Accessing SC DHEC Secondary Data

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AGENDA

1. What is **data**?
2. How is data **collected**?
3. What data are **available** and where can I locate data?
4. How to **analyze** data?
5. How to **visualize** data?

What is data?

- Factual information used as a basis for **reasoning**, **discussion**, or **calculation**
- Information in digital form that can be transmitted or processed
- Information output by a sensing device or organ that includes both **useful** and **irrelevant** or redundant information and must be **processed to be meaningful**
  - *Merriam-Webster Dictionary*

Data can be **ANYTHING**

How is data collected?

- Forms, questionnaires, & surveys
- Interviews
- Focus Groups
- Document & Record Review/Abstraction
- Research
- Online Tracking & Analytics

What data are available? Vital Statistics

- Vital records collects information on all births, deaths, abortions, and population groups in the state.
- Can stratify the information by various demographic and geographic groups
  - Age, race, ethnicity, sex, county, zip
- Vital records also captures data on infant mortality

SC DHEC SCAN

Datasets Currently Available

Births (1990-2019) - All births to SC residents from birth certificate data.

Cancer Incidence (1996-2018) and Cancer Mortality (1996-2019) - Cancer incidence and mortality for SC residents from South Carolina Central Cancer Registry (SCCCR) data.

Community Profile (1999-2019) - Profile the indicators of the public health interests across South Carolina on counties and DHEC regions level. Healthy People 2010 objectives and Leading Health Indicators are incorporated in the module for guidelines. Vital Statistics indicators are available for all years. BRFSS indicators are only available up to 2010.

Deaths (1990-1998) - All deaths of SC residents from death certificate data.

Deaths (1999-2019) - All deaths of SC residents from death certificate data.

Fetal Deaths (1989-2019) - Fetal death information for SC residents from fetal death data.

Infant Mortality (1989-2019) - Infant mortality for SC residents from birth and death certificate data.

Population (1990-2019) - Demographic information for SC residents from census data.

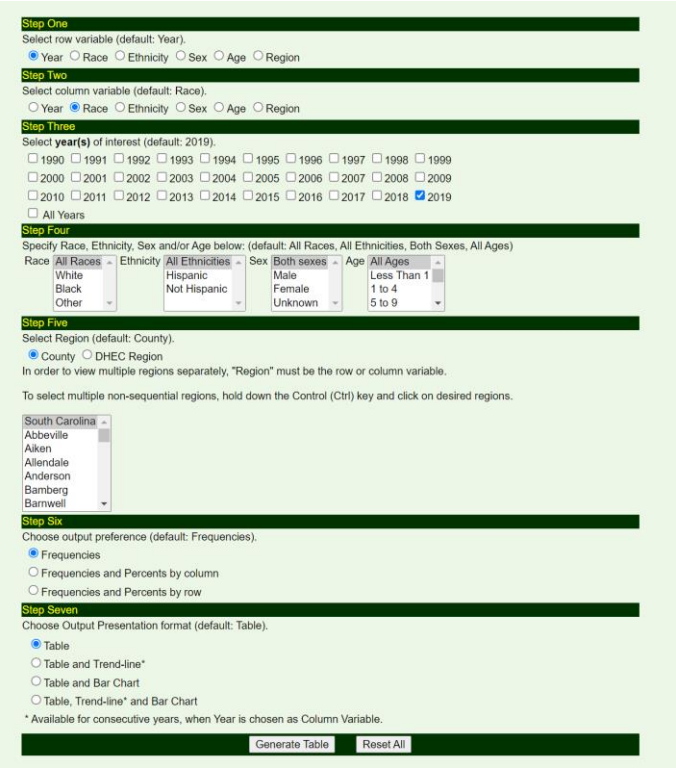
Pregnancy (1990-2019) - Live birth, abortion, and fetal death information for SC residents from birth certificate,fetal death report, and abortion report data.

Pregnancy Risk Assessment Monitoring System Data (1993-2015) - Survey results of the SC PRAMS program.

Vital Statistics: Exploring the data

- Data are updated annually
- Individuals can create their own focused data queries to help answer specific questions
- Archived data is available to allow the user to see data trends
- Access the data:
  - https://apps.dhec.sc.gov/Health/scan/scan/index.aspx

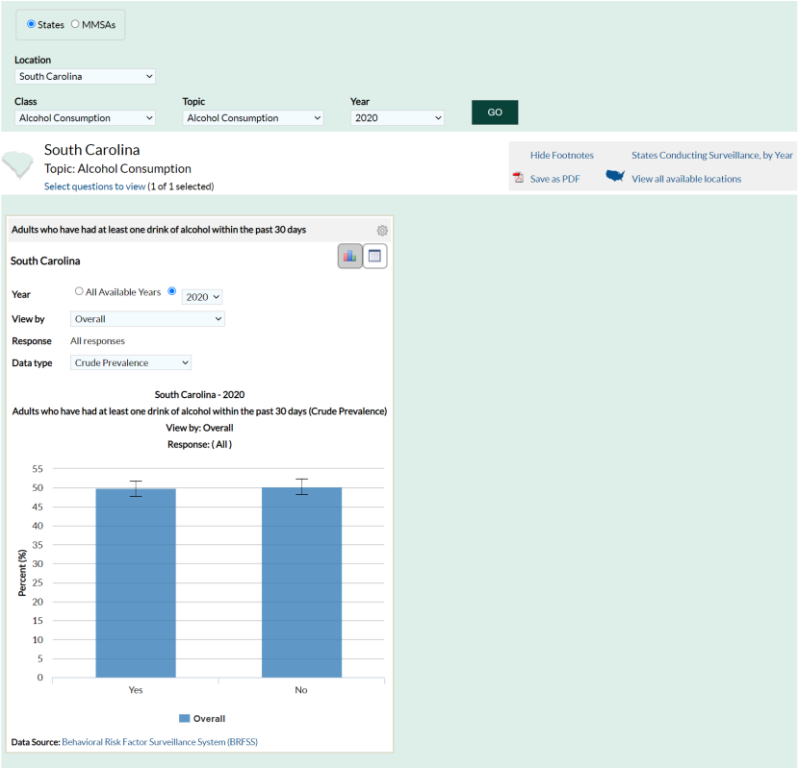
SC DHEC SCAN



What data are available? BRFSS

- The Behavioral Risk Factor Surveillance System (**BRFSS**) is the world's largest random telephone survey that is used to track health risks and health behaviors
- Monitors risk factors and chronic diseases
- Provides county and state estimates
- Data can be used to develop and monitor programs

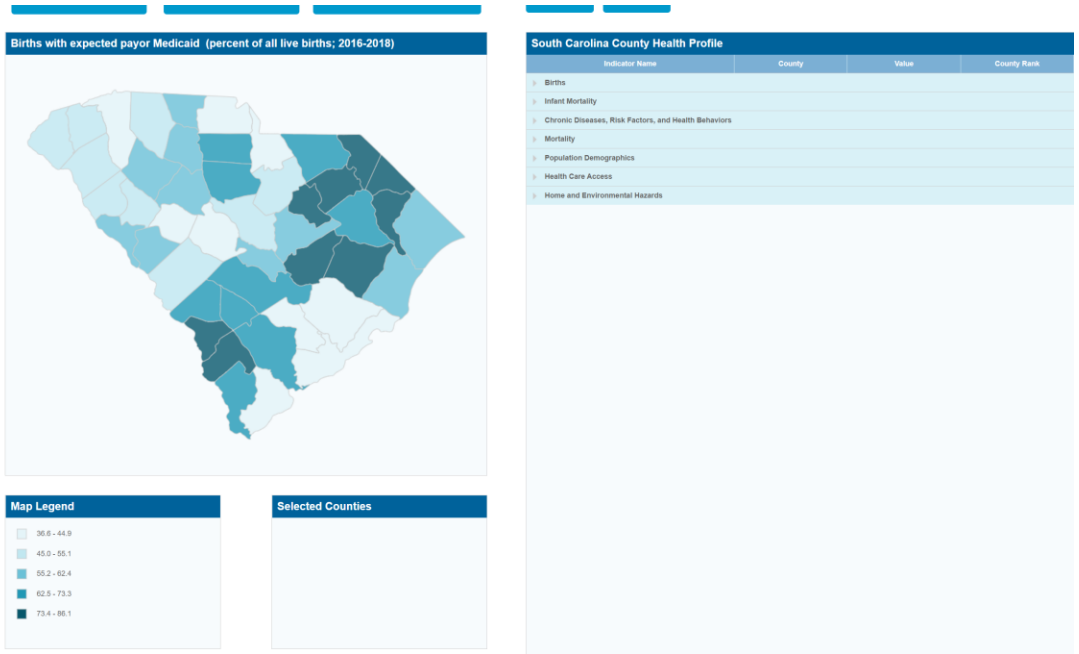
CDC BRFSS



BRFSS: Exploring the data

- BRFSS comes with a core set of questions but does allow for states to modify and add additional questions
  - Examples:
    - E-Cigarette use
    - Suicide Module
    - Reactions to Race Module
- Access the data:
  - https://gis.dhec.sc.gov/chp/

