

Asking Questions about Heart Diseases



- Heart Attack
- Coronary Artery Disease
- High Blood Pressure

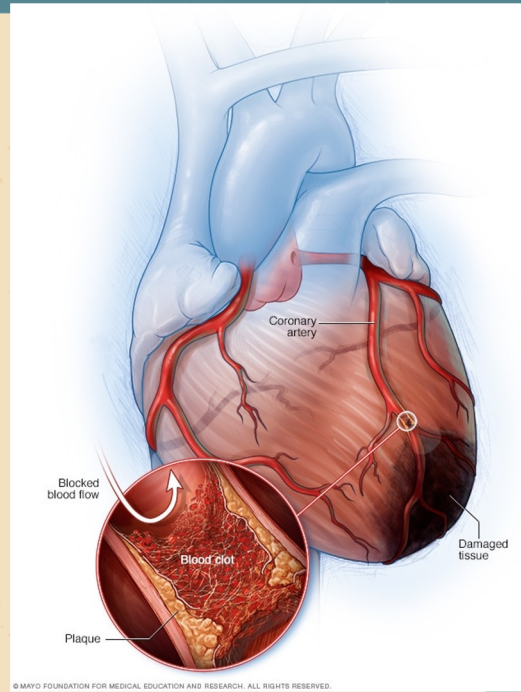
Heart Attack

Description:

- Usually occurs when fat builds up in the heart's vessels and blocks blood flow
- *also called "myocardial infarction"*
- *Leading killer of adults in the US*

Potential Research Questions:

- What time of year do heart attacks occur the most?
- What cities, counties, parts of the country have the most heart attacks?
- Does the density of fast food restaurants or food prices affect heart attack rates?



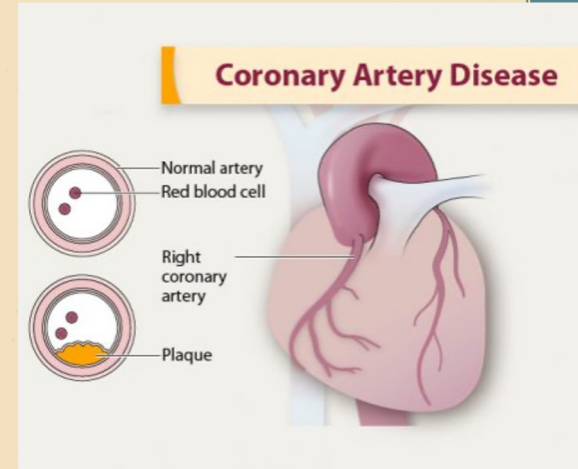
Coronary Artery Disease

Description:

- Fat deposits in the heart's vessels reduce the amount of blood, oxygen, and nutrients reaching the heart's muscles
- Can lead to chest pain and eventually a heart attack
- *also called* coronary heart disease

Potential Research Questions:

- Does average household income correlate with coronary artery disease mortality rates?
- What counties, states, parts of the country have the highest rates of coronary artery disease? What environmental/socioeconomic factors correlate the most in these high incidence locations?
- How have coronary artery disease rates increased/decreased over time?



High Blood Pressure (Hypertension)

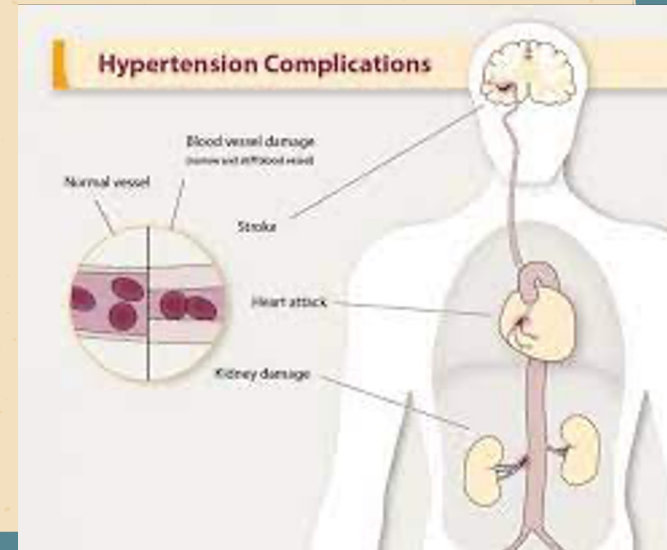


Description:

