



PENNSYLVANIA HEALTH EQUITY ANALYSIS TOOL

User Guide

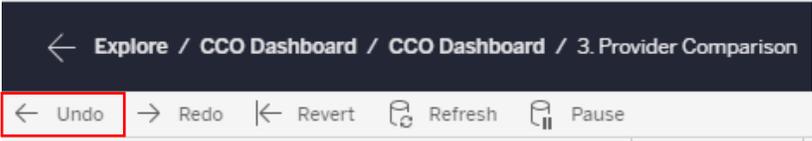
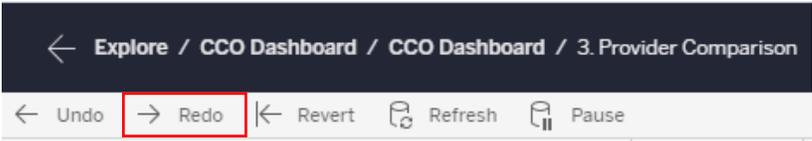
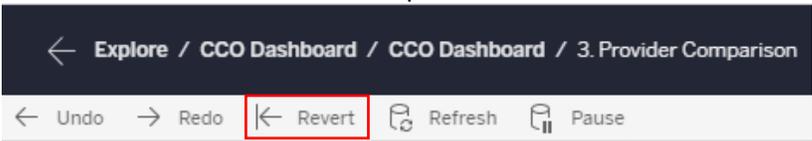
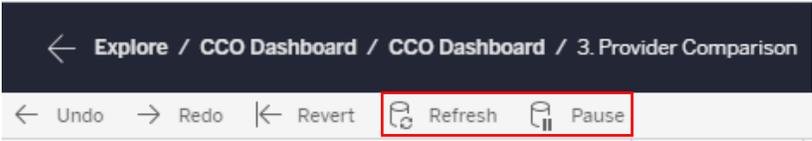
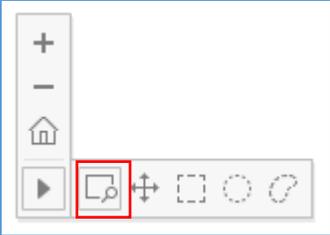


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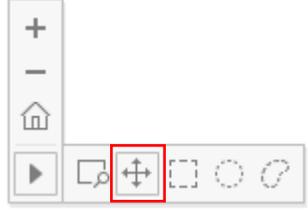
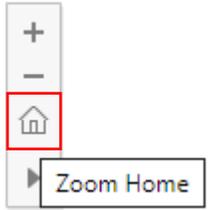
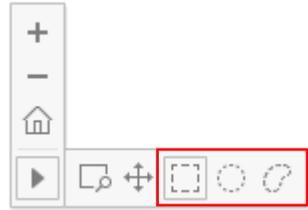
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General Tableau User Interface Guide

Interface Controls

Dashboard Controls	
Desired Action	Control(s)
Undo Last Action	<p>Click the "Undo" button in the top left corner</p> 
Redo Last Action	<p>Click the "Redo" button in the top left corner</p> 
Revert to Default View	<p>Click the "Revert" button in the top left corner</p>  <p>Please note: "Refresh" and "Pause" buttons will not be applicable to this dashboard as the data contained in the dashboards is a static time period.</p> 
Select Filters	Click desired field to filter on
Clear Filters	<ol style="list-style-type: none"> 1. Hit "ESC" key OR 2. Click selected filters again to unselect active filters
Zoom In on Map	<ol style="list-style-type: none"> 1. Scroll mouse wheel up OR 2. Select "Zoom Area" from map menu AND Click OR  <ol style="list-style-type: none"> 3. Use "+" icon in map menu OR 

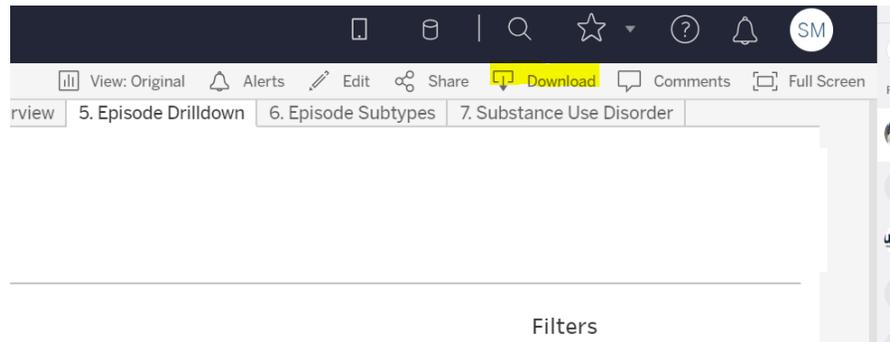
Section 1: General Tableau Dashboard Interface Controls

Dashboard Controls	
Desired Action	Control(s)
	4. Double-Click on map
Zoom Out of Map	<p>1. Scroll mouse wheel down OR 2. Use "-" icon in map menu OR</p>  <p>3. Shift+Double-Click on map</p>
Move around map	<p>Select "Pan" tool from map menu</p> 
Return to default map view	<p>Click "Zoom Home" (house shaped icon)</p> 
Select multiple areas on map	<p>1. Ensure one of the selection options (Rectangle, Radial, Lasso) is enabled in map menu AND</p>  <p>2. Click+drag</p>
Select single point on scatterplot	Click
Select multiple points on scatterplot	<p>1. Click+Drag OR 2. Hold CTRL+Click desired points</p>

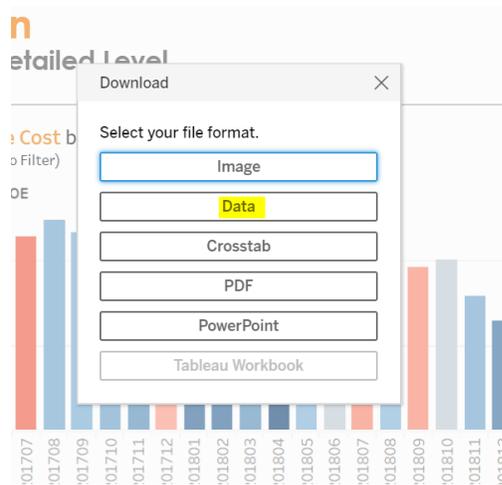
Section 1: General Tableau Dashboard Interface Controls

Process to Download Data

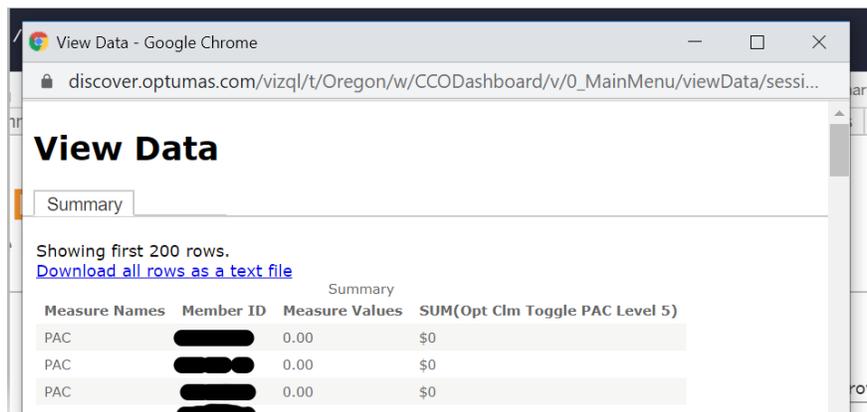
- 1) Once you have a table in Tableau filtered to a set of a data you would like to extract, find and click the “Download” button that appears to the upper right of the dashboard.



- 2) From the popup window, select “Data”.



- 3) A second window will open with an option to download all rows of data as a text file.



PA Health Equity Analysis Tool User Guide

Introduction

Welcome to the landing page of the PA Health Equity Analysis Tool (HEAT).

The Introduction dashboard describes the high-level content of each subsequent dashboard, including the data source(s) used.

For questions regarding the data contained in the dashboard, please refer to the source documentation at the links provided.



Pennsylvania Health Equity Analysis Tool

The PA HEAT collection of dashboard is designed to illustrate variation in a variety of health and social determinant of health indicators at the regional, county, zip code, and census tract levels. A detailed user guide is available on the PA HEAT website.

Contents

1. The Medicaid, Population Health, and SDOH Indices dashboard contains data related to three different indices. The first index is based on a subset of population health statistics predominantly from the CDC's PLACES data set (<https://www.cdc.gov/places/index.html>). The Medicaid index is based on several Medicaid utilization statistics. The SDOH index is based on statistics from the Child Opportunity Index 2.0 database ([Child Opportunity Index 2.0 database - Datasets - CKAN \(diversitydatakids.org\)](https://data.census.gov/cedsci/?q=United%20States)).
2. The [Population Health](#) dashboard contains a set of PLACES measures and select measures from the Childhood Opportunity Index, all of which are displayed at a census tract level.
3. The [Social Determinants of Health](#) dashboard contains measures from the Childhood opportunity Index.
4. The [Medicaid Outcomes](#) dashboard has the individual Medicaid measures by zip code and by demographic. Please note that some values are redacted to protect patient privacy.
5. The [Environmental](#) dashboard contains measures from the EPA's EJScreen dataset ([EJSCREEN: Environmental Justice Screening and Mapping Tool | US EPA](https://www.ejSCREEN.gov/)).
6. The [County Statistics](#) dashboard contains a wide variety of population outcome and demographic measures at the county level. The data sources include the BRFSS data set (https://www.cdc.gov/brfss/smart/Smart_data.htm), and census data (<https://data.census.gov/cedsci/?q=United%20States>).
7. The [Feeding America](#) dashboard shows county level statistics related to food insecurity. The data is provided by the Feeding America Organization (<https://www.feedingamerica.org>).
8. The [Redlining](#) dashboard shows historical Home Owner's Loan Corporation rating designations within major cities. Data source: Robert K. Nelson, LaDale Winling, Richard Marciano, Nathan Connolly, et al., "Mapping Inequality," *American Panorama*, ed. Robert K. Nelson and Edward L. Ayers, accessed August 15, 2021, <https://dsl.richmond.edu/panorama/redlining>
9. The [Zip Code Summary](#) dashboard summarizes statistics from other dashboards and provides statistics on Child and Elder care facilities. It also includes statistics regarding financial institutes, check cashers, and pawn brokers. Please refer to the user guide for citations for these multiple additional data points.
- 10 The [Census Tract Summary](#) dashboard summarizes elements from other dashboards.