SC County Health Profile



What data are available? PRAMS

- The Pregnancy Risk Assessment and Monitoring System (**PRAMS**) is a population survey that collects information on SC mothers who have recently given birth to a live-born infant.
- Mothers after birth are surveyed for pregnancy experiences and outcomes
- Provides state-specific data on maternal behaviors, attitudes, and experiences before, during, and shortly after pregnancy and delivery

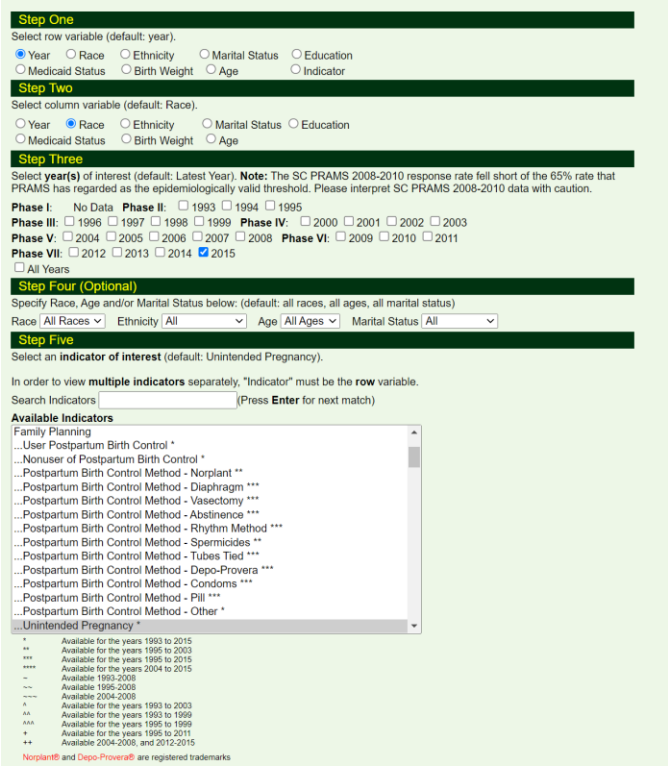
CDC PRAMS

Linking PRAMS and Clinical Outcomes Data Multi-Jurisdiction Learning Community

PRAMS: Exploring the data

- Similar to BRFSS, PRAMS has a core set of questions but does allow for states to choose additional questions and modules
- Access the data:
  - https://apps.dhec.sc.gov/Health/scan/scan/prams2/prams.aspx

SC DHEC PRAMS



Step One

Select row variable (default: year).

◉ Year ○ Race ○ Ethnicity ○ Marital Status ○ Education
○ Medicaid Status ○ Birth Weight ○ Age ○ Indicator

Step Two

Select column variable (default: Race).

○ Year ◉ Race ○ Ethnicity ○ Marital Status ○ Education
○ Medicaid Status ○ Birth Weight ○ Age

Step Three

Select **year(s)** of interest (default: Latest Year). **Note:** The SC PRAMS 2008-2010 response rate fell short of the 65% rate that PRAMS has regarded as the epidemiologically valid threshold. Please interpret SC PRAMS 2008-2010 data with caution.

Phase I: No Data **Phase II**: ☐ 1993 ☐ 1994 ☐ 1995
Phase III: ☐ 1996 ☐ 1997 ☐ 1998 ☐ 1999 **Phase IV**: ☐ 2000 ☐ 2001 ☐ 2002 ☐ 2003
Phase V: ☐ 2004 ☐ 2005 ☐ 2006 ☐ 2007 ☐ 2008 **Phase VI**: ☐ 2009 ☐ 2010 ☐ 2011
Phase VII: ☐ 2012 ☐ 2013 ☐ 2014 ☑ 2015
☐ All Years

Step Four (Optional)

Specify Race, Age and/or Marital Status below: (default: all races, all ages, all marital status)

Race [All Races] Ethnicity [All] Age [All Ages] Marital Status [All]

Step Five

Select an **indicator of interest** (default: Unintended Pregnancy).

In order to view **multiple indicators** separately, "Indicator" must be the **row** variable.

Search Indicators [ ] (Press **Enter** for next match)

Available Indicators

Family Planning
...User Postpartum Birth Control *
...Nonuser of Postpartum Birth Control *
...Postpartum Birth Control Method - Norplant **
...Postpartum Birth Control Method - Diaphragm ***
...Postpartum Birth Control Method - Vasectomy ***
...Postpartum Birth Control Method - Abstinence ***
...Postpartum Birth Control Method - Rhythm Method ***
...Postpartum Birth Control Method - Spermicides **
...Postpartum Birth Control Method - Tubes Tied ***
...Postpartum Birth Control Method - Depo-Provera ***
...Postpartum Birth Control Method - Condoms ***
...Postpartum Birth Control Method - Pill ***
...Postpartum Birth Control Method - Other *
...Unintended Pregnancy *

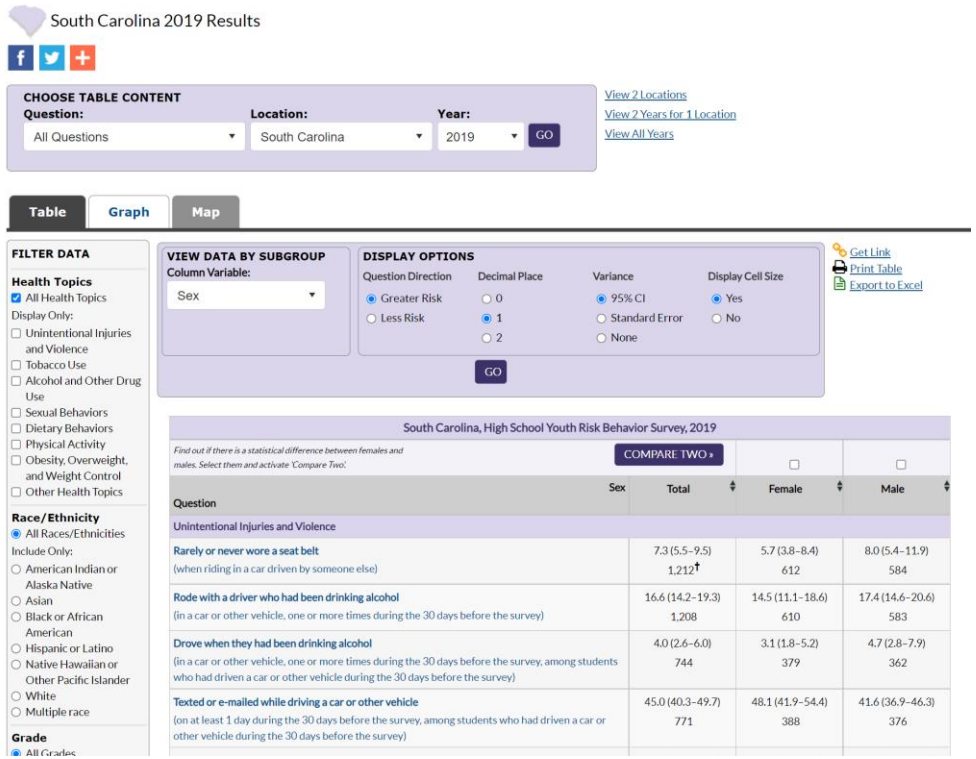
*	Available for the years 1993 to 2015
**	Available for the years 1995 to 2003
***	Available for the years 1995 to 2015
****	Available for the years 2004 to 2015
~	Available 1993-2008
~~	Available 1995-2008
~~	Available 2004-2008
^	Available for the years 1993 to 2003
^^	Available for the years 1993 to 1999
^^^	Available for the years 1995 to 1999
+	Available for the years 1995 to 2011
++	Available 2004-2008, and 2012-2015

Norplant® and Depo-Provera® are registered trademarks

What data are available? YRBSS

- The Youth Risk Behavior Surveillance System (**YRBSS**) monitors six categories of health-related behaviors among high school and middle school students in the state
  - Behaviors that contribute to unintentional injuries & violence
  - Sexual behaviors
  - Alcohol & drug use
  - Dietary behaviors
  - Physical Activity
  - Other health-related behaviors

