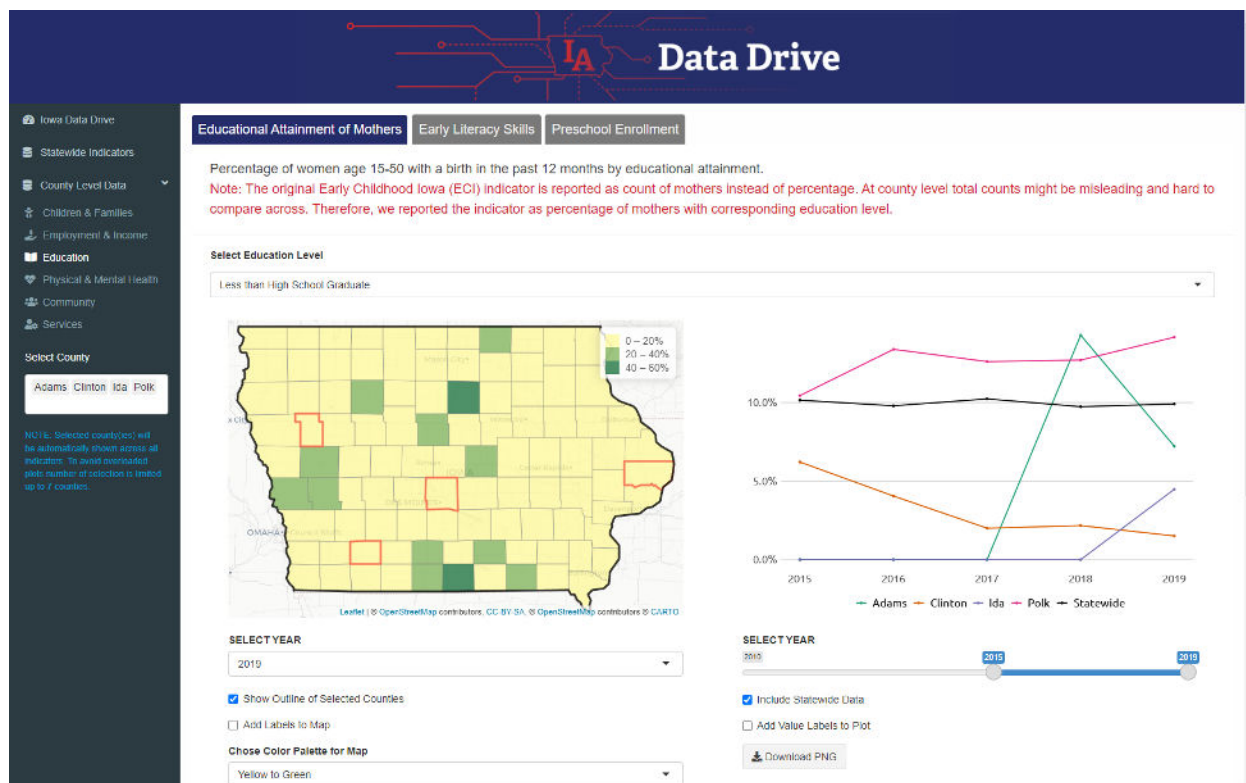
Download PNG

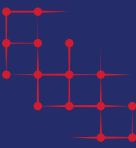
“Download PNG” button allows users to download a static image of the trend chart as a .png file. Options selected above (years, statewide data, value labels) will hold for the downloaded figure. In addition, the trend chart will include details such as title with name of the corresponding indicator and measurement years, and caption specifying data source and crediting IA Data Drive.



Select Levels

Several indicators provide data at higher granularity. For example, Educational Attainment of Mothers is individually reported for different levels of maternal education. In order to allow users to select specific levels for an applicable indicator, a drop-down menu is added above the visualizations. Both the map and the trend chart will automatically update as the user switches from one level to another. The name of the level is added under the title for downloaded figures.





Data

Finally, IA Data Drive allows users to explore and download underlying data for each indicator separately by going to the Data panel under the visualizations. This section provides:

- Detailed information about the current indicator (metadata),
- Options to download underlying data as .csv or Excel file, and
- An interactive data table.

In order to reveal the data table, a user should click on the plus sign in the right side of the blue ribbon with the title “VIEW THE DATA”. The user can change number of entries shown by selecting one of the preset values in the upper left corner of the table (by default it shows only the first 10 entries), and filter the data using the search option in the upper right corner of the table.

The search engine of the data table allows users to filter out all the elements using one or more criteria. The table will be automatically updated to match the user's criteria. If there is not match a blank row stating “No matching records found” will be returned. Note that when more than one criteria is used (for example, county name and year) they should be separated by space.

To download the data as .csv or Excel file a user should click on “Download CSV” or “Download Excel” buttons respectively.

It should be noted that the data table, as well as downloadable files will contain data for the current indicator for all available years and geographic areas (i.e. all counties and statewide values).