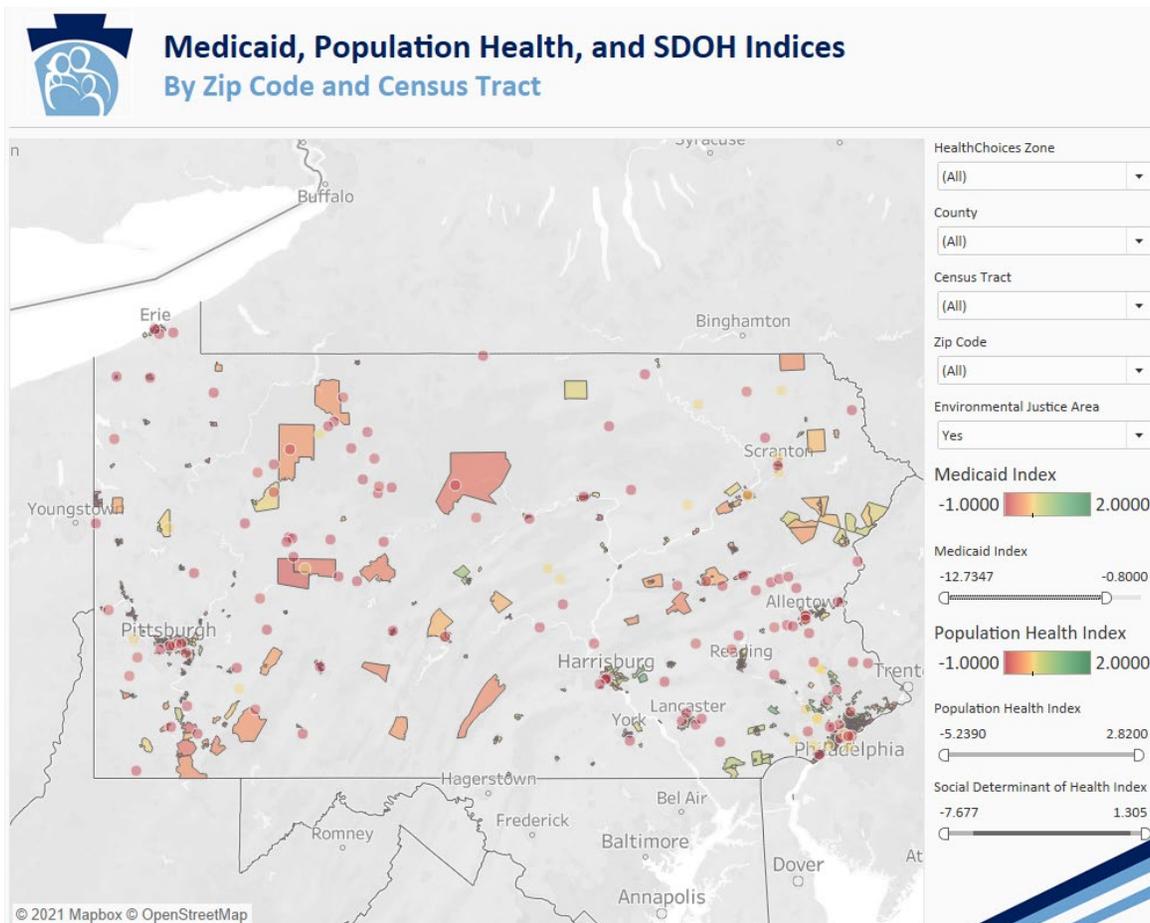


Medicaid, population Health, and SDOH Indices

This dashboard provides high-level geographic perspective of areas that have opportunity to improve health equity outcomes.

The dashboard combines an index of Medicaid statistics at the zip code level with an index of population health statistics and an index of social determinant of health (SDOH) statistics at the census tract level.

Results can be filtered by HealthChoices region, County, designation as an Environmental Justice Area (EJA - 20%+ individuals live at or below the federal poverty line, and/or 30%+ or more the population identifies as a non-white minority), Medicaid Index value, and Population Health Index value, and SDOH Index.



Tip: use the sliding bars to change the value ranges shown on the map for each index. This will make it easier to visually isolate highest impact opportunity areas.

The tooltips that show when you hover over a geography show the z-scores for each component of the index. They are adjusted such that a negative value will always correlate with a poorer result than a positive value. Additional detail is provided in the "Index Components" section.

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Index Components

Population Health Index

The population health index is calculated by taking the straight average of the directionally adjusted z-scores for several population health and outcome statistics for each census tract. Z-score reflect the number of standard deviations away from the average value. Using z-scores provides a common unit of measurement in data sets where the unit of measurement may vary (E.g. percentage, rates per 1000, raw counts, etc.) Directionally adjusted means that measures where a higher statistic is a poorer outcome (E.g. smoking rates or obesity rates), the z-score is multiplied by negative one to ensure that a lower z-score can always be interpreted as a poorer outcome.

The measures and data sources are summarized in the Table 1 below.

Table 1: Measures Included in the Population Health Index

Measure Description	Data Source
Coronary heart disease among adults aged ≥ 18 years	PLACES: Local Data for Better Health dataset
Current smoking among adults aged ≥ 18 years	PLACES: Local Data for Better Health dataset
Diagnosed diabetes among adults aged ≥ 18 years	PLACES: Local Data for Better Health dataset
Obesity among adults aged ≥ 18 years	PLACES: Local Data for Better Health dataset
Physical health not good for ≥ 14 days among adults aged ≥ 18 years	PLACES: Local Data for Better Health dataset
Stroke among adults aged ≥ 18 years	PLACES: Local Data for Better Health dataset
Mental health not good for ≥ 14 days among adults aged ≥ 18 years	PLACES: Local Data for Better Health dataset
Life Expectancy	National Census Data

Please note that because some statistics are not available for every census tract, using the average z-score can potentially overstate the impact of individual measures within the index. After identifying high priority areas using the two indexes, it is important to explore specific opportunities by looking at individual measures for that geography in the other dashboard views. The specific measures above can be viewed individually the Places and Population Dashboard as well as a variety of other statistics in the Center for Disease Control’s PLACES dataset.

Section 2: PA Health Equity Analysis Tool Guide

Medicaid Index

The Medicaid index is calculated by taking the straight average of the directionally adjusted z-scores for the Medicaid utilization statistics shown in Table 2 for each zip code.

Table 2: Measures Included in the Medicaid Index

Adults ages 18-64 years	Children ages 0-18 years
ED visits per 1,000 member-months	ED visits per 1,000 member-months
Percent with at least one primary care visit	Percent with 6 or more well-child visits in the first 15 months of life
Percent with at least 1 A1c lab test among patients with diabetes	Percent with at least one primary care visit at ages ≥ 3 years
Percent with at least one primary care visit among patients with diabetes	Percent with ratio of asthma controller/reliever medication > 0.5 at ages ≥ 5 years
Diabetes short-term complications admissions rate	Percent with ratio of asthma controller/reliever medication > 0.5 at ages ≥ 5 years
Percent with any follow-up after mental health hospitalization (7-day follow up and 30-day follow up shown separately)	
Percent with any initiation or engagement for treatment among persons with alcohol or other substance use disorders (initiation and engagement shown separately)	
Percent with any buprenorphine, methadone, or naltrexone among those with opioid use disorders	

Similar to Population Health Index, the potential for overweight individual measures within the index is possible; individual measures should be explored on the other dashboards to validate the opportunity within a given geography. Additionally, to protect Medicaid member privacy, statistics have been excluded from the dashboard in cases where utilization associated with a measure is sufficiently low within a zip code.

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Social Determinant of Health Index

Lastly, the social determinant of health index is calculated using the same methodology as the prior indices and the same caveats apply. The measures included in this index are shown below. Additional detail on these measures can be found on the Social Determinant of Health Dashboard.