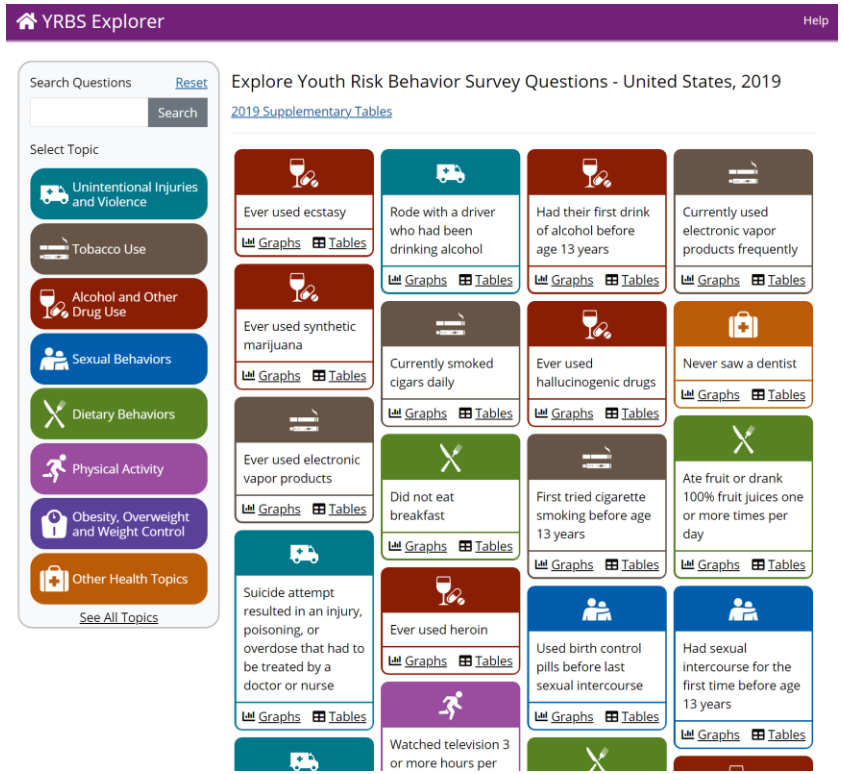
CDC YRBSS



YRBSS: Exploring the data

- Is a system of survey that includes a national school-based survey conducted by CDC and state as well as local surveys
- Data available every two years
- Can stratify by sex, grade, race, and sexual orientation
- Access the data:
  - https://yrbs-explorer.services.cdc.gov/#/

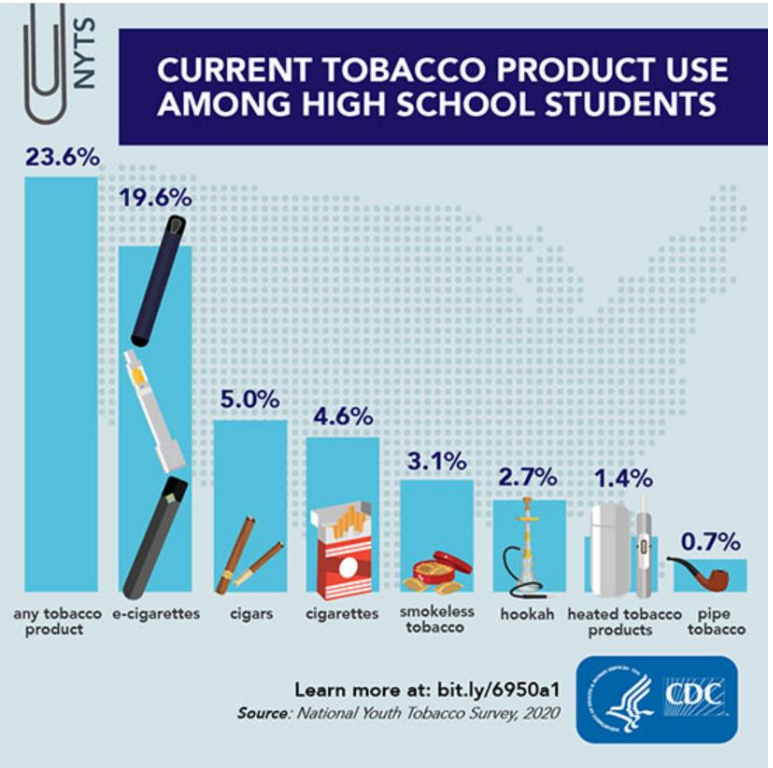
CDC YRBSS



What data are available? YTS

- The Youth Tobacco Survey (**YTS**) is a survey conducted among students in grades 6 through 12
- YTS is intended to enhance the capacity of state agencies and organizations to design, implement, and evaluate tobacco prevention and control programs

CDC YTS



YTS: Exploring the data

- YTS measures the following:
  - Knowledge and attitudes regarding tobacco use
  - Exposure to media and advertising
  - Presence of tobacco programs in school curricula
  - Secondhand smoke exposure
- Data are updated every two years and provides state-level estimates
- Access the data:
  - https://scdhec.gov/sites/default/files/media/document/2019-SC-YTS-Detailed-Tables_7.14.2020.pdf

SC DHEC YTS

Table HS-1: Percentage of high school students who report ever[1] using tobacco products by gender, race/ethnicity and grade – Results from 2019 South Carolina Youth Tobacco Survey.

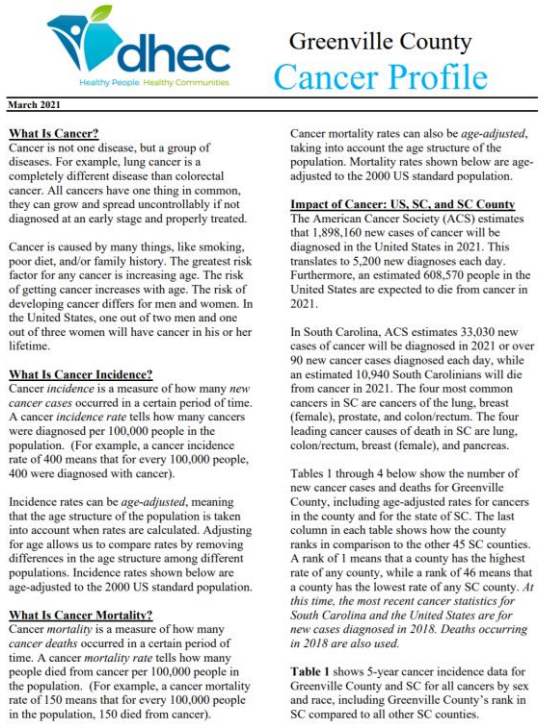
Characteristic	Any Tobacco[2]		Cigarette		Smokeless Tobacco		Cigar		Pipe		e-Cigarette	
	%	(95% CI)[3]	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
Gender												
Male	54.2	(±6.4)	27.4	(±5.9)	18.6	(±3.6)	27	(±5.6)	6.6	(±1.5)	40.8	(±5.8)
Female	50.9	(±4.6)	21.4	(±4.1)	8	(±3.3)	19.2	(±3.7)	3.6	(±1.2)	38.3	(±5.2)
Race/Ethnicity												
White	58.7	(±5.1)	29.9	(±6.4)	17.7	(±3.8)	25.4	(±4.2)	4.5	(±1.2)	49.8	(±5.7)
Black	42.1	(±6.5)	15.1	(±4.4)	7.6	(±2.8)	19	(±3.2)	--[4]	--	22.6	(±5.5)
Hispanic	56.3	(±9.4)	29.7	(±8.5)	10.4	(±4.8)	22.2	(±6.4)	--	--	46.2	(±9.4)
Grade												
9	44.3	(±5.2)	20.2	(±5.6)	11.1	(±4.0)	19.5	(±5.3)	--	--	33.6	(±6.9)
10	51	(±6.2)	19	(±4.1)	11	(±3.1)	20.5	(±4.5)	2.8	(±0.9)	39.5	(±7.5)
11	56.5	(±8.8)	27.5	(±7.4)	14.6	(±5.6)	25.6	(±6.4)	--	--	45.5	(±10.0)
12	59.7	(±7.4)	33.2	(±9.2)	17.3	(±6.7)	26.4	(±5.9)	--	--	40.9	(±8.9)
Total	**52.6**	**(±3.7)**	**24.4**	**(±3.9)**	**13.3**	**(±2.3)**	**23.1**	**(±3.0)**	**10.2**	**(±1.9)**	**39.5**	**(±4.2)**

1 - To determine the ever use of tobacco, students were asked "Have you ever tried cigarette smoking, even one or two puffs?" "Have you ever used chewing tobacco, snuff, or dip, such as Redman, Levi Garrett, Beechnut, Skoal, Bandits, or Copenhagen, even just a small amount?", "Have you ever tried smoking cigars, cigarillos, or little cigars, even one or two puffs?", "Have you ever tried smoking tobacco in a pipe, even one or two puffs?", "Have you ever tried smoking tobacco in a hookah or waterpipe, even one or two puffs?", "Have you ever used an e-cigarette, even once or twice?"
2 - Any tobacco includes cigarettes, cigars, smokeless tobacco, pipe, e-cigarettes, or hookah.
3 - Ninety-five percent confidence interval.
4 - Unreliable estimates (based on less than 35 respondents) are not presented.