DATA

DESCRIPTION: Child abuse incidence rate per 1,000 for children 5 years and under

NUMERATOR: Number of Iowa children age 0 to 5 whose abuse has been confirmed/founded by the Department of Human Services, Iowa Department of Human Services (IDHS) Child Abuse Statistics

DENOMINATOR: Total number of Iowa children age 0 to 5 based on ACS 5-Year Estimates, United States Census Bureau American Community Survey (ACS) 5-Year Estimates, Table B05001

AVAILABLE YEARS: 2004 - 2021

UPDATED: Annually

DATA OBTAINED: 7/20/2022

NOTE:

[Download CSV](#) [Download Excel](#)

VIEW THE DATA

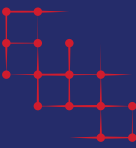
Show entries

Search:

Variable Name	FIPS Code	County Name	Year	Value	Variable Type
E15: Rate of Abused Children	19195	Iowa	2019	22.32	count
E15: Rate of Abused Children	19025	Marion	2019	19.23	count
E15: Rate of Abused Children	19107	Sevier	2019	6.96	count
E15: Rate of Abused Children	19075	Union	2019	31.57	count

Showing 1 to 4 of 4 entries (filtered from 1,300 total entries)

Previous Next

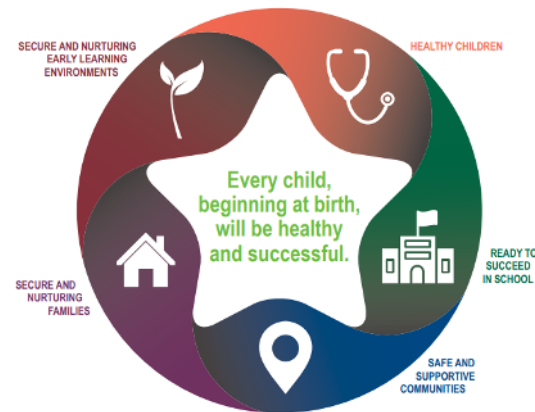


Appendix A: Early Childhood Iowa (ECI) Indicators

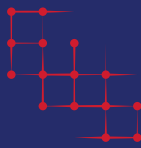
The Early Childhood Iowa (ECI) provides resources and tools to help every community in the state with developing capacity to meet ECI's vision that "every child, beginning at birth, will be healthy and successful". Among these tools are data indicators to support local area boards in their data informed decision making and to monitor progress across five legislatively mandated result areas:

- Healthy children,
- Children ready to succeed in school,
- Safe and supportive communities,
- Secure and nurturing families, and
- Secure and nurturing early learning environments.

Taken together, these indicators provide a useful overview of the multiple dimensions of child wellbeing that may impact quality of life for Iowa's young children and their families.



The majority of the recommended indicators came from the 2010 Title V MIECHV Home Visiting Assessment produced by the Iowa Department of Public Health and the 2019 National Center for Children in Poverty Report: Iowa Demographics of Young, Poor Children. The ECI State Board regularly review and approve an updated list of indicators. Indicator and Data Dictionary Tool includes detailed information on the type, quality, availability, and frequency of assessment for community-wide measures used in official ECI reports.



Appendix B: Indicator Description

Availability of Child Care

Description	Number of slots (spaces) potentially available for a child in a licensed or registered setting.
Numerator	Number of child care slots in DHS licensed centers/preschools and registered child development homes.
Source	Child Care Resource & Referral (CCR&R); CCR&R data sheets
URL	https://iowaccrr.org/data/

Children in Poverty

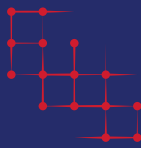
Description	Percentage of children, under 6, who live in families with incomes below 100 percent of the U.S. poverty threshold, as defined by the U.S. Office of Management and Budget.
Numerator	Number of children under six years of age living in poverty.
Denominator	Total number of Iowa children under 6 years of age.
Source	United States Census Bureau; American Community Survey (ACS) 5-Year Estimates, Table B17020
URL	https://www.census.gov/programs-surveys/acs/data.html

Dental Services

Description	Percentage of Medicaid-enrolled children ages 0 to 5 who received dental services.
Numerator	Number of Iowa children age 0 to 5 who received an Iowa Medicaid reimbursed dental and/or oral health service.
Denominator	Total number of Iowa children age 0 to 5 who have been enrolled in Iowa Medicaid with dental coverage.
Source	Iowa Department of Public Health (IDPH); Iowa Public Health Tracking Portal
URL	https://tracking.idph.iowa.gov/Health/Oral-Health/Child-Dental-Services-Medicaid-Data

Domestic Violence

Description	Rate of domestic abuse per 100,000 population.
Numerator	Number of victims based on violent offenses (aggravated-assault, homicide, rape, robbery) where type of victim is individual and relationship of victim to offender is spouse, ex spouse, common law spouse, boyfriend/girlfriend, homosexual relationship, parent, stepparent, grandparent, in-law, or other family member, and if



age of victim is 18 or older: child, grandchild, stepchild, child of boyfriend/girlfriend, sibling, or stepsibling.

Denominator Total population of area.

Source Federal Bureau of Investigation (FBI); National Incident-Based Reporting System (NIBRS)

URL <https://crime-data-explorer.app.cloud.gov/pages/home>

Early Literacy Skills

Description Percentage of kindergartners meeting the fall benchmark for the early literacy universal screening measure requirements.