Table 3: Measures Included in the Social Determinant of Health Index

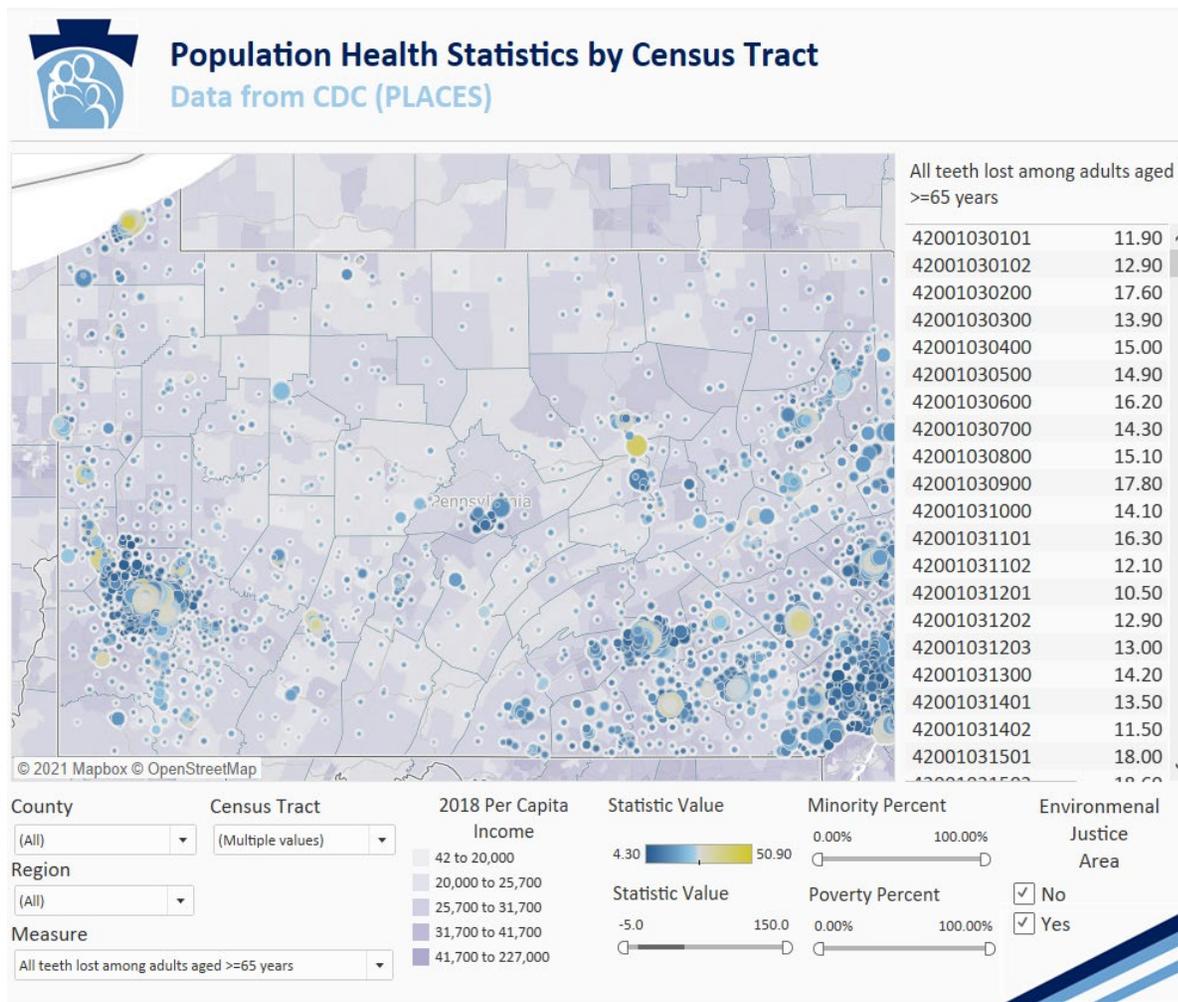
Measure	Data Source
Access to healthy food	Child Opportunity Index 2.0 dataset
Commute duration	Child Opportunity Index 2.0 database
Employment rate	Child Opportunity Index 2.0 database
Homeownership rate	Child Opportunity Index 2.0 database
High school graduation rate	Child Opportunity Index 2.0 database
Poverty rate	Child Opportunity Index 2.0 database
Health insurance coverage rate	Child Opportunity Index 2.0 database

Population Health by Census Tract

This dashboard provides census tract level data included in the CDC’s PLACES data set, the Child Opportunity Index, and select census data such as life expectancy.

Available filters include region, county, statistical value, percent of the population that is a minority, percent of the population that is at or below the federal poverty limit, and EJA designation status, and census tract.

The background map shading shows 2018 per capita income. Each census tract with valid statistics (based on selected filter options) has a bubble. The bubble color is associated with the statistic scale directly below the map. The size of the bubble correlates with the size of the minority population for that census tract.



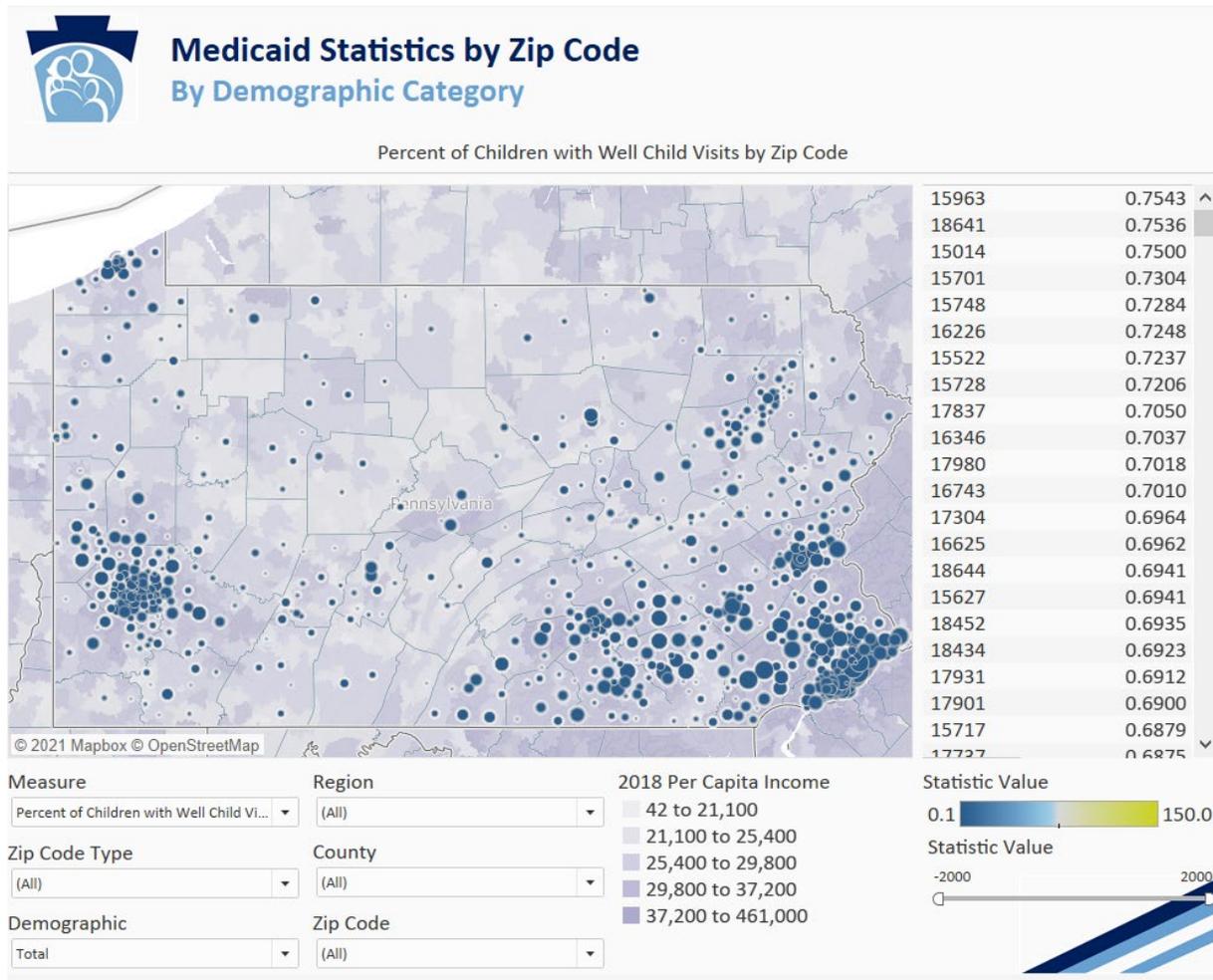
*Tips: 1) Hovering over bubble will bring up a summary of the race/ethnicity distribution for that specific census tract.
2) Keep in mind that a higher value represent better performance for some measures and a lower value is better performance for others. Interpret the color scale accordingly.*

Medicaid Statistics

This dashboard provides zip code level data for the Medicaid measures listed in Table 2.

Available filters include region, demographic, county, zip code, zip code type, and statistic value for the selected measure.

The background map shading shows 2018 per capita income. Each zip code with valid statistics (based on selected filter options and not excluded due to privacy redaction) has a bubble. The bubble color is associated with the statistic scale directly below the map. The size of the bubble correlates with the size of the Medicaid population for that zip code.



