HEALTH EQUITY EXPLORER REPORTING SUITE

User Guide 1.0

June 9, 2023

hMetrix

CONTENTS

1 BACKGROUND & INTRODUCTION

Health Equity Explorer is a suite of reports designed to give users an understanding of a given community's health disparities and social determinants of health. The suite currently contains two reports: Disparity Index and Social Determinants of Health (SDOH). The reports use all-payer hospital casemix and American Community Survey data to show users disparities in hospital utilization and social determinants by race, ethnicity, gender, clinical condition and geography. Potential use cases for Health Equity Explorer include:

- Evaluate the impact of community health investment
- Inform community health needs assessments (CHNAs)
- Support grant applications
- Identify hotspots for interventions
- Understand statewide trends in disparities

Health Equity Explorer was designed through a collaborative process with input from Local Health Departments, health equity experts and other CRISP users. Support for the development of Health Equity Explorer was provided by the Community Health Resource Commission (CHRC) as part of the Pathways to Health Equity Program, which aims to expand access to affordable, high-quality health care services in the state's underserved communities; help reduce preventable hospital ED visits; and support the adoption of health information technology in community health resources.

1.1 Software Requirements

The Health Equity Explorer reports are available through a web-based application accessible using a modern browser: Google Chrome 57 or higher, Internet Explorer 11 or higher, Firefox 52 or higher, and Safari 9 or higher.

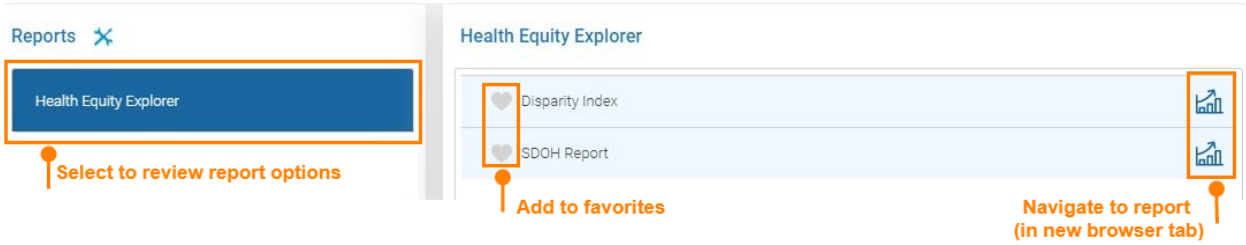
1.2 Launching Health Equity Explorer Reports

Step 1: Log in to CRISP Reporting Services using the user id and password provided for the portal - https://reports.crisphealth.org/

Step 2: Click the Card named “Public Health” within the Portal

Step 3: After clicking the card, users will see a menu with links to various Public Health reports. From this menu, select “Health Equity Explorer”

Step 4: Upon selecting Health Equity Explorer, users can then navigate to the Disparity Index or SDOH report.



Step 5: Once the reporting suite opens, users can access reports by selecting measures of their interest.

1.3 Condition Definitions and Measure Specifications Across Reports

All reports in the Equity Explorer Reporting Suite are based on a similar set of conditions and utilization measures.

Condition Identification: The Health Equity Explorer uses a combination of Chronic Condition Warehouse (CCW) chronic condition category algorithm and other standard algorithms to flag visits with specific diseases. The tables below list the logic used for disease identification. (Click here for CCW Chronic conditions documentation). Each report operationalizes the measure with a utilization indicator, such as ED visit or IP admission.