What data are available? Cancer Registry

- Population-based cancer surveillance system that collects, processes, analyzes, and publishes cancer incidence for South Carolina
- The cancer registry also publishes information on cancer mortality
- Data are available at the state, region, and county level

SC DHEC Cancer Profiles



dhec
Healthy People. Healthy Communities.

Greenville County
Cancer Profile

March 2021

What Is Cancer?
Cancer is not one disease, but a group of diseases. For example, lung cancer is a completely different disease than colorectal cancer. All cancers have one thing in common, they can grow and spread uncontrollably if not diagnosed at an early stage and properly treated.

Cancer is caused by many things, like smoking, poor diet, and/or family history. The greatest risk factor for any cancer is increasing age. The risk of getting cancer increases with age. The risk of developing cancer differs for men and women. In the United States, one out of two men and one out of three women will have cancer in his or her lifetime.

What Is Cancer Incidence?
Cancer *incidence* is a measure of how many *new cancer cases* occurred in a certain period of time. A cancer *incidence rate* tells how many cancers were diagnosed per 100,000 people in the population. (For example, a cancer incidence rate of 400 means that for every 100,000 people, 400 were diagnosed with cancer).

Incidence rates can be *age-adjusted*, meaning that the age structure of the population is taken into account when rates are calculated. Adjusting for age allows us to compare rates by removing differences in the age structure among different populations. Incidence rates shown below are age-adjusted to the 2000 US standard population.

What Is Cancer Mortality?
Cancer *mortality* is a measure of how many *cancer deaths* occurred in a certain period of time. A cancer *mortality rate* tells how many people died from cancer per 100,000 people in the population. (For example, a cancer mortality rate of 150 means that for every 100,000 people in the population, 150 died from cancer).

Cancer mortality rates can also be *age-adjusted*, taking into account the age structure of the population. Mortality rates shown below are age-adjusted to the 2000 US standard population.

Impact of Cancer: US, SC, and SC County
The American Cancer Society (ACS) estimates that 1,898,160 new cases of cancer will be diagnosed in the United States in 2021. This translates to 5,200 new diagnoses each day. Furthermore, an estimated 608,570 people in the United States are expected to die from cancer in 2021.

In South Carolina, ACS estimates 33,030 new cases of cancer will be diagnosed in 2021 or over 90 new cancer cases diagnosed each day, while an estimated 10,940 South Carolinians will die from cancer in 2021. The four most common cancers in SC are cancers of the lung, breast (female), prostate, and colon/rectum. The four leading cancer causes of death in SC are lung, colon/rectum, breast (female), and pancreas.

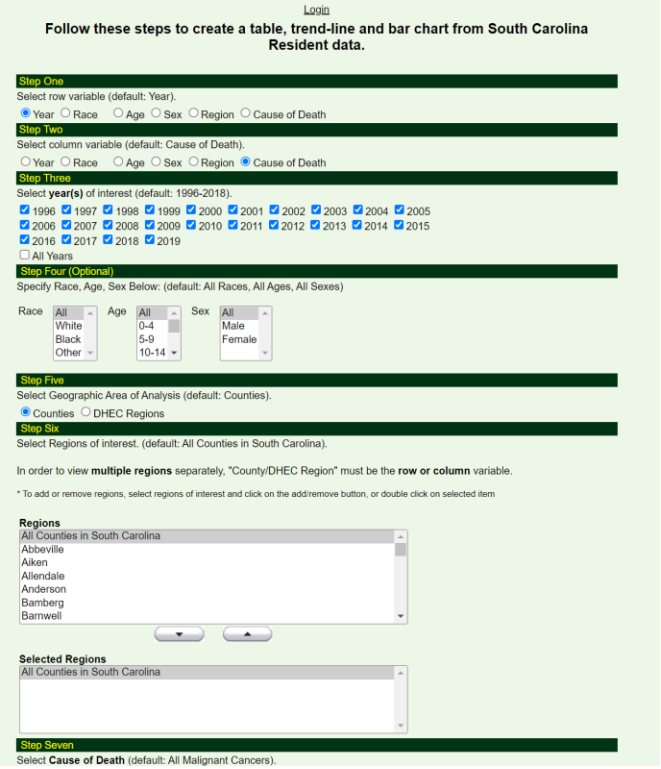
Tables 1 through 4 below show the number of new cancer cases and deaths for Greenville County, including age-adjusted rates for cancers in the county and for the state of SC. The last column in each table shows how the county ranks in comparison to the other 45 SC counties. A rank of 1 means that a county has the highest rate of any county, while a rank of 46 means that a county has the lowest rate of any SC county. *At this time, the most recent cancer statistics for South Carolina and the United States are for new cases diagnosed in 2018. Deaths occurring in 2018 are also used.*

Table 1 shows 5-year cancer incidence data for Greenville County and SC for all cancers by sex and race, including Greenville County's rank in SC compared to all other SC counties.

Cancer Registry: Exploring the data

- Cancer Registry data are used to determine the frequency and rate of cancer occurrence in a defined area, population subgroup, and the comparison of SC cancer trends to national patterns over time.
- Access the data:
  - https://apps.dhec.sc.gov/Health/scan/scan/cancer2/home.aspx

SC DHEC Cancer Registry



What data are available? Reportable Conditions

- Outline annual data on SC reportable conditions to South Carolinians along with healthcare organizations, providers, government, and regulatory agencies
- This report shows important statistical information on potentially preventable diseases and conditions

SC DHEC Reportable Conditions

South Carolina 2021 List of Reportable Conditions

REPORT UPON RECOGNITION OF A SUSPECTED CASE, DIAGNOSIS, OR POSITIVE LABORATORY EVIDENCE (SEE "HOW TO REPORT" ON BACK)

Suspected means clinical suspicion and/or initial laboratory detection, isolation, identification, or presence of supportive laboratory results.

☣ **Potential agent of bioterrorism**

! **Immediately reportable by phone call to a live person at the regional public health office, 24/7**

* **Urgently reportable within 24 hours by phone**

All other conditions except lead are reportable within 3 business days

☣ ! **Any case that may be caused by chemical, biological, or radiological threat, novel infectious agent, or any cluster of cases, or outbreak of a disease or condition that might pose a substantial risk of human morbidity or mortality (1) (5)**

* Animal (mammal) bites (6)

☣ ! **Anthrax *(Bacillus anthracis)* (5)**

Babesiosis *(Babesia* spp.*)*

☣ ! **Botulism *(Clostridium botulinum* or Botulinum toxin)**

☣ * Brucellosis *(Brucella* spp.*)* (5)

Campylobacteriosis (5)

* *Candida auris* or suspected (5) (15)

Carbapenem-resistant *Enterobacteriaceae* (CRE) and *Acinetobacter baumanii* (CRAB) (2) (5) (9)

Carbapenem-resistant *Pseudomonas aeruginosa* (CRPA) (2) (5) (12)

Chancroid *(Haemophilus ducreyi)*

* Chikungunya (5)

Chlamydia trachomatis

* Ciguatera

* Coronavirus Disease 2019 (COVID-19) (17)

Creutzfeldt-Jakob Disease (Age < 55 years only)

Cryptosporidiosis *(Cryptosporidium* spp.*)*

Cyclosporiasis *(Cyclospora cayetanensis)* (5)

* Dengue (5)

* Diphtheria *(Corynebacterium diphtheriae)* (5)

* Eastern Equine Encephalitis (EEE) (5)

Ehrlichiosis / Anaplasmosis (Ehrlichia / Anaplasma phagocytophilum)

* *Escherichia* coli, Shiga toxin – producing *(STEC)* (5)

Giardiasis *(Giardia* spp.*)*

Gonorrhea *(Neisseria gonorrhoeae)* (2)

* *Haemophilus influenzae*, all types, invasive disease (H flu) (2) (3) (5)