*Tips: 1) The total Medicaid population was not available for all zip codes due to redaction for privacy. For zip codes without an identified Medicaid population level, the bubble will default to the smallest value.
2) Zip code type allows you to delineate between P.O. Box only zip codes, unique zip codes (where a single entity has a single zip code), and non unique.*

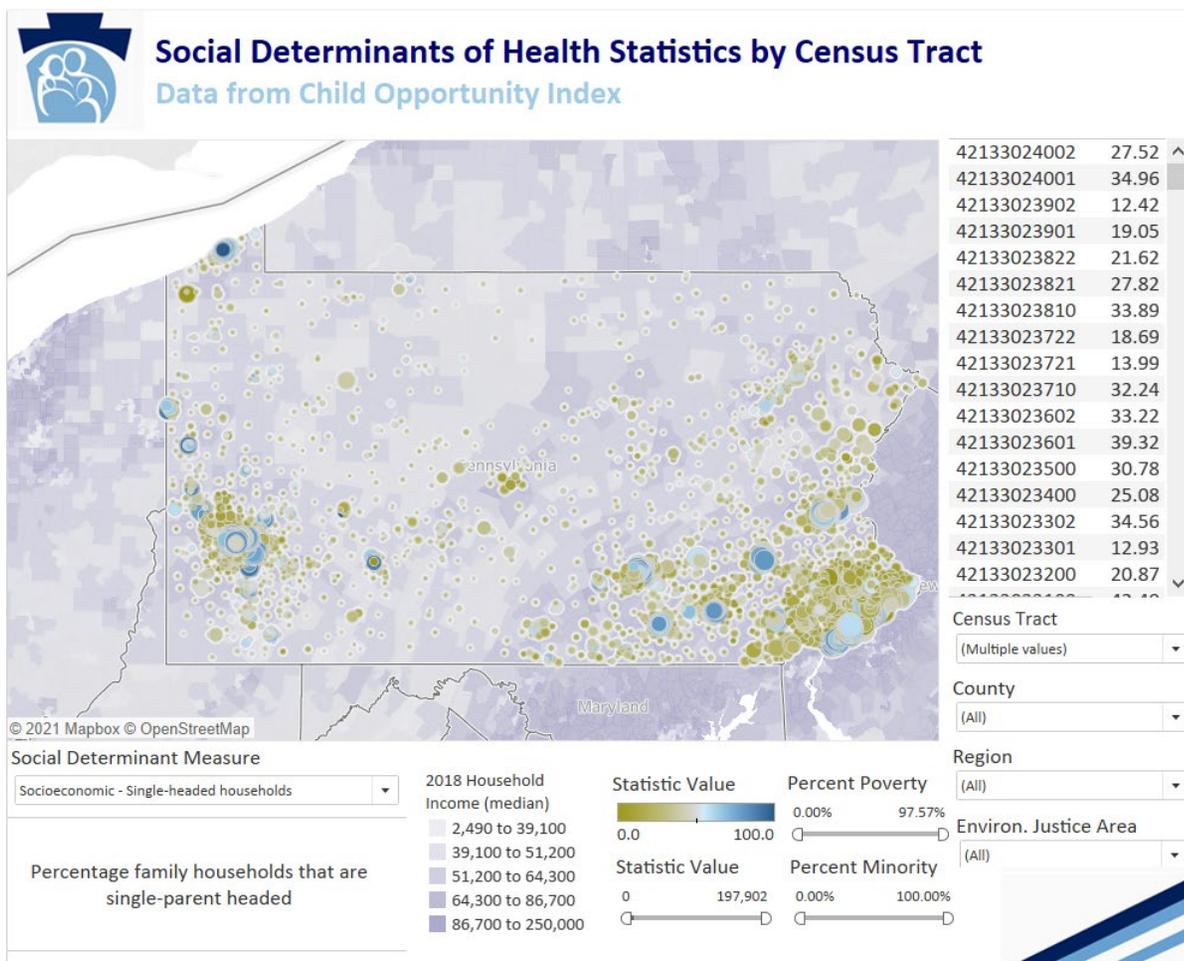
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Social Determinants of Health Statistics by Census Tract

This dashboard shows social determinants of health statistics from the Child Opportunity Index. Statistics are shown at the census tract level

Available filters include region, census tract, county, EJA designation status, percent poverty, percent racial/ethnic minority, and statistic value for the selected measure.

The background map shading shows 2018 per capita income. Each census tract with valid statistics (based on selected filter options and not excluded due to privacy redaction) has a bubble. The bubble color is associated with the statistic scale directly below the map. The size of the bubble correlates with the percent of the population that is ethnic/racial minority for that census tract.



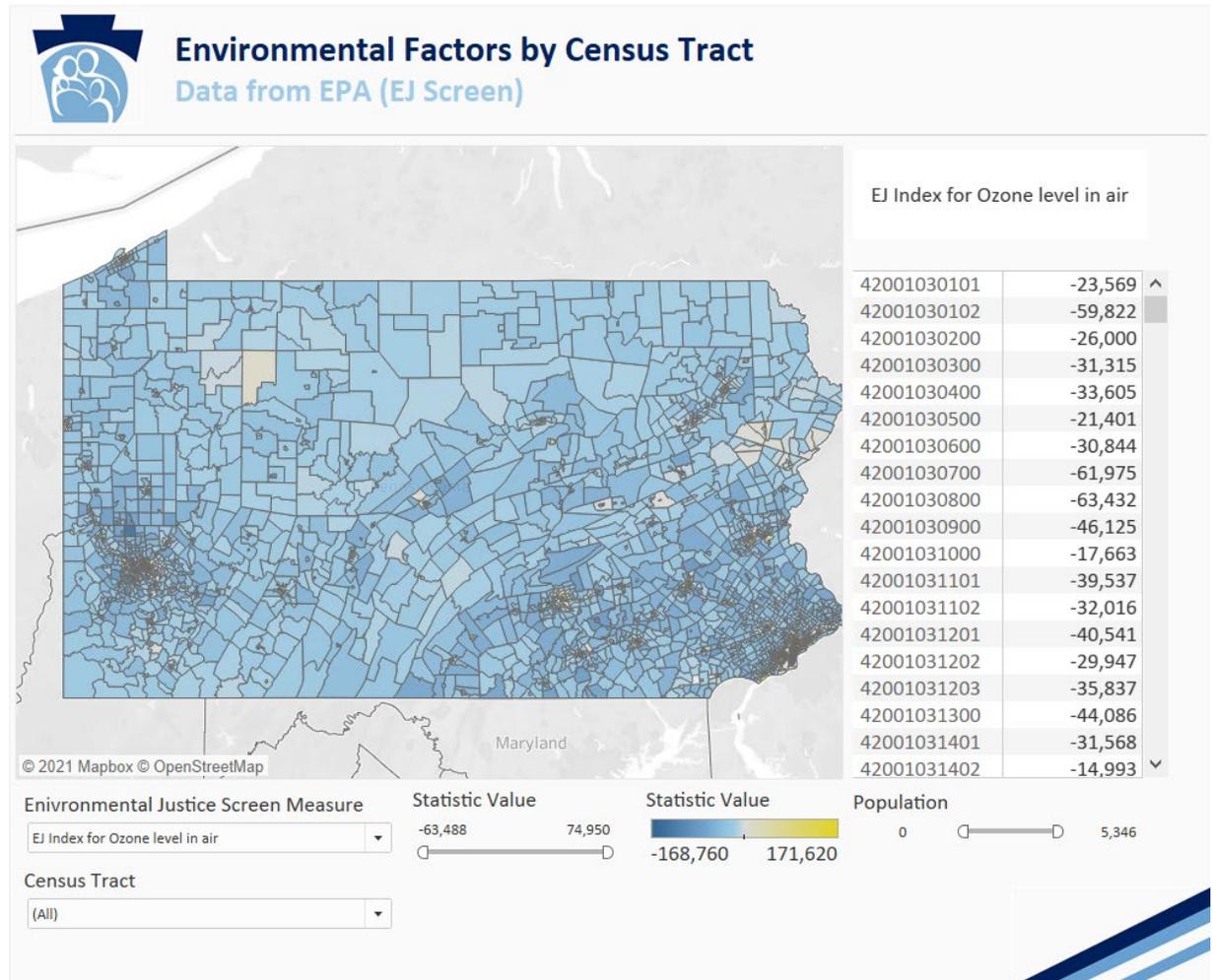
Tips: A description of the unit of measurement for the measure you have selected is shown below the measure selection box.

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Environmental Factors by Census Tract

This dashboard shows a number of statistics from the Environmental Protection Agency's Environmental Justice Screen data set. All statistics are at the census tract level.

Functionality is similar to the other dashboards with filters for the census tract population size, census tract, and statistic value.