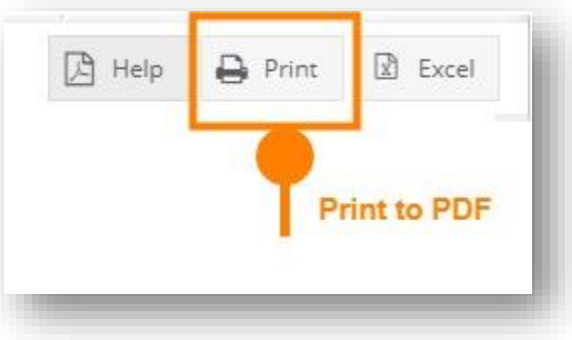
Disease	Disease-specific logic	Disease-Related logic
Diabetes	PQI 93 - composite diabetes conditions for ages 18 and older, PDI 15 flag - Diabetes short-term complications for ages 6 through 17 years	Diabetes CCW
Asthma	PQI 15 - Asthma in adults for ages 18 to 39 years, PQI 05 Asthma codes only, PDI 14 flag - asthma for ages 2 through 17 years	Asthma CCW
Hypertension	PQI 07 - Hypertension for ages 18 years and older	Hypertension CCW
COPD	PQI 05 - Chronic Obstructive Pulmonary Disease only without age limitation	Chronic Obstructive Pulmonary Disease CCW
Heart Failure	PQI 08 - heart failure for ages 18 years and older	Heart Failure and Non-Ischemic Heart Disease CCW
Heart Disease	Heart Failure CCW; Ischemic Heart Disease CCW; Acute Myocardial Infraction CCW; Stroke CCW	
Any Cancer	Breast cancer CCW; Lung cancer CCW; Prostate Cancer CCW; Endometrial Cancer CCW; Urologic Cancer CCW (Kidney, Renal Pelvis, and Ureter); Colorectal Cancer CCW	
Opioid Overdose	National Center for Health Statistics' description for "All Opioid Overdose" category, excluding those for self-harm and assault (contains X2 or X3)[1]	
Opioid - related disorder	Opioid Use Disorder CCW	
Schizophrenia	Schizophrenia CCW	
Suicide and intentional self-harm	CCSR MBD012 or MBD027 - CCSR codes identifying suicidal attempt/ intentional self-harm	
Alcohol-related SUD	Alcohol Use Disorder CCW	
Any Mental Health Condition	CCSR MBD001-MBD034	
Any Overdose	Opioid Overdose category (above)+ Alcohol Overdose CCW	
Any Substance Use	Drug Use Disorder CCW + Alcohol Use Disorder CCW	

[1] https://www.cdc.gov/nchs/dhcs/drug-use/icd10-codes.htm

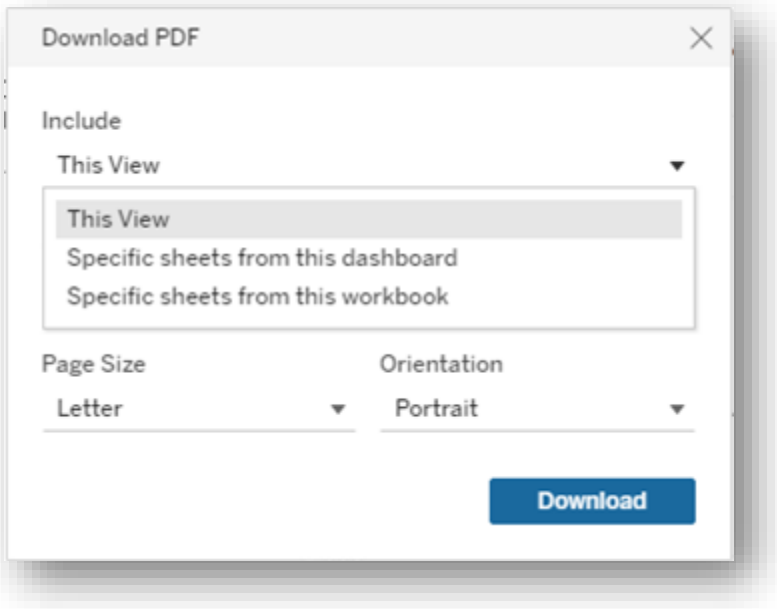
1.4 Common Functionalities Across Reports

1.4.1 Print and Excel

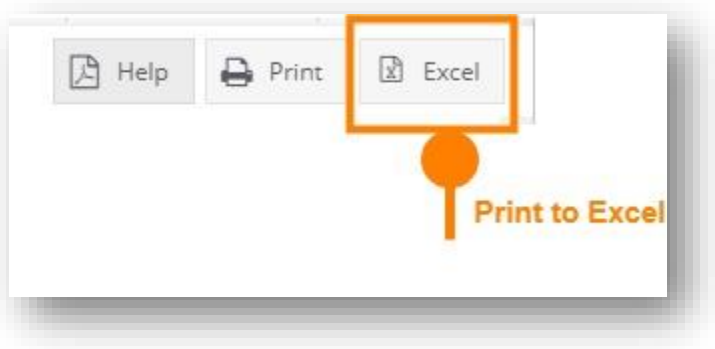
Every report allows for printing the current view of the report to a PDF document. The print option is available on the top right corner of the screen.