* Hantavirus

* Hemolytic uremic syndrome (HUS), post-diarrheal

* Hepatitis (acute) A, B, C, D, & E (16)

Hepatitis (chronic) B, C, & D (16)

Hepatitis B surface antigen + with each pregnancy

HIV and AIDS clinical diagnosis

HIV CD4 test results (all results) (L)

HIV exposed infants

HIV subtype, genotype, and phenotype (L)

HIV 1 or HIV 2 positive test results (detection and confirmatory tests) (L)

HIV 1/2 AB/AG+ and/or detectable viral load with each pregnancy

HIV viral load (all results) (L)

HIV HLA-B5701 and co-receptor assay (L)

! **Influenza, avian or other novel strain**

* Influenza associated deaths (all ages)

Influenza

- Lab–confirmed cases (eg. culture, RT-PCR, DFA, Molecular assay) (16)
- Influenza associated hospitalizations (7)

* La Crosse Encephalitis (LACV) (5)

Lead tests, all results - indicate venous or capillary specimen (13)

Legionellosis

Leprosy *(Mycobacterium leprae)* (Hansen's Disease)

Leptospirosis

Listeriosis (5)

Lyme disease *(Borrelia burgdorferi)*

Lymphogranuloma venereum

Malaria *(Plasmodium* spp.*)*

! **Measles (Rubeola)**

! **Meningococcal disease *(Neisseria meningitidis)* (2) (3) (4) (5)**

* Mumps

* Pertussis *(Bordetella pertussis)*

☣ ! **Plague *(Yersinia pestis)* (5)**

! **Poliomyelitis**

☣ Psittacosis *(Chlamydophila psittaci)*

☣ * Q fever *(Coxiella burnetii)*

! **Rabies (human)**

Rabies Post Exposure Prophylaxis (PEP) when administered (6)

* Rubella (includes congenital)

Salmonellosis (2) (5)

* Shiga toxin positive (5)

Shigellosis (2) (5)

☣ ! **Smallpox (Variola)**

Spotted Fever Rickettsiosis *(Rickettsia* spp.*)*

* *Staphylococcus aureus*, vancomycin-resistant or intermediate with a VA ≥6 MIC (VRSA/VISA) (2) (5) (10)

Streptococcus group A, invasive disease (2) (3)

Streptococcus pneumoniae, invasive (pneumococcal) (2) (3) (11)

* St. Louis Encephalitis (SLEV) (5)

* Syphilis: congenital, primary, or secondary (lesion or rash) or Darkfield positive

Syphilis: early latent, latent, tertiary, or positive serological test

Tetanus *(Clostridium tetani)*

Toxic Shock (specify staphylococcal or streptococcal)

* Tuberculosis *(Mycobacterium tuberculosis)* (5) (8)

Tuberculosis test - Positive Interferon Gamma Release Assays (IGRAs): QuantiFERON-TB Gold Plus (QFT-Plus) and T-SPOT.TB (14) (L)

☣ * Tularemia *(Francisella tularensis)* (5)

☣ * Typhoid fever *(Salmonella typhi)* (2) (5)

☣ * Typhus, epidemic *(Rickettsia prowazekii)*

Varicella

* Vibrio, all types, including *Vibrio cholerae* O1 and O139 (5)

☣ ! **Viral Hemorrhagic Fevers (Ebola, Lassa, Marburg viruses)**

* West Nile Virus (5)

* Yellow Fever

Yersiniosis *(Yersinia, not pestis)*

* Zika (5)

(L) Only Labs required to report.

1. An outbreak is the occurrence of more cases of disease than normally expected within a specific place or group of people over a given period of time. Clinical specimens may be required.
2. Include drug susceptibility profile.
3. Invasive disease = isolated from normally sterile site. Always specify site of isolate.
4. Report Gram-negative diplococci in blood or CSF.
5. Specimen submission to the Public Health Laboratory (PHL) is required. Ship immediately and urgently reportables within 1 business day. Ship 3 day reportables within 3 business days. Contact regional staff if assistance is needed.
6. Rabies exposure prophylaxis guidance: www.scdhec.gov/health-professionals/clinical-guidance-resources/rabies-treatment/rabies-guide-managing-exposures#contacts. Consultation is available from DHEC Regional Public Health Office.
7. Report aggregate totals weekly.
8. Report all cases of suspect and confirmed tuberculosis (TB). A suspect case of TB is a person whom a health care provider suspects TB based on signs, symptoms, and/or laboratory evidence of TB. Centers for Disease Control and Prevention case definition of confirmed cases: https://wwwn.cdc.gov/nndss/conditions/tuberculosis.
9. Carbapenem-resistant Enterobacteriaceae and Acinetobacter baumannii from all specimen types.
10. Appropriate specimen types: A pure, low passage isolate submitted on a noninhibitory, non-selective agar plate or slant is preferred. If available submit one original culture plate.
11. Specimen submission to the PHL is required for Streptococcus pneumoniae, invasive in cases < 5 years of age.
12. Specimen submission of the first isolate of the month to the PHL is required for Carbapenem-resistant Pseudomonas aeruginosa.
13. All blood lead results are reportable within 30 days. Any elevated results (5 mcg/dL or greater) are reportable within 7 days.
14. Positive IGRAs alone do not diagnose TB disease versus Latent TB Infection (LTBI). www.scdhec.gov/sites/default/files/media/document/Memo%2012.19%20on%20IsrTx%20Pos%20reportable%20conditions.pdf
15. Send all yeast isolates from any source to PHL except, C. albicans, C. krusei, C. dubliniensis, C. lusitaniae, C. parapsilosis, C. tropicalis
16. Negative results are reportable for Hepatitis B, C and Influenza only for laboratories that report via Electronic Laboratory Reporting (ELR).
17. COVID-19 cases, deaths, and multisystem inflammatory syndrome in children are urgently reportable within 24 hours. All COVID-19 test results, including positives, negatives, and whole genome sequencing (WGS) are required to be reported. For detailed information about reporting COVID-19 positive, negative, and WGS results, please go to: www.scdhec.gov/sites/default/files/Library/CR-012869.pdf

Reportable Conditions: Exploring the data

- Data in the report reflect diseases and conditions acquired by South Carolina residents only, meaning individuals could have contracted the disease outside the state.
- Provides state and county level estimates on a variety of diseases
- Access the data:
  - https://scdhec.gov/morbidity-report-reportable-conditions

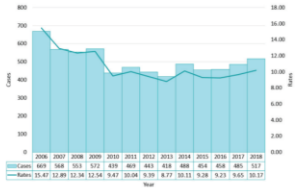
SC DHEC Reportable Conditions

Chronic Hepatitis B Infection

Chronic hepatitis B virus (HBV) infection is the result of an acute infection. It attacks the liver and can cause cancer and cirrhosis (scarring of the liver). Without immediate treatment, about 40% of infants born to HBV-infected mothers in the US will get chronic HBV infection, and about one-fourth of them will eventually die from chronic liver disease. Drugs are available to treat, but not cure, chronic HBV infection.

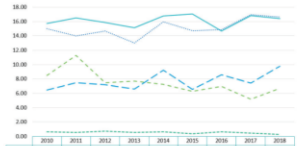
Like acute hepatitis B, chronic hepatitis B infections also increased slightly in 2018. The 30-64 years old group represented the highest rate of infection in any age group. In recent years, the general trend shows that incident cases are declining due to the success of the three-dose vaccination regimen for children starting at birth.

Figure 25. Number of Cases and Rates per 100,000 of Chronic Hepatitis B in South Carolina, 2006-2018



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Cases	669	568	553	572	419	469	443	418	488	454	458	485	517
Rates	15.47	12.89	12.34	12.54	9.47	10.04	9.39	8.77	10.11	9.28	9.23	9.65	10.17

Figure 26. Rates per 100,000 Population of Chronic Hepatitis B in South Carolina, by Age Group, 2010-2018.



	2010	2011	2012	2013	2014	2015	2016	2017	2018
<18	0.65	0.56	0.74	0.56	0.65	0.37	0.64	0.45	0.27
18-29	8.48	11.25	7.48	7.68	7.24	6.28	5.98	5.17	6.68
30-49	15.72	16.48	15.84	15.09	16.77	17.02	14.66	16.80	16.39
50-64	14.97	13.99	14.65	13.01	15.92	14.68	14.84	16.94	16.61
65+	6.43	7.44	7.19	6.60	9.20	6.55	8.56	7.40	9.75

Figure 27. Rates per 100,000 of Chronic Hepatitis B in South Carolina, by County, year 2018.