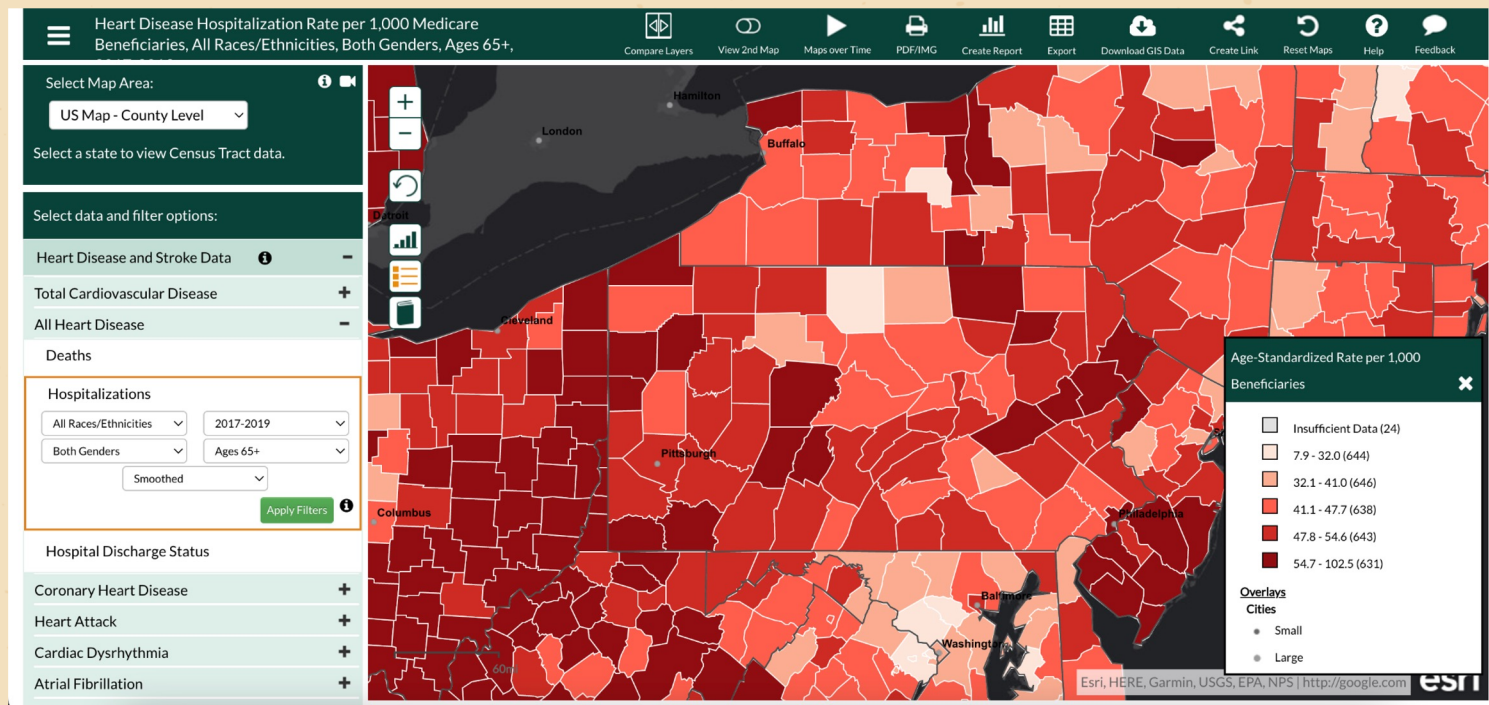
- Long-term force of the blood against your artery walls is high enough that it may eventually cause health problems
- Associated with age, obesity, race, family history, diet, etc.
- Can lead to serious conditions such as strokes, heart attacks, and heart failure if unmanaged
- Very common in older adults

Potential Research Questions:

- What risk factors for hypertension affect people in my state the most?
- Does hospital density affect hypertension diagnosis rates? What about hospital quality?