Clicking Print when selecting “This View” will result in the below prompt. The default settings will create a PDF with all the graphs and tables presented in the currently viewed report. **Users can select “Specific sheets from this workbook” to download more than one report at a time**. Click "Download" to generate the PDF.



Every report allows the user to download an excel file of the current dashboard. The Excel option is available in the top right corner of the screen. Upon clicking the Excel button an excel file will get downloaded.



1.4.2 Other Functionalities

On each dashboard, there are menu options for the user to select, which are listed below.

Functionality	Description
Refresh	The refresh button is used to refresh the data source used by the dashboard. For example, when we apply a filter and then click the refresh button, the report will be refreshed with the current filters.
Revert	The revert button restores the report to its default view, undoing all user selections and/or filtering.
Pause	This button pauses or resumes the dashboard update. This is useful when the suer is making multiple filter changes at once. By pausing the dashboard, the report is not reloaded for each filter change. When the user clicks to resume the dashboard updates, the report will be reloaded with the filter selections applied.

2 DISPARITY INDEX REPORT

The report allows users to compare health disparities for a specific health condition across demographics with the ability to focus on county or zip level details. Based on the dimensions and measures selected the report provides information on the number of cases or percentage of the population or age adjusted rates ailing from a specific health condition.

2.1 Data Source

This report is based on Case Mix Data including IP, OP, and ED claims for the years 2018 through 2023.

Population estimates and race/ethnicity categories are taken from the corresponding year American Community Survey (ACS) data. If ACS data for a specific year is not available, then we use the latest ACS data. For this report, from 2018 to 2020, we use corresponding year ACS data. For the years 2021 to 2023, we use 2021 ACS data, as 2022 and 2023 ACS data was not available at the time of development.

2.2 Dimensions and Measures used in the report:

A description of dimensions and measures used in the report is presented below.

Element	Description
Measure	Defines the condition along with the type of visit, either hospital encounters or ED visits. List of measures included in this report is contained in the table below.
Geography	County or zip
Geographical measure	County names or zip codes; multi-selection
Diagnosis Type	Primary Diagnosis Only or All Diagnosis
Time Period	Drop down to select desired annual time period: a. Calendar Year (CY) - January 1 to December 31 b. Fiscal Year (FY) - July 1 to June 30
Measure Value	Radio selection to allow users to toggle between three data elements: a. Count - number of cases for a specific condition. b. Rate - rate per 1,000 population c. Age Adjusted Rate - rates per 1,000 population after normalizing the populations to the same age distribution
Disparity Value	a. Gender - Female and Male b. Race - White, Black, Asian, and Other c. Ethnicity – Hispanic, Not Hispanic

List of Measures:

The measures allow the reports to be filtered by specific conditions and visit types. Each measure can be defined by either disease-specific or disease-related logic and shown at either the county or ZIP code level.

The table below presents each of the measures and the specifications for defining the measures