Numerator Number of Iowa kindergarten children who performed at or above a level indicating a high probability of success on an end-of-year general outcome measure of literacy based on Formative Assessment System for Teachers (FAST).

Denominator Total number of Iowa kindergarten children tested using Formative Assessment System for Teachers (FAST).

Source Early Childhood Iowa (ECI); Kindergarten Assessment Tables

URL <https://earlychildhood.iowa.gov/document/kindergarten-assessment-tables>

Educational Attainment of Mothers

Description Percentage of women age 15-50 with a birth in the past 12 months by educational attainment.

Numerator Number of women age 15-50 with a birth in the past 12 months reporting the following educational attainment levels: less than high school, high school graduation, some college, bachelor's degree or higher.

Denominator Total number of women age 15-50 with a birth in the past 12 months.

Source United States Census Bureau; American Community Survey (ACS) 5-Year Estimates, Table B13014

URL <https://www.census.gov/programs-surveys/acs/data.html>

Incidence of Child Abuse

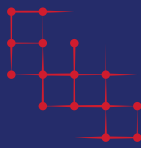
Description Child abuse incidence rate per 1,000 for children 5 years and under.

Numerator Number of Iowa children age 0 to 5 whose abuse has been confirmed/founded by the Department of Human Services.

Denominator Total number of Iowa children age 0 to 5 based on ACS 5-Year Estimates.

Source Iowa Department of Human Services (IDHS); Child Abuse Statistics

URL <https://dhs.iowa.gov/reports/child-abuse-statistics>



Immunized Children

Description	Percentage of children immunized by age 2.
Numerator	Number of Iowa children of 2 years old who are fully immunized according to the CDC Child and Adolescent Immunization Schedule (4:3:1:3:3:1:4 series) recorded by the Immunization Registry Information System (IRIS).
Denominator	Total number of 2-year-old patient records in IRIS.
Source	Iowa Department of Public Health (IDPH); Iowa Public Health Tracking Portal
URL	https://tracking.idph.iowa.gov/Health/Immunization/Childhood-Immunizations/Childhood-Immunization-Data

Juvenile Arrests

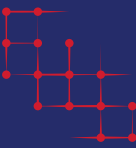
Description	Rate of juvenile arrests per 100,000 estimated juvenile population.
Numerator	Number of arrests of persons 18 years or under for any offense.
Denominator	Total population of persons 18 years or under.
Source	Federal Bureau of Investigation (FBI); National Incident-Based Reporting System (NIBRS)
URL	https://crime-data-explorer.app.cloud.gov/pages/home

Low Birth Weight

Description	Percentage of babies born who weigh under 2,500grams.
Numerator	Number of live singleton births with a weight less than 2,500 grams that occur at full term.
Denominator	Total number of live full term singleton births.
Source	Iowa Department of Public Health (IDPH); Iowa Public Health Tracking Portal
URL	https://tracking.idph.iowa.gov/People-Community/reproduction-and-birth/Low-Birthweight/Low-Birthweight-Births-Among-Full-Term-Births

Preschool Enrollment

Description	Percentage of children enrolled in preschool the year before going to kindergarten
Numerator	Number of unduplicated Iowa children enrolled in preschool the year before going to kindergarten.
Denominator	Total number of pre-kindergarten children.
Source	All County Needs Assessment 2019; Iowa's Integrated Data System for Decision-Making (I2D2)
URL	https://i2d2.iastate.edu/wp-content/uploads/2021/02/I2D2-All-County-Report_200209hr.pdf



Serious Crime

Description	Rate of serious crime per 100,000 population.
Numerator	Number of offenses that contribute to serious crime (homicide, rape, robbery, aggravated-assault, burglary, larceny, motor-vehicle-theft, arson).
Denominator	Total population of area.
Source	Federal Bureau of Investigation (FBI); National Incident-Based Reporting System (NIBRS)
URL	https://crime-data-explorer.app.cloud.gov/pages/home

Teen Births

Description	Rate of live births born to women aged 15 to 19 per 1,000 women in this age range.
Numerator	Number of live births born to women aged 15 to 19.
Denominator	Total number of women aged 15 to 19.
Source	Iowa Department of Public Health (IDPH); Iowa Public Health Tracking Portal
URL	https://tracking.idph.iowa.gov/people-community/Reproduction-and-Birth/Birth-Rate-Mothers-Under-20

Unemployment

Description	Percentage of unemployed persons.
Numerator	Number of persons 16 years and older who are unemployed.
Denominator	Total number of persons 16 years and older employed and unemployed.
Source	Iowa Workforce Development; Local Area Unemployment Statistics
URL	https://www.iowalmi.gov/local-area-unemployment-statistics

Working Parents

Description	Percentage of children under 6 years with all parents in the labor force.
Numerator	Number of children under 6 years of age in families and subfamilies with all parents in the labor force.
Denominator	Total number of children under 6 years of age in families and subfamilies.
Source	United States Census Bureau; American Community Survey (ACS) 5-Year Estimates, Table B23008
URL	https://www.census.gov/programs-surveys/acs/data.html