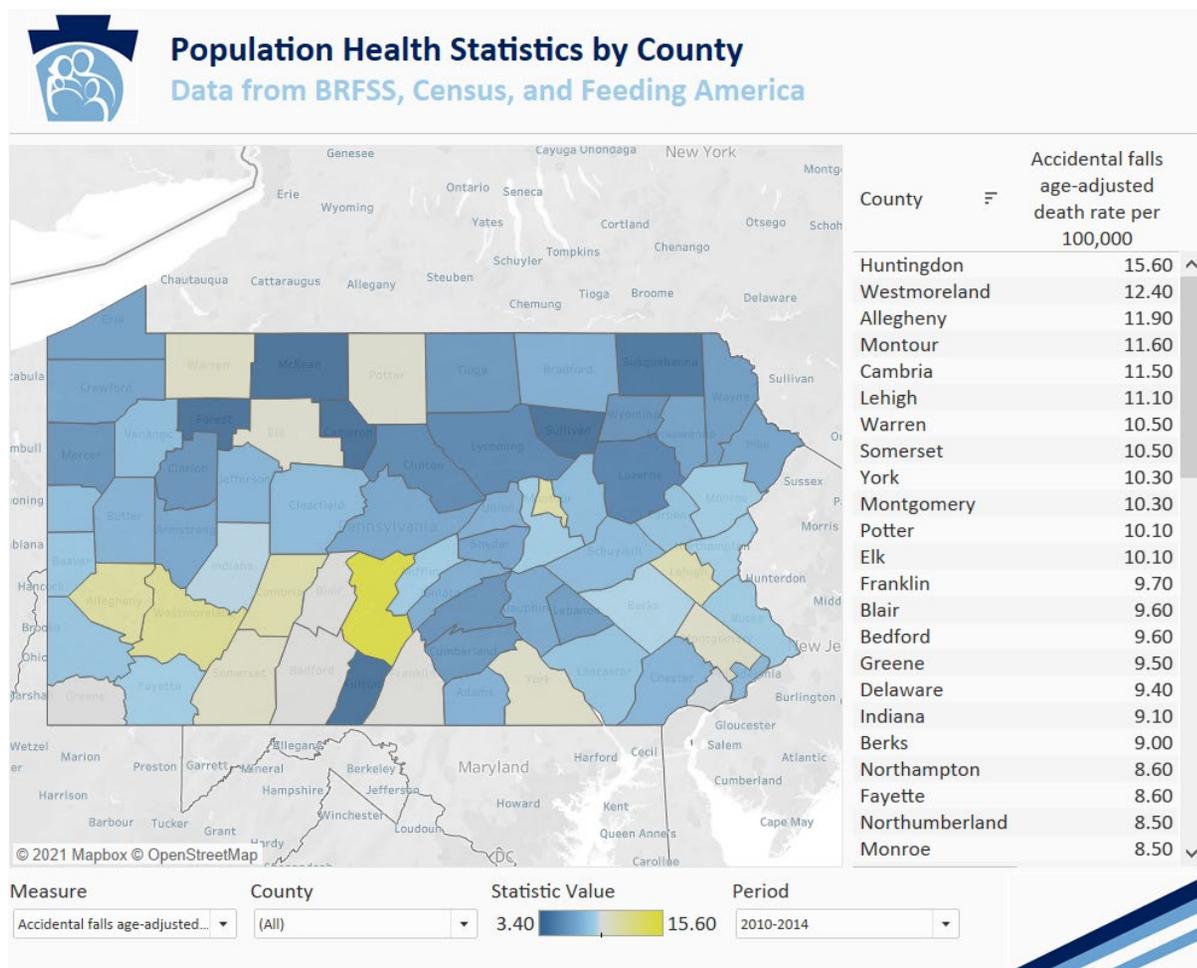


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County Statistics

This dashboard provides a number of county level statistics from a variety of sources including the Behavioral Risk Factor Surveillance Survey, Census, and Feeding America. The majority of measures from these sources were included in the PA Healthy People 2020 dataset.

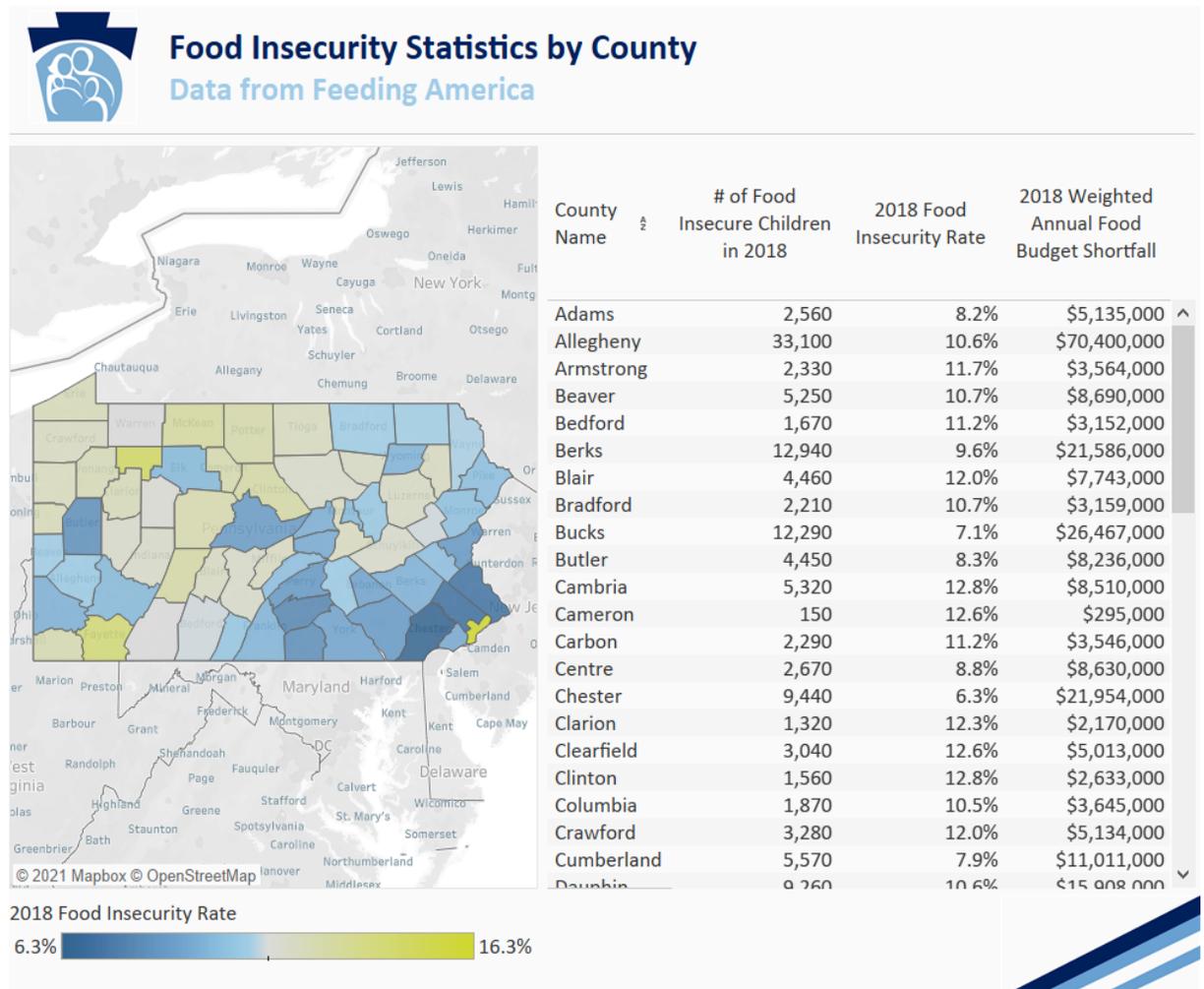
Available filters include county and year.



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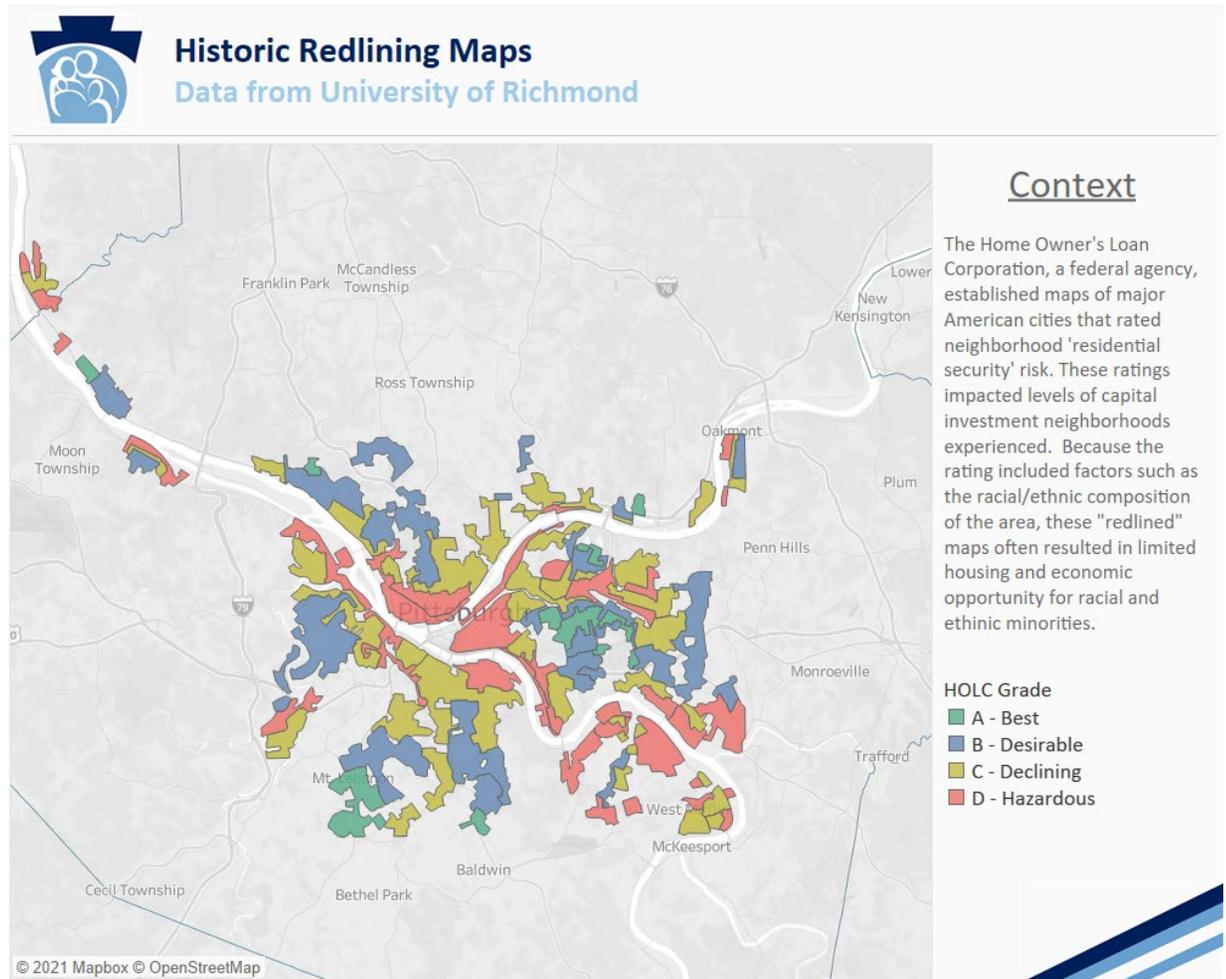
Food Insecurity

This dashboard provides a variety of food insecurity related statistics provided by The Feeding America Initiative.



Redlining

This dashboard shows Home Owner's Loan Corporation (HOLC) grades for neighborhoods in major cities in Pennsylvania. These grades are the source of the term "redlining" and reflect federal government policy that economically disadvantaged individuals that lived in communities with low (HOLC) grades.