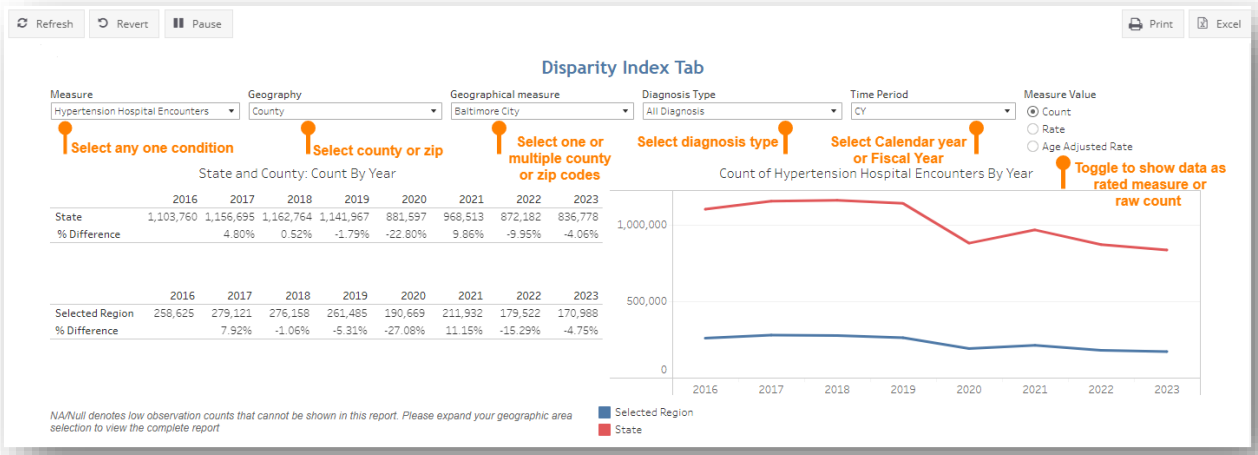
Measure	Specification
Hypertension Hospital Encounters	Number of Hospital visits for Hypertension
Diabetes Hospital Encounters	Number of Hospital visits for Diabetes
Heart Disease Hospital Encounters	Number of Hospital visits for Heart Disease
Substance Use ED Visits	Number of Hospital ED visits for substance use disorder
Opioid - related ED Visits	Number of Hospital ED visits for Opioid-related issues
Asthma ED Visits	Number of Hospital ED visits for Asthma
Opioid Overdose ED Visits	Number of Hospital ED visits for Opioid Overdose
Suicide and Intentional Self-harm ED Visits	Number of Hospital ED visits for Suicide and Intentional Self-harm

2.3 Report Format

The report contains two panels, each with different functionality and structure.

2.3.1 Measure Trends Over Time Relative to State

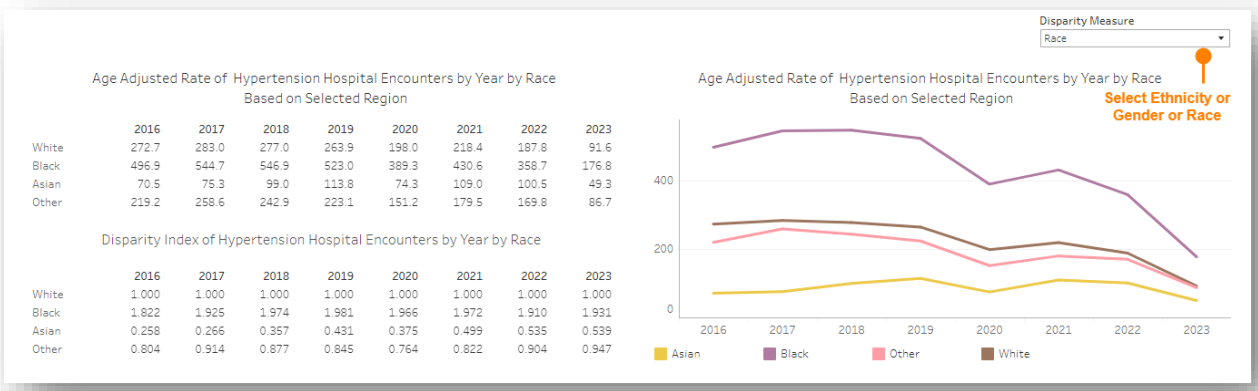
The top half of the disparity index tab provides information with respect to either a count, rate or age adjusted rate for the entire state and selected county or zip code. % Difference indicates whether there was an increase or decrease in the percentage of visits for a specific condition compared to the previous year. The graph represents the count, rate or age adjusted rate for the state and the selected region(s).



Age-adjusted rate: Age-adjusted rates enable more appropriate comparisons between groups with different age distributions. For example, a county with a higher percentage of elderly people may have a higher rate of hospitalization than a county with a younger population, merely because the elderly are more likely to be hospitalized. (The same distortion can happen when comparing races, genders, or time periods.) Age-adjusted rates are calculated on a rate per 1,000 population.

2.3.2 Measure Trends by Race/Ethnicity/Gender Over Time

The bottom half of the Disparity Index dashboard provides information on rates or age adjusted rates of a specific condition over years. The rate is based on either race, ethnicity, or gender. The disparity index represents the variation in rates of visit occurrence for a specific condition over years with respect to a reference group.