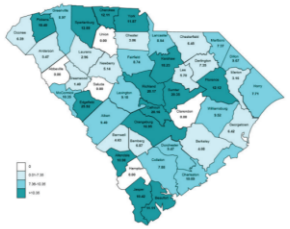


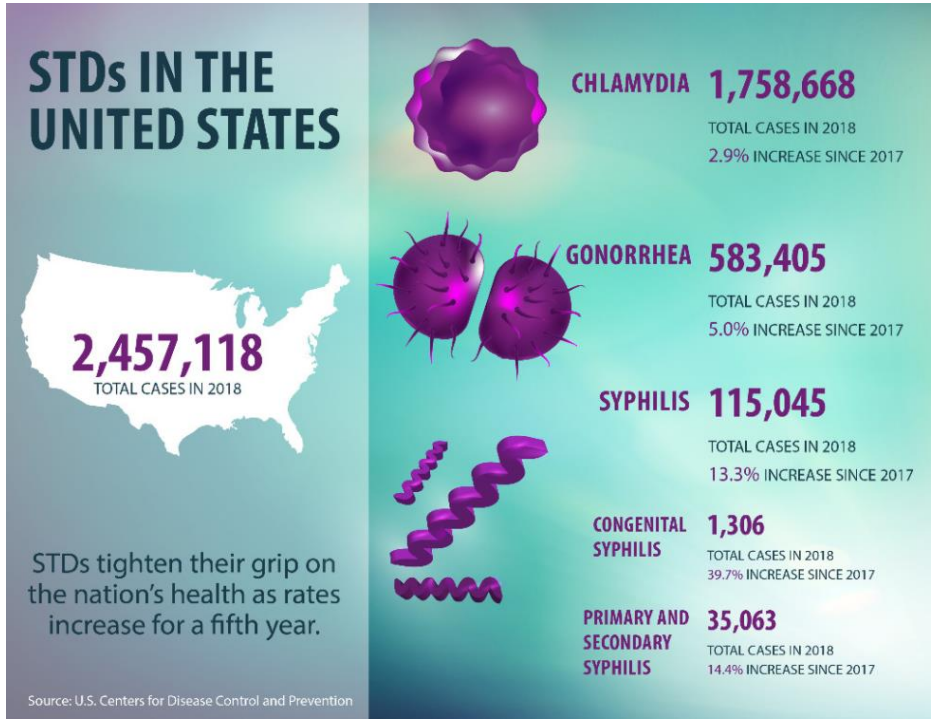
Table 11. Summary of Demographics of Chronic Hepatitis B in South Carolina

Summary	
Number of Cases	517
Incidence rate (per 100,000 population)	10.17
Change from 5-year average incidence	1%
Age (in Years)	
Mean	49
Median	49
Min-max	4-94

What data are available? HIV/STD Information

- Yearly reports that highlight HIV and STI data in the state while showing geographic distinction, risk behaviors, and how the epidemics affect various population groups.
- Health care providers and laboratories are required by law to report certain sexually transmitted infections to DHEC

CDC STDs



HIV/STI: Exploring the data

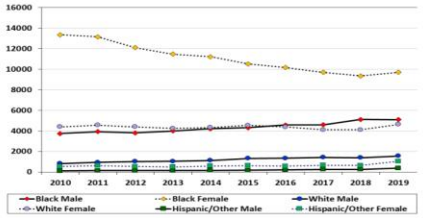
- Annual reports allow users to see trends of data, geographic information, and data by various demographic groups
- Access the data:
  - https://scdhec.gov/hiv-aids-std-data-reports

SC DHEC HIV/STI

Chlamydia

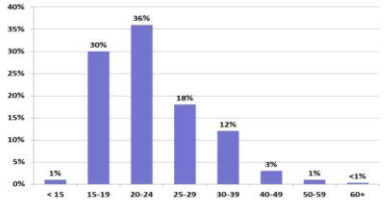
Over the past decade, reported cases of chlamydia have averaged about 29,656 per year. Some of this high number may be attributed to initiating routine screening for all young women attending family planning and STI clinics in health departments statewide. In 2019, there were 36,258 cases of chlamydia diagnosed in South Carolina. Among those cases with a reported race, 43 percent were African American women and 21 percent were white women. African American men comprised 23 percent of chlamydia cases, and white men accounted for seven percent (Figure 3.19). Thirty-eight percent of chlamydia cases have 'Unknown' race and/or gender; this is largely attributed to the fact that these conditions are primarily reported by labs, which frequently do not collect data for race.

Figure 3.19: South Carolina Count of Reported Chlamydia Cases by Year of Diagnosis, 2010-2019



Of cases diagnosed in 2019, 85 percent were adolescents and adults under the age of 30. 15-19, 30 percent; 20-24, 36 percent; and 25-29, 18 percent. Persons age 30 and over accounted for 16 percent of chlamydia cases. Figure 3.20

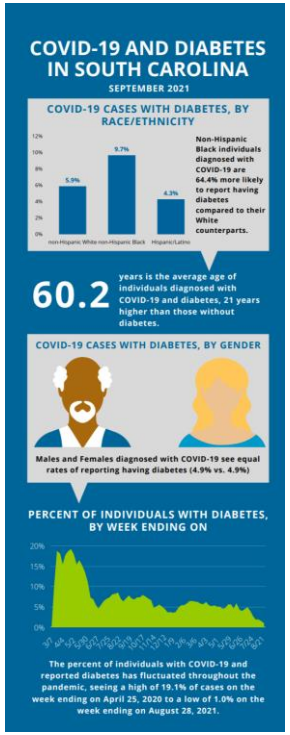
Figure 3.20: Proportion of 2019 Chlamydia Cases by Age Group



What data are available? COVID-19 Data

- Daily reporting of COVID-19 data for various demographic and geographic subgroups
- Can select various time-periods to see how the disease affected various groups during different waves
- Produce monthly infographics showing vulnerable populations and their impacts from COVID-19

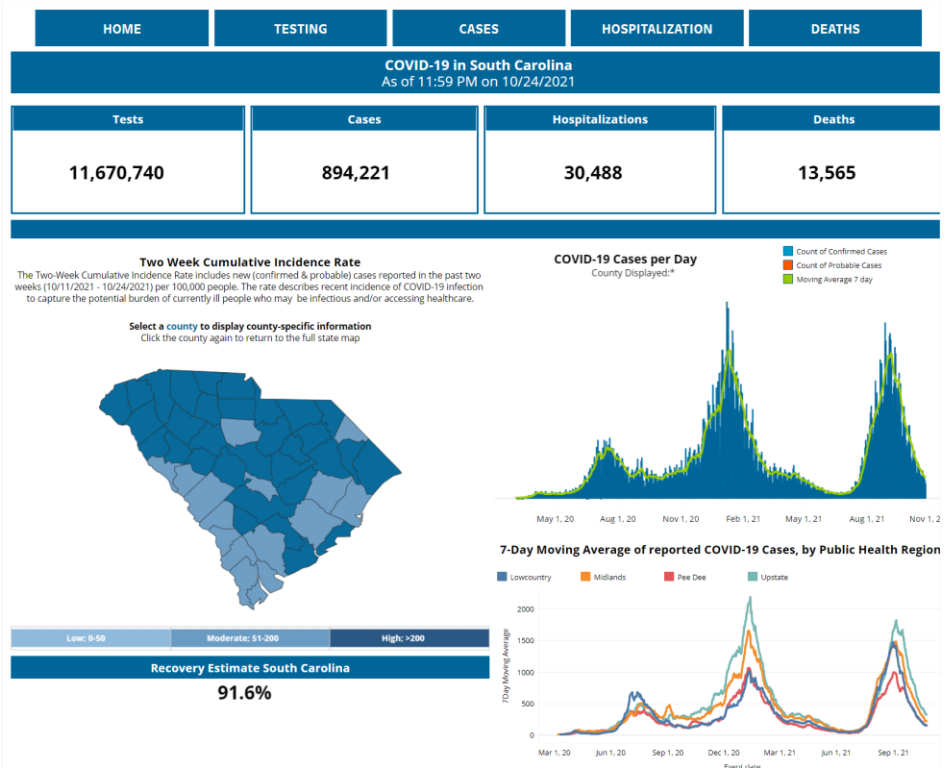
SC DHEC COVID-19



COVID-19 Data: Exploring the data

- Access the data:
  - County Dash:
    - https://scdhec.gov/covid19/covid-19-data/south-carolina-county-level-data-covid-19
  - Vaccine Dash:
    - https://scdhec.gov/covid19/covid-19-data/covid-19-vaccination-dashboard
  - Hospital Dash:
    - https://scdhec.gov/covid19/covid-19-data/acute-hospital-bed-occupancy
  - Long-term Care Dash:
    - https://scdhec.gov/covid19/covid-19-data/nursing-homes-extended-care-facilities-impacted-covid-19#cases