Zip Code Summary

This dashboard provides a summary of key zip code level statistics found throughout the other dashboards. It additionally provides population, number of financial locations, and number of child and senior care facilities with corresponding quality ratings.

If you have identified a zip code of interest using the other dashboards in PA HEAT, this can be a useful way to see a summary of all available information for that zip code in one place.



Zip Code Summary

Zip Code

Region: HealthChoices Southwest
County: Washington
Zip Code Type: Non-Unique
Population: 11,481

Financial Locations

Check Casher Locations	0
FDIC Banking Locations	5
Pawn Broker Locations	0

Child and Senior Care Quality

Child Care Providers	2
CC Average Star Rating	2.00
Nursing Facilities	2
SNF Average Star Rating	3.50

Medicaid Statistics	Total	Asian	Black	Hispanic	non-His.	Other Race	White
Adult ED visits per 1000 member months	53.27	8.55	74.32	31.66	53.54	36.61	52.71
Child ED visits per 1000 member months	43.12	0.00	41.70	30.83	43.35	41.03	43.33
Diabetes Short-term Complication Admission Rat..	0.05		0.00		5.57	0.00	6.01
Medicaid Statistics Index	0.27						
Percent Initiation and Engagement in Treatment	20.42				20.36		21.24
Percent of Adults with PCP Visit	47.64		52.91		47.80	36.92	47.77
Percent of Asthmatics on Medication	58.67				58.90		58.57
Percent of Children with PCP Visit	66.39		76.74		66.53		66.02
Percent of Children with Well Child Visits	0.63				62.96		61.67
Percent of Diabetics with HbA1c Testing	66.99				66.78		67.61
Percent of Diabetics with PCP Visit	85.26				85.99		85.56
Percent of MH Admissions with 7 Day Follow-up	48.72				48.65		47.95
Percent of MH Admissions with 30 Day Follow-up	73.08				72.97		71.23
Percent Utilization of Medication for OUD	54.50				54.88		56.50

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Census Tract Summary

This dashboard provides a summary of census tract level statistics found throughout the other dashboards.

If you have identified a census tract of interest using the other dashboards in PA HEAT, this can be a useful way to see a summary of all available information for that census tract in one place.

Census Tract Summary

Census Tract: 42003141400

Region: HealthChoices Southwest
 County: Allegheny
 Environmental Justice Area: No
 Minority Percent: 21.78%
 Poverty Percent: 22.20%

Race/Ethnicity Distribution

Percent American Indian or Alaska Native Only	0.32%
Percent Asian Only	11.40%
Percent Black or African American Only	3.06%
Percent Native Hawaiian and Other Pacific Islander Only	0.00%
Percent Other	0.20%
Percent Two or More Races	1.72%
Percent White Only	83.30%

Social Determinants of Health

Education - Adult educational attainment	73
Education - Advanced Placement course enrollment	1
Education - College enrollment in nearby institutions	58
Education - Early childhood education centers	5
Education - Early childhood education enrollment	67
Education - High school graduation rate	87
Education - School poverty	40
Education - Teacher experience	15
Education - Third grade math proficiency	222
Education - Third grade reading proficiency	213
Employment - Employment rate	81
Employment - High-skill employment	70
Food - Access to healthy food	8
Health and Environment - Access to green space	53
Health and Environment - Airborne microparticles	12
Health and Environment - Extreme heat exposure	11
Health and Environment - Hazardous waste dump sites	-14
Health and Environment - Health insurance coverage	95
Health and Environment - Industrial pollutants in air, wate...	8
Health and Environment - Ozone concentration	37
Health and Environment - Walkability	13
Housing - Homeownership rate	50

Environmental

% Less Than High School	0.02
% Low-Income	0.20
% Of Households (Interpreted As Individuals) In Linguisti...	0.02
% Over Age 64	0.18
% People Of Color	0.19
% Pre-1960 Housing (Lead Paint Indicator)	0.68
% Under Age 5	0.05
Air toxics cancer risk	39.21
Air toxics respiratory hazard index	0.41
Demographic Index (based on 2 factors, % low-income a...	0.20
Diesel particulate matter level in air	0.58

Population Health

All teeth lost among adults aged >=65 years	7.50
Arthritis among adults aged >=18 years	26.00
Binge drinking among adults aged >=18 years	19.60
Cancer (excluding skin cancer) among adults aged >=18 ye...	8.20
Cervical cancer screening among adult women aged 21-65 ..	86.20
Child Opportunity Index Z-score	0.03
Cholesterol screening among adults aged >=18 years	82.80
Chronic kidney disease among adults aged >=18 years	2.60
Chronic obstructive pulmonary disease among adults aged >=18 years	1.20

Section 3: Measure List and References

Comprehensive List of Measures

Measure	Source	Unit of Measurement
Accidental falls age-adjusted death rate per 100,000	Healthy People	County
Adolescent death rate per 100,000 age 10 to 14	Healthy People	County
Adolescent death rate per 100,000 age 15 to 19	Healthy People	County
Breast cancer age-adjusted death rate per 100,000 females	Healthy People	County
Campylobacter species incidence rate per 100,000	Healthy People	County
Cancer age-adjusted death rate per 100,000	Healthy People	County
Cervical cancer age-adjusted death rate per 100,000 females	Healthy People	County
Child death rate per 100,000 age 1 to 4	Healthy People	County
Child death rate per 100,000 age 5 to 9	Healthy People	County
Child maltreatment rate per 1,000 under age 18	Healthy People	County
Children Under 5 Living In Poverty (percent)	Healthy People	County
Cirrhosis age-adjusted death rate per 100,000	Healthy People	County
Colorectal cancer age-adjusted death rate per 100,000	Healthy People	County
Coronary heart disease age-adjusted death rate per 100,000	Healthy People	County
Deaths of Despair	Healthy People	County
Diabetes age-adjusted death rate per 100,000	Healthy People	County
Drug-induced age-adjusted death rate per 100,000	Healthy People	County
Fetal mortality rate per 1,000 live births and non-induced fetal deaths of 20+ weeks gestation	Healthy People	County
Firearm-related age-adjusted death rate per 100,000	Healthy People	County
Hip fracture age-adjusted hospitalization rate per 100,000 females age 65+	Healthy People	County
Hip fracture age-adjusted hospitalization rate per 100,000 males age 65+	Healthy People	County
HIV disease age-adjusted death rate per 100,000	Healthy People	County
HIV disease incidence rate per 100,000 age 13+	Healthy People	County
Homicide age-adjusted rate per 100,000	Healthy People	County
Houses Built Before 1950 (percent)	Healthy People	County
Infant Mortality	Healthy People	County
Infant mortality rate per 1,000 live births	Healthy People	County
Life Expectancy (Straight average of census tracts - years)	Healthy People	County
Lung cancer age-adjusted death rate per 100,000	Healthy People	County

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Measure	Source	Unit of Measurement
Melanoma (skin) cancer age-adjusted death rate per 100,000	Healthy People	County
Motor vehicle crash age-adjusted death rate per 100,000	Healthy People	County
Motor vehicle crash death rate per 100 million vehicle miles traveled	Healthy People	County
Neonatal mortality rate per 1,000 live births	Healthy People	County
Percent of infants born at less than 1500 grams	Healthy People	County
Percent of infants born at less than 2500 grams	Healthy People	County
Percent of live births at 32 to 33 weeks gestation	Healthy People	County
Percent of live births at 34 to 36 weeks gestation	Healthy People	County
Percent of live births at less than 32 weeks gestation	Healthy People	County
Percent of live births at less than 37 weeks gestation	Healthy People	County
Percent of live births to mothers beginning prenatal care in the first trimester	Healthy People	County
Percent of live births to mothers who breastfeed their babies	Healthy People	County
Percent of live births to mothers who did not smoke during pregnancy	Healthy People	County
Percent of live births to mothers who received early and adequate prenatal care	Healthy People	County
Percent of low-risk first-time mothers giving birth by cesarean	Healthy People	County
Percent of low-risk women giving birth by cesarean with a prior cesarean birth	Healthy People	County
Percent of mothers age 18 to 49 who quit smoking during the first trimester of pregnancy	Healthy People	County
Perinatal mortality rate per 1,000 live births and non-induced fetal deaths of 28+ weeks gestation	Healthy People	County
Poisoning age-adjusted death rate per 100,000	Healthy People	County
Postneonatal mortality rate per 1,000 live births	Healthy People	County
Prostate cancer age-adjusted death rate per 100,000 males	Healthy People	County
Reported pregnancy rate per 1,000 females age 15 to 17	Healthy People	County
Reported pregnancy rate per 1,000 females age 18 to 19	Healthy People	County
Salmonella incidence rate per 100,000	Healthy People	County
Stroke age-adjusted death rate per 100,000	Healthy People	County
Suicide age-adjusted rate per 100,000	Healthy People	County
Tuberculosis incidence rate per 100,000	Healthy People	County
Uninsured Rate (percent)	Healthy People	County
Unintentional injury age-adjusted death rate per 100,000	Healthy People	County
Young adult death rate per 100,000 age 20 to 24	Healthy People	County
2018 Food Insecurity Rate	Feeding America	County