The reference group for each of the disparity measure is as follows,

a) Gender - Male

b) Race - White
c) Ethnicity - Not-Hispanic

The graph depicts the rate or age adjusted rate based on the of measure value selected (either rate or age adjusted rate) in current tab.

3 SOCIAL DETERMINANTS OF HEALTH (SDOH) REPORT

The report allows users to compare social disparities at county or zip code level for a specific year and measure. The report has an interactive map showing social determinants of health (SDOH) indicators in Maryland, including the economic, social, housing and transportation status of residents across the state. The report displays the definition of each measure at the bottom of the dashboard.

3.1 Data Source

The social determinant measures are taken from American Community Survey (ACS) data profile for the years 2018 to 2021.

3.2 Dimensions and Measures Used in the Report

ACS variable for each year used in this report is listed below

Concept	Measure	2018 ACS	2019 ACS	2020 ACS	2021 ACS
Education	Have High School Graduate or higher[2]	Inverse of DP02_0066PE	Inverse of DP02_0067PE	Inverse of DP02_0067PE	Inverse of DP02_0067PE
Employment	Unemployment	DP03_0009PE	DP03_0009PE	DP03_0009PE	DP03_0009PE
Poverty	Below Poverty	DP03_0128PE	DP03_0128PE	DP03_0128PE	DP03_0128PE
Income	Per Capita Income	DP03_0088E	DP03_0088E	DP03_0088E	DP03_0088E
Transportation	No Vehicle	DP04_0058PE	DP04_0058PE	DP04_0058PE	DP04_0058PE
Housing	Crowding	DP04_0078PE + DP04_0079PE	DP04_0078PE + DP04_0079PE	DP04_0078PE + DP04_0079PE	DP04_0078PE + DP04_0079PE
Language	Limited English Speaking	DP02_0113PE	DP02_0114PE	DP02_0116PE	DP02_0115PE

The definitions for the above mentioned variables for each year is taken from here. To obtain the definitions for different years, just modify the year in the URL.