SC DHEC COVID-19

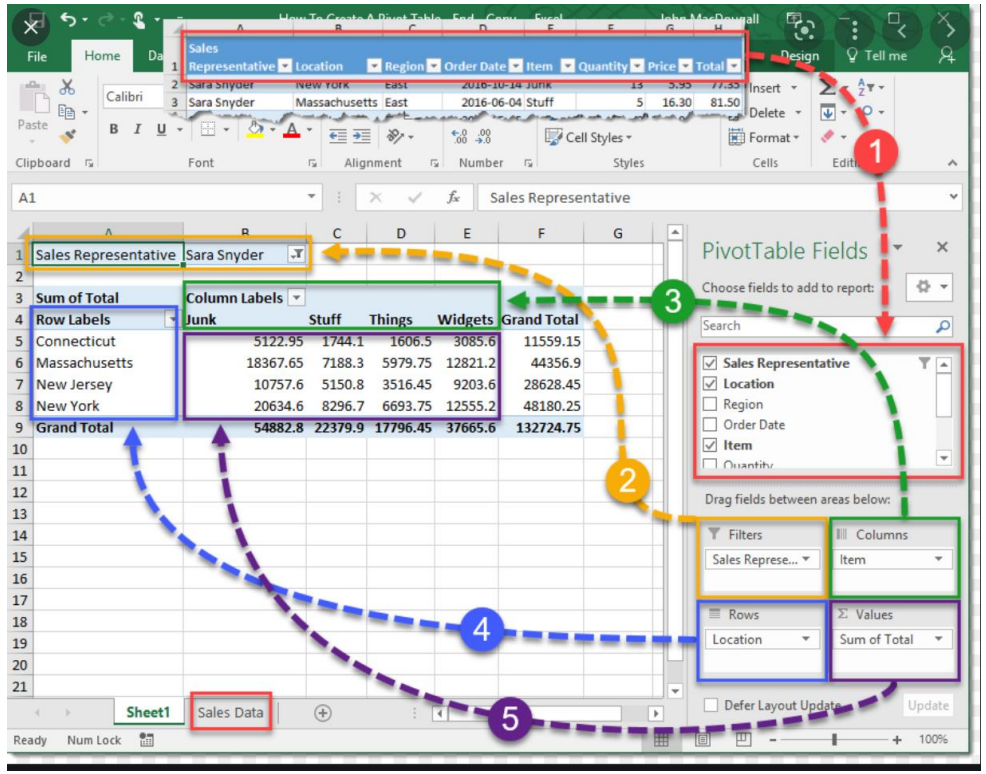


How to analyze data?

- **Who?**
  - Who or what populations is the disease of interest affecting?
- **What?**
  - What disease is of interest?
- **When?**
  - When did the disease of interest occur, were there spikes of disease activity?
- **Where?**
  - Where did the disease of interest take place, were areas affected the same?
- **Why?**
  - Why is the disease of interest affecting certain populations or geographic areas?
- **How?**
  - How is the disease of interest going to be mitigated or reduced?

How to analyze data?

- Tools used to analyze data:
  - **Excel**
    - Pivot Tables (see image)
  - **SAS**
  - **R**
  - **Python**
  - **SQL**
  - **Tableau**
    - Prep
    - Desktop



How to analyze data?

- Things to consider:
  - Crude *vs.* adjustment
  - Stratifications
  - Unit of analysis
  - Interpretations
  - Referent population
  - Counts *vs.* rates
  - Biases
  - Ethics

How to visualize data?

Which month saw the highest number of common cold diagnoses?

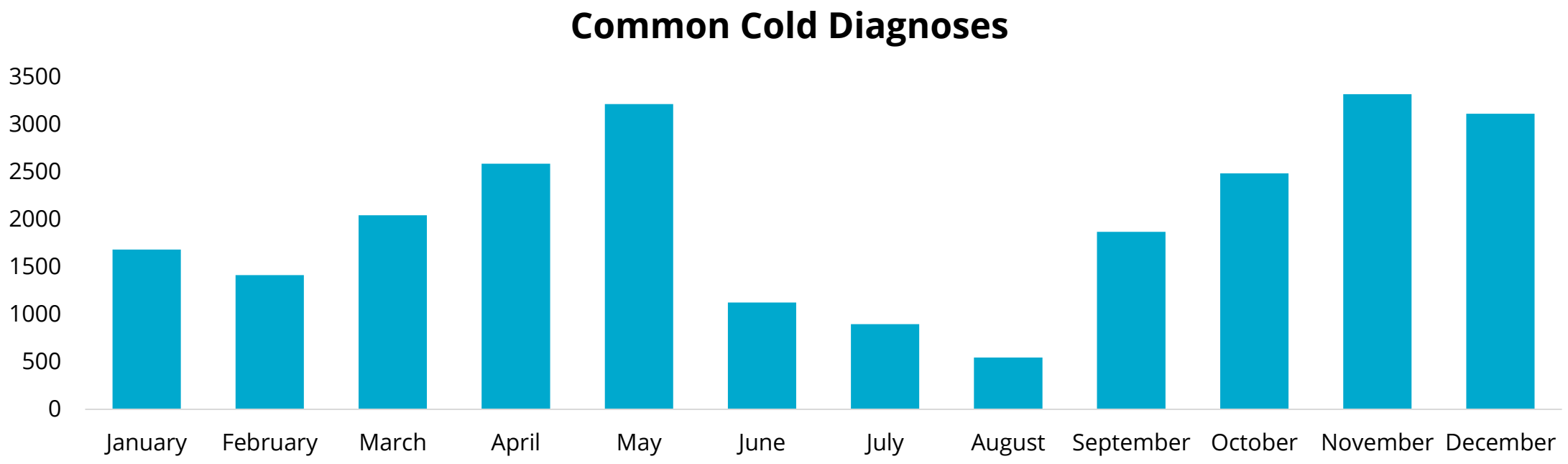
How to visualize data?

Jan	Feb	March	April	May	June	July	August	Sept	October	Nov	Dec
1682	1412	2042	2586	3214	1125	896	546	1868	2484	3318	3112

3…2…1…

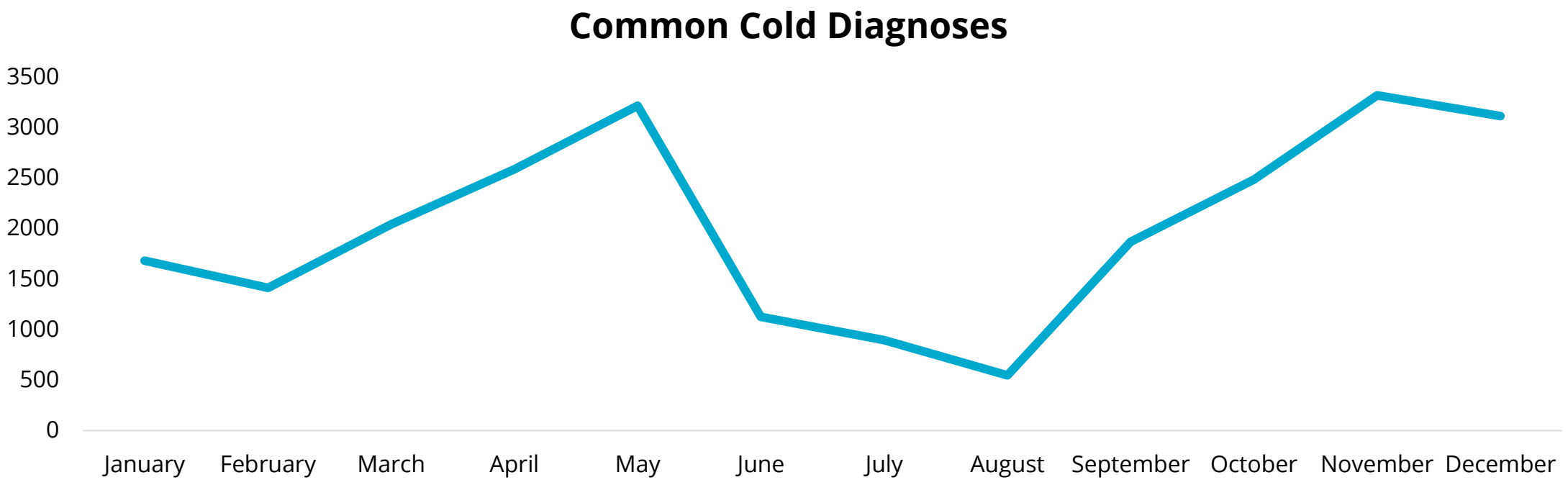
How to visualize data?