Section 3: Measure List and References

Measure	Source	Unit of Measurement
# of Food Insecure Persons in 2018	Feeding America	County
2018 Child Food Insecurity Rate	Feeding America	County
# of Food Insecure Children in 2018	Feeding America	County
2018 Cost Per Meal	Feeding America	County
2018 Weighted Annual Food Budget Shortfall	Feeding America	County
All teeth lost among adults aged >=65 years	CDC PLACES	Census Tract
Arthritis among adults aged >=18 years	CDC PLACES	Census Tract
Binge drinking among adults aged >=18 years	CDC PLACES	Census Tract
Cancer (excluding skin cancer) among adults aged >=18 years	CDC PLACES	Census Tract
Cervical cancer screening among adult women aged 21-65 years	CDC PLACES	Census Tract
Child Opportunity Index Z-score	Child Opportunity Index	Census Tract
Cholesterol screening among adults aged >=18 years	CDC PLACES	Census Tract
Chronic kidney disease among adults aged >=18 years	CDC PLACES	Census Tract
Chronic obstructive pulmonary disease among adults aged >=18 years	CDC PLACES	Census Tract
Coronary heart disease among adults aged >=18 years	CDC PLACES	Census Tract
Current asthma among adults aged >=18 years	CDC PLACES	Census Tract
Current lack of health insurance among adults aged 18-64 years	CDC PLACES	Census Tract
Current smoking among adults aged >=18 years	CDC PLACES	Census Tract
Diagnosed diabetes among adults aged >=18 years	CDC PLACES	Census Tract
Education Z-score	Child Opportunity Index	Census Tract
Fecal occult blood test, sigmoidoscopy, or colonoscopy among adults aged 50-75 years	CDC PLACES	Census Tract
Health And Environment Z-score	CDC PLACES	Census Tract
High blood pressure among adults aged >=18 years	CDC PLACES	Census Tract
High cholesterol among adults aged >=18 years who have been screened in the past 5 years	CDC PLACES	Census Tract
Life Expectancy	Census Data	Census Tract
Mammography use among women aged 50-74 years	CDC PLACES	Census Tract
Mental health not good for >=14 days among adults aged >=18 years	CDC PLACES	Census Tract
No leisure-time physical activity among adults aged >=18 years	CDC PLACES	Census Tract
Obesity among adults aged >=18 years	CDC PLACES	Census Tract

Section 3: Measure List and References

Measure	Source	Unit of Measurement
Older adult men aged ≥ 65 years who are up to date on a core set of clinical preventive services: Flu shot past year, PPV shot ever, Colorectal cancer screening	CDC PLACES	Census Tract
Older adult women aged ≥ 65 years who are up to date on a core set of clinical preventive services: Flu shot past year, PPV shot ever, Colorectal cancer screening, and Mammogram past 2 years	CDC PLACES	Census Tract
Physical health not good for ≥ 14 days among adults aged ≥ 18 years	CDC PLACES	Census Tract
Population Statistics Index	Calculated Value	Census Tract
Sleeping less than 7 hours among adults aged ≥ 18 years	CDC PLACES	Census Tract
Socioeconomic Z-score	Child Opportunity Index	Census Tract
Stroke among adults aged ≥ 18 years	CDC PLACES	Census Tract
Taking medicine for high blood pressure control among adults aged ≥ 18 years with high blood pressure	CDC PLACES	Census Tract
Visits to dentist or dental clinic among adults aged ≥ 18 years	CDC PLACES	Census Tract
Visits to doctor for routine checkup within the past year among adults aged ≥ 18 years	CDC PLACES	Census Tract
ED visits per 1,000 member-months	Medicaid Utilization	Zip code
Percent with at least one primary care visit	Medicaid Utilization	Zip code
Percent with at least 1 A1c lab test among patients with diabetes	Medicaid Utilization	Zip code
Percent with at least one primary care visit among patients with diabetes	Medicaid Utilization	Zip code
Diabetes short-term complications admissions rate	Medicaid Utilization	Zip code
Percent with any follow-up after mental health hospitalization (7-day follow up and 30-day follow up shown separately)	Medicaid Utilization	Zip code
Percent with any initiation or engagement for treatment among persons with alcohol or other substance use disorders (initiation and engagement shown separately)	Medicaid Utilization	Zip code
Percent with any buprenorphine, methadone, or naltrexone among those with opioid use disorders	Medicaid Utilization	Zip code
ED visits per 1,000 member-months	Medicaid Utilization	Zip code

Section 3: Measure List and References

Measure	Source	Unit of Measurement
Percent with 6 or more well-child visits in the first 15 months of life	Medicaid Utilization	Zip code
Percent with at least one primary care visit at ages >=3 years	Medicaid Utilization	Zip code
Percent with ratio of asthma controller/reliever medication>0.5 at ages >=5 years	Medicaid Utilization	Zip code
Percent with ratio of asthma controller/reliever medication>0.5 at ages >=5 years	Medicaid Utilization	Zip code
Advanced Placement course enrollment	Child Opportunity Index	Census Tract
Adult educational attainment	Child Opportunity Index	Census Tract
College enrollment in nearby institutions	Child Opportunity Index	Census Tract
Early childhood education enrollment	Child Opportunity Index	Census Tract
High school graduation rate	Child Opportunity Index	Census Tract
Third grade math proficiency	Child Opportunity Index	Census Tract
Third grade reading proficiency	Child Opportunity Index	Census Tract
School poverty	Child Opportunity Index	Census Tract
Teacher experience	Child Opportunity Index	Census Tract
Early childhood education centers	Child Opportunity Index	Census Tract
High-quality early childhood education centers	Child Opportunity Index	Census Tract
Access to healthy food	Child Opportunity Index	Census Tract

Section 3: Measure List and References

Measure	Source	Unit of Measurement
Access to green space	Child Opportunity Index	Census Tract
Extreme heat exposure	Child Opportunity Index	Census Tract
Health insurance coverage	Child Opportunity Index	Census Tract
Ozone concentration	Child Opportunity Index	Census Tract
Airborne microparticles	Child Opportunity Index	Census Tract
Housing vacancy rate	Child Opportunity Index	Census Tract
Walkability	Child Opportunity Index	Census Tract
Hazardous waste dump sites	Child Opportunity Index	Census Tract
Industrial pollutants in air, water or soil	Child Opportunity Index	Census Tract
Poverty rate	Child Opportunity Index	Census Tract
Public assistance rate	Child Opportunity Index	Census Tract
Homeownership rate	Child Opportunity Index	Census Tract
High-skill employment	Child Opportunity Index	Census Tract
Median household income	Child Opportunity Index	Census Tract
Employment rate	Child Opportunity Index	Census Tract
Commute duration	Child Opportunity Index	Census Tract

Section 3: Measure List and References

Measure	Source	Unit of Measurement
Single-headed households	Child Opportunity Index	Census Tract
Total population	EJ Screen	Census Tract
Population for whom poverty status is determined	EJ Screen	Census Tract
Population 25 years and over	EJ Screen	Census Tract
Households (for linguistic isolation)	EJ Screen	Census Tract
Housing units (for % built pre-1960)	EJ Screen	Census Tract
count of people of color individuals	EJ Screen	Census Tract
% people of color	EJ Screen	Census Tract
count of low-income individuals	EJ Screen	Census Tract
% low-income	EJ Screen	Census Tract
count of individuals age 25 or over with less than high school degree	EJ Screen	Census Tract
% less than high school	EJ Screen	Census Tract
count of households in linguistic isolation	EJ Screen	Census Tract
% of households (interpreted as individuals) in linguistic isolation	EJ Screen	Census Tract
count of individuals under age 5	EJ Screen	Census Tract
% under age 5	EJ Screen	Census Tract
count of individuals over age 64	EJ Screen	Census Tract
% over age 64	EJ Screen	Census Tract
count of housing units built before 1960	EJ Screen	Census Tract
% pre-1960 housing (lead paint indicator)	EJ Screen	Census Tract
Demographic Index (based on 2 factors, % low-income and % people of color)	EJ Screen	Census Tract
intermediate variable used for the Demographic Index	EJ Screen	Census Tract
intermediate variable used for the Demographic Index	EJ Screen	Census Tract
Diesel particulate matter level in air	EJ Screen	Census Tract
Air toxics cancer risk	EJ Screen	Census Tract
Air toxics respiratory hazard index	EJ Screen	Census Tract
Traffic proximity and volume	EJ Screen	Census Tract
Indicator for major direct dischargers to water	EJ Screen	Census Tract
Proximity to National Priorities List (NPL) sites	EJ Screen	Census Tract
Proximity to Risk Management Plan (RMP) facilities	EJ Screen	Census Tract

Section 3: Measure List and References

Measure	Source	Unit of Measurement
Proximity to Treatment Storage and Disposal (TSDF) facilities	EJ Screen	Census Tract
Ozone level in air	EJ Screen	Census Tract
PM2.5 level in air	EJ Screen	Census Tract
EJ Index for % pre-1960 housing (lead paint indicator)	EJ Screen	Census Tract
EJ Index for Diesel particulate matter level in air	EJ Screen	Census Tract
EJ Index for Air toxics cancer risk	EJ Screen	Census Tract
EJ Index for Air toxics respiratory hazard index	EJ Screen	Census Tract
EJ Index for Traffic proximity and volume	EJ Screen	Census Tract
EJ Index for Indicator for major direct dischargers to water	EJ Screen	Census Tract
EJ Index for Proximity to National Priorities List (NPL) sites	EJ Screen	Census Tract
EJ Index for Proximity to Risk Management Plan (RMP) facilities	EJ Screen	Census Tract
EJ Index for Proximity to Treatment Storage and Disposal (TSDF) facilities	EJ Screen	Census Tract
EJ Index for Ozone level in air	EJ Screen	Census Tract
EJ Index for PM2.5 level in air	EJ Screen	Census Tract
Percentile for % people of color	EJ Screen	Census Tract
Percentile for % low-income	EJ Screen	Census Tract
Percentile for % less than high school	EJ Screen	Census Tract
Percentile for % of households (interpreted as individuals) in linguistic isolation	EJ Screen	Census Tract
Percentile for % under age 5	EJ Screen	Census Tract
Percentile for % over age 64	EJ Screen	Census Tract
Percentile for % pre-1960 housing (lead paint indicator)	EJ Screen	Census Tract
Percentile for Demographic Index (based on 2 factors, % low-income and % people of color)	EJ Screen	Census Tract
Percentile for Diesel particulate matter level in air	EJ Screen	Census Tract
Percentile for Air toxics cancer risk	EJ Screen	Census Tract
Percentile for Air toxics respiratory hazard index	EJ Screen	Census Tract
Percentile for Traffic proximity and volume	EJ Screen	Census Tract
Percentile for Indicator for major direct dischargers to water	EJ Screen	Census Tract
Percentile for Proximity to National Priorities List (NPL) sites	EJ Screen	Census Tract
Percentile for Proximity to Risk Management Plan (RMP) facilities	EJ Screen	Census Tract
Percentile for Proximity to Treatment Storage and Disposal (TSDF) facilities	EJ Screen	Census Tract
Percentile for Ozone level in air	EJ Screen	Census Tract