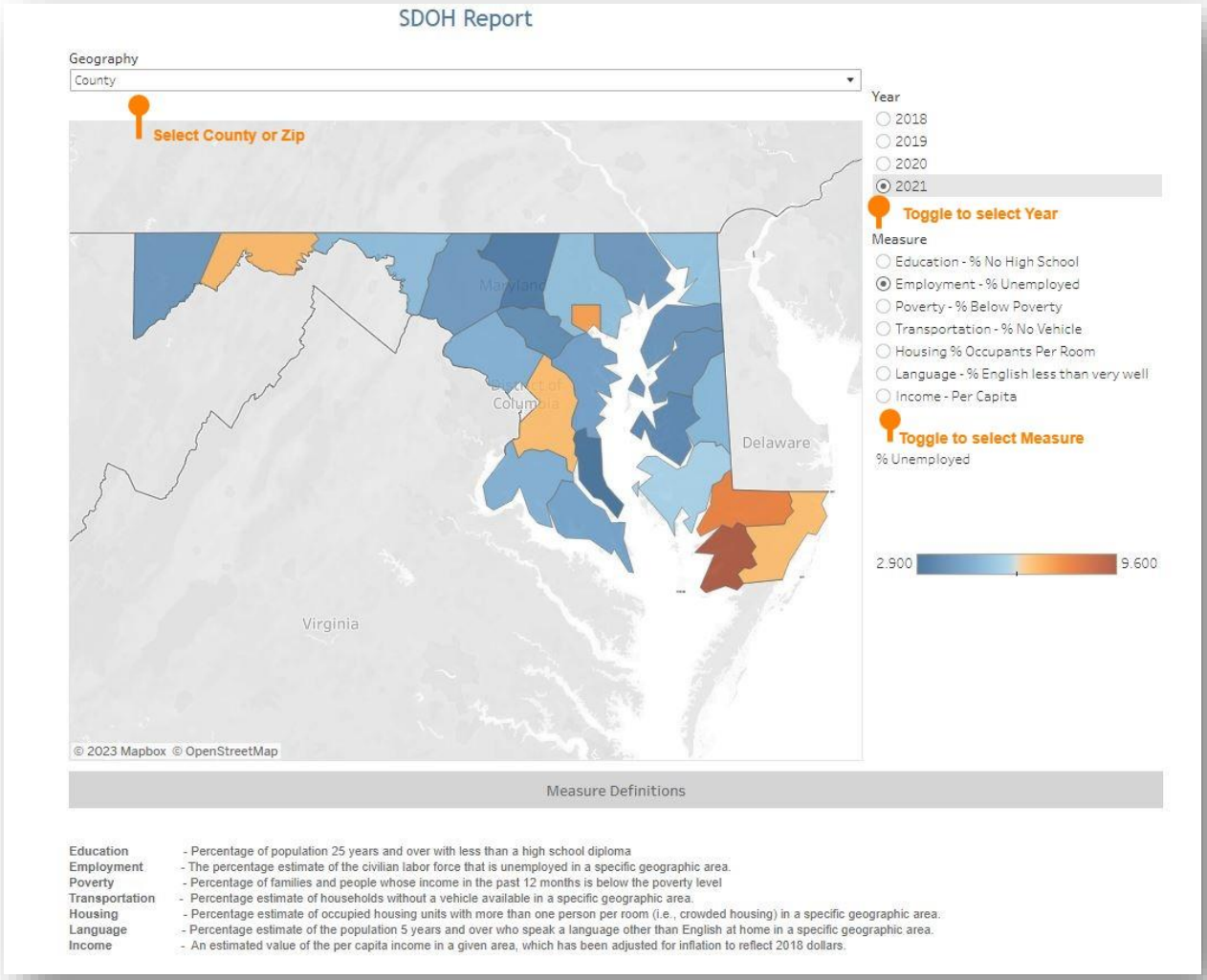
[2] ACS data reflects the percent of people aged 25 and over who have graduated from high school or higher. For purposes of this report, the metric has been inverted to reflect the percent of people who are ***not*** a High School Graduate or higher. This is consistent with the directionality of all other measures, where larger scores are associated with greater challenge/need.

A description of dimensions and measures used in the report is presented below.

Element	Description
Geography	County or zip
Year	Radio selection to allow users to toggle between year of choice
Measure	Radio selection to allow users to choose social determinant measure 1. Education - % of population 25 years and older with less than a high school diploma. 2. Employment - % estimate of civilian labor force who are unemployed in a specific geographic area. 3. Poverty - % of families and people whose income in the past 12 months is below poverty level. 4. Transportation - % estimate of households with no vehicle available in a specific geographical area. 5. Housing - % estimate of occupied housing units with more than one occupant per room in a specific geographical area. 6. Language - % estimate of the population 5 years and over who speak a language other than English at home in a specific geographic area. 7. Income - Per capita estimate (dollars), which has been inflation-adjusted for the selected year.

3.3 Report Format

The SDOH Report provides users with the ability to compare social determinant measures for a specific year across counties or zip codes. For example, the screenshot below shows the rate of unemployment for the year 2021 across different counties.


SDOH Report
Geography
County
Select County or Zip
Year
2018
2019
2020
2021
Toggle to select Year
Measure
Education - % No High School
Employment - % Unemployed
Poverty - % Below Poverty
Transportation - % No Vehicle
Housing % Occupants Per Room
Language - % English less than very well
Income - Per Capita
Toggle to select Measure
% Unemployed
2.900
9.600
Maryland
District of Columbia
Delaware
Virginia
© 2023 Mapbox © OpenStreetMap
Measure Definitions
Education - Percentage of population 25 years and over with less than a high school diploma
Employment - The percentage estimate of the civilian labor force that is unemployed in a specific geographic area.
Poverty - Percentage of families and people whose income in the past 12 months is below the poverty level
Transportation - Percentage estimate of households without a vehicle available in a specific geographic area.
Housing - Percentage estimate of occupied housing units with more than one person per room (i.e., crowded housing) in a specific geographic area.
Language - Percentage estimate of the population 5 years and over who speak a language other than English at home in a specific geographic area.
Income - An estimated value of the per capita income in a given area, which has been adjusted for inflation to reflect 2018 dollars.