How to visualize data?



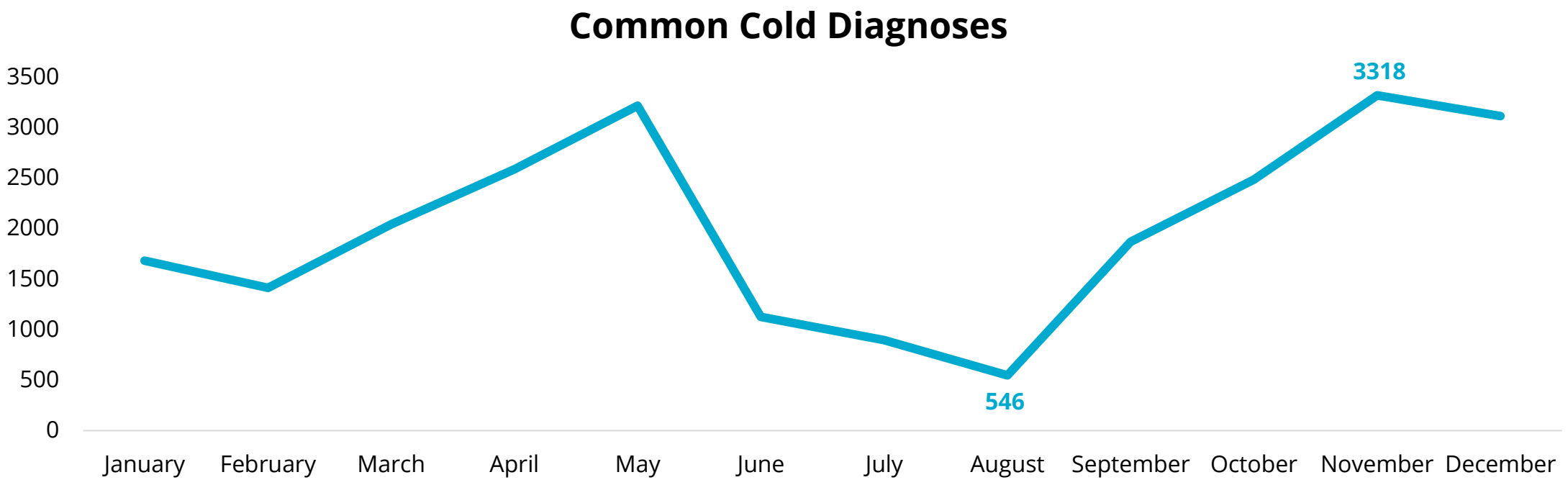
3...2...1...

How to visualize data?



3...2...1...

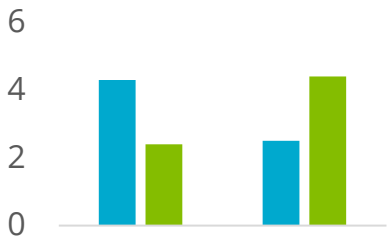
How to visualize data?

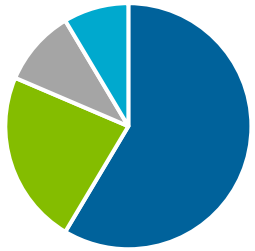


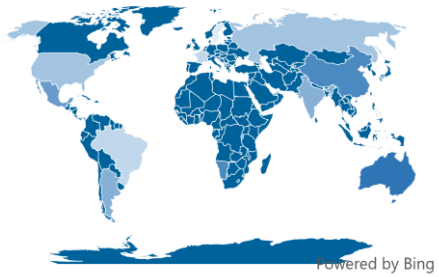
3...2...1...

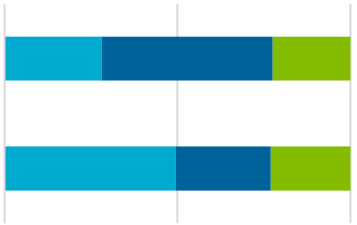
How to visualize data?

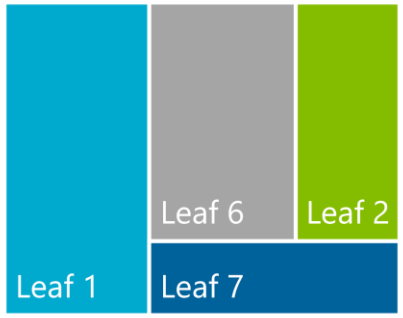
Choosing an effective visual is key.







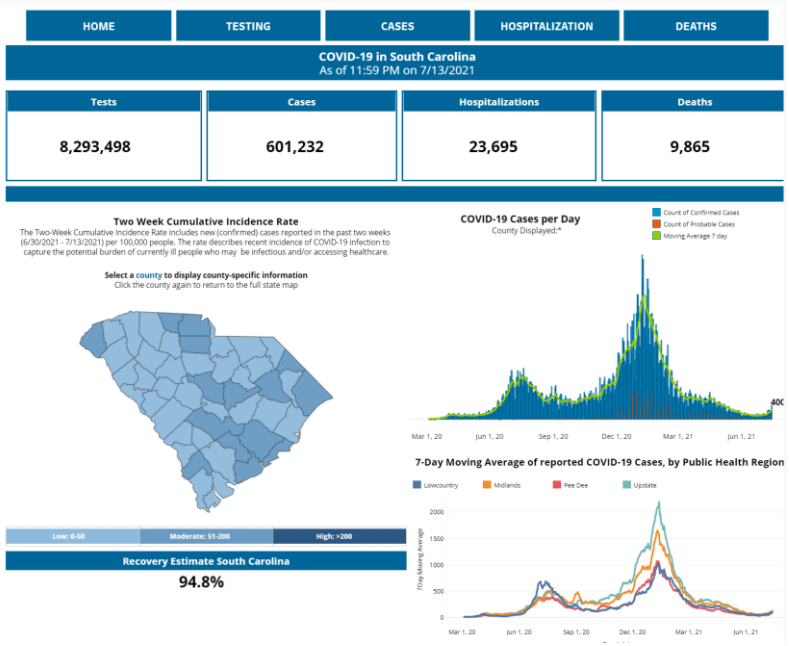




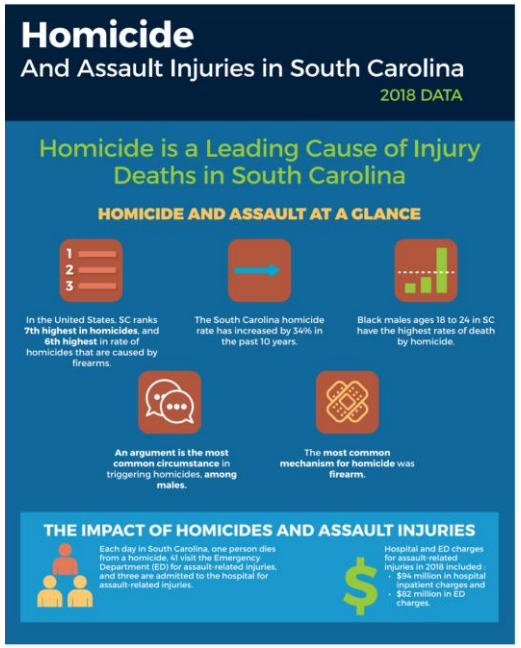
	Total
A	1
B	2
C	3

91%

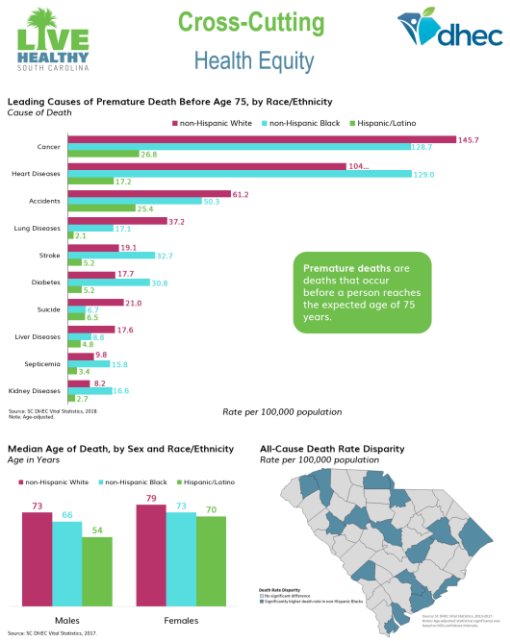
How to visualize data?



Dashboards



Infographics