To get started: Check out the CDC Interactive Heart Disease Atlas



Heart Attack Hospitalization rates in counties from 2017-2019

How to use CDC Wonder

CDC WONDER

- “Wide-ranging **ON**line Data for Epidemiologic Research”
- Menu-driven system that makes the information resources of the CDC available to the public



*Click on each image to access the link

Heart Disease Datasets to Explore



Heart Disease Mortality 3 Year Averages

- 60,000+ observations
- CDC gives 3 year averages of heart disease mortality
- Database gives county and state location

How to use:

- On Data.gov, search for 'heart disease'
- 3 year averages are provided for years 1999-2019 in separate csv files
 - Combine these for longer time periods
 - Beware of missing data for certain counties



Coronary Heart Disease Mortality Rates

- 288,512 observations
- CDC has mortality rates from 1999 to 2018
- Rates are by county and state

How to use:

- Filter by column '*LocationAbbr*' for state
- Filter by column '*LocationDesc*' for city/county
- Column '*Data_Value*' has the rate of coronary heart disease mortality per 100,000 people

*Click on each image to access the link

Heart Disease Datasets to Explore



Hypertension Mortality Rates

- 1.2 million+ observations
- CDC has mortality rates from 2000 to 2019
- Rates are by county and state level

How to use:

- Filter by column '*LocationAbbr*' for state
- Filter by column '*LocationDesc*' for city/county
- Column '*Data_Value*' has the rate of hypertension related mortality per 100,000 people

*Click on each image to access the link

Many Local Regions have Datasets to Explore

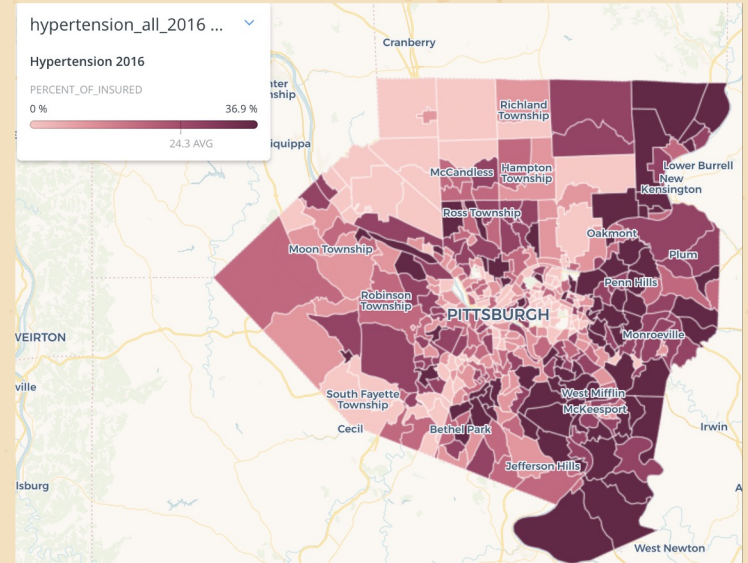


Hypertension Insurance Data in Allegheny County

- 392 observations (1 for each census tract)
- Includes the # of men/women with hypertension
- Data from 2015 and 2016

How to use:

- Use the metadata (table explaining each column)
- Data collected from 3 large health insurance providers
 - **IMPORTANT:** this data does not include uninsured patients with heart disease



*Click on each image to access the link

Many Local Regions have Datasets to Explore

Pittsburgh EMS Responses from 2015-present

- 1.4 mil+ 911 EMS responses in Allegheny County
- Data gives year and reason for EMS event
- Data organized by city & census block of event

How to use:

Use column '*description_short*' to filter responses by type of EMS response

- HEART : 13,913 responses in the database
- CHEST PAIN : 46,448 responses
 - Remember: chest pain could be non-heart related



*Click on each image to access the link

Many Local Regions have Datasets to Explore



Hypertension Survey Data 2011-2017

- County-level Hypertension rates data
- Based on The NJ Behavioral Risk Factor Survey

How to use:

- Click on image above to access 2011-2017 data
- Or go to [main website](#) -> Health Topics -> Cardiovascular Disease -> Doctor-diagnosed High Blood Pressure (or choose another)
- Use filters to specify based on your question