Section 3: Measure List and References

Measure	Source	Unit of Measurement
Percentile for PM2.5 level in air	EJ Screen	Census Tract
Percentile for EJ Index for % pre-1960 housing (lead paint indicator)	EJ Screen	Census Tract
Percentile for EJ Index for Diesel particulate matter level in air	EJ Screen	Census Tract
Percentile for EJ Index for Air toxics cancer risk	EJ Screen	Census Tract
Percentile for EJ Index for Air toxics respiratory hazard index	EJ Screen	Census Tract
Percentile for EJ Index for Traffic proximity and volume	EJ Screen	Census Tract
Percentile for EJ Index for Indicator for major direct dischargers to water	EJ Screen	Census Tract
Percentile for EJ Index for Proximity to National Priorities List (NPL) sites	EJ Screen	Census Tract
Percentile for EJ Index for Proximity to Risk Management Plan (RMP) facilities	EJ Screen	Census Tract
Percentile for EJ Index for Proximity to Treatment Storage and Disposal (TSD) facilities	EJ Screen	Census Tract
Percentile for EJ Index for Ozone level in air	EJ Screen	Census Tract
Percentile for EJ Index for PM2.5 level in air	EJ Screen	Census Tract
Number of Child Care Facilities	PA Department of Human Services	Zip Code
Average Star Rating of Child Care Facilities	PA Department of Human Services	Zip Code
Number of Skilled Nursing Facilities	Centers for Medicare & Medicaid Services	Zip Code
Average Star Rating of Skilled Nursing Facilities	Centers for Medicare & Medicaid Services	Zip Code

Section 3: Measure List and References

Technical Documentation and Measure Definitions

- 1) Feeding America (beginning on page 46): <https://www.feedingamerica.org/sites/default/files/2019-05/2017-map-the-meal-gap-full.pdf>
- 2) PLACES Local Data for Better Health: <https://www.cdc.gov/places/measure-definitions/index.html>
 - a. Health Outcomes Measure Definitions: [Health Outcomes Measure Definitions | PLACES: Local Data for Better Health | CDC](#)
 - b. Prevention Measure Definitions: [Prevention Measure Definitions | PLACES: Local Data for Better Health | CDC](#)
 - c. Unhealthy Behaviors Measure Definitions: [Unhealthy Behaviors Measure Definitions | PLACES: Local Data for Better Health | CDC](#)
- 3) Healthy People –
 - a. The subset of measures used were accessed through PA Department of Health’s EDDIE System here: [Pennsylvania Healthy People, county level \(pa.gov\)](#).
 - b. The upstream data sources used for this data set are listed here: [Pennsylvania Healthy People Data Sources \(pa.gov\)](#)
- 4) Medicaid Utilization – please see the next section for additional detail regarding measure specification. Data analysis and summary information provided by the University of Pittsburgh; utilization data, redacted for HIPAA compliance, was provided by PA DHS.
- 5) Child Opportunity Index
 - a. Technical Documentation: [How we built it | Diversity Data Kids](#)
 - b. Index data: [Child Opportunity Index 2.0 database - COI 2.0 index data - CKAN \(diversitydatakids.org\)](#)
 - i. Data dictionary: [Child Opportunity Index 2.0 database - COI 2.0 index data - CKAN \(diversitydatakids.org\)](#)
 - c. Component Indicators: [Child Opportunity Index 2.0 database - COI 2.0 component indicators - CKAN \(diversitydatakids.org\)](#)
 - i. Data dictionary: [Child Opportunity Index 2.0 database - COI 2.0 component indicators - CKAN \(diversitydatakids.org\)](#)
- 6) Environmental Justice Screen: [Technical Information about EJSCREEN | US EPA](#)
- 7) Skilled Nursing Facility Statistics: [Search | Provider Data Catalog \(cms.gov\)](#)
 - a. Asd
 - b. Asd
- 8) Child Care Facility Statistics: <https://data.pa.gov/Human-Services/Map-of-Open-Child-Care-Providers-offering-Child-Ca/3ss3-ucqb>
- 9) Financial Business Statistics: flat files provided directly from various PA agencies

Section 4: Medicaid Measure Definitions

Detailed Summary of Medicaid Quality Measures

Children				
<i>Measure</i>	<i>Denominator (calculated among all children)</i>	<i>Numerator (calculated among those in the denominator)</i>	<i>Data files</i>	<i>Source</i>
Utilization of emergency department (ED) services	Member-months of Medicaid enrollment among children	Number of ED visits, where the visit did not result in inpatient admission and was not for a mental health or substance use disorder	Enrollment, inpatient, outpatient, professional	Medicaid core set (AMB-CH)
Well-child visit utilization in first 15 months of life	Children turning 15 months in the year with continuous enrollment for the first 15 months	Children with 6 or more well-child visits in prior 15 months	Enrollment, professional	Medicaid core set (W15-CH)
Utilization of primary care visits, ages 3 and older	Children ages 3-18 years with continuous enrollment during the measurement year	Children with 1 or more primary care visits	Enrollment, professional, provider	Modified from RAMP study
Asthma medication management, ages 5 and older	Children ages 5-18 years with persistent asthma (based on diagnosis, events, and/or pharmacy) and continuous enrollment during the measurement year and the prior year. Excluding those with certain reasons for persistent asthma or other pulmonary conditions.	Children with asthma medication ratio of >0.50, based on: Units of Controller Medication/Unit of Total Asthma Medication	Enrollment, inpatient, outpatient, professional, pharmacy	Medicaid core set (AMR-CH)
Adults				
<i>Measure</i>	<i>Denominator (calculated among all adults)</i>	<i>Numerator (calculated among those in the denominator)</i>	<i>Data files</i>	<i>Source</i>
Utilization of emergency department services	Member-months of Medicaid enrollment among adults	Number of ED visits, where the visit did not result in inpatient admission and was not for a mental health or substance use disorder	Enrollment, professional	Modified from Medicaid core set (AMB-CH) among adults
Utilization of primary care visits	Adults with continuous enrollment during the measurement year	Adults with 1 or more primary care visits	Enrollment, professional, provider	Medicaid core set (AAP)

Section 4: Medicaid Measure Definitions

Detailed Summary of Medicaid Quality Measures

A1c testing among patients with diabetes	Adults with a diagnosis of diabetes or a diabetes medication fill and with continuous enrollment for the year	Adults with 1 or more A1c lab tests in the year	Enrollment, inpatient, outpatient, professional, pharmacy	Modified from Medicaid core set (CDC)
Utilization of primary care visits among patients with diabetes	Adults with a diagnosis of diabetes or a diabetes medication fill and with continuous enrollment for the year and without frailty or advanced illness	Adults with 1 or more primary care visits in the year	Enrollment, inpatient, outpatient, professional, pharmacy	Modified from RAMP study
Diabetes short-term complications admissions rate	Member-months of Medicaid enrollment among adults	Inpatient admissions with a primary diagnosis related to diabetes short-term complications	Enrollment, inpatient	Medicaid core set (PQI01-AD)
Follow-up after mental health hospitalization	Adults with a mental health hospitalization (without readmissions or transfers) with continuous enrollment 30 days after date of discharge	Adults with a mental health related visit within 7 days and 30 days after discharge (7 and 30 day follow up calculated separately)	Enrollment, inpatient, outpatient, professional	Medicare core set (FUH-AD)
Initiation and engagement of treatment for alcohol and other substance use disorders	Adults with an index event for alcohol or other substance use disorders who are continuously enrolled for 60 days prior to the index event through 48 days after the index event	Adults with initiation or engagement with medication or other behavioral health treatment (initiation and engagement calculated separately)	Enrollment, inpatient, outpatient, professional, pharmacy	Medicaid core set (IET)
Medication utilization among those with opioid use disorders	Adults with an index event opioid use disorder who are continuously enrolled	Adults with any procedure code or pharmacy record for buprenorphine, methadone, or naltrexone	Enrollment, inpatient, outpatient, professional, pharmacy	Medicaid Outcomes Distributed Research Network

Notes: All measures are conducted in CY 2017 - 2019. Medicaid Core Set refers to Medicaid adult and child [health care quality measures](#) published by CMS. Children are defined as ages 0-18 years unless otherwise specified. Adults are defined as ages 19-64 years. All measures exclude beneficiaries receiving hospice benefits and those with any dual eligibility for Medicare. For measures for which continuous enrollment is required, a gap of up to 45 days in enrollment during the year is permitted. For the follow-up after mental health hospitalization, there is slight modification to the numerator in that we counted all mental health related visits, regardless of provider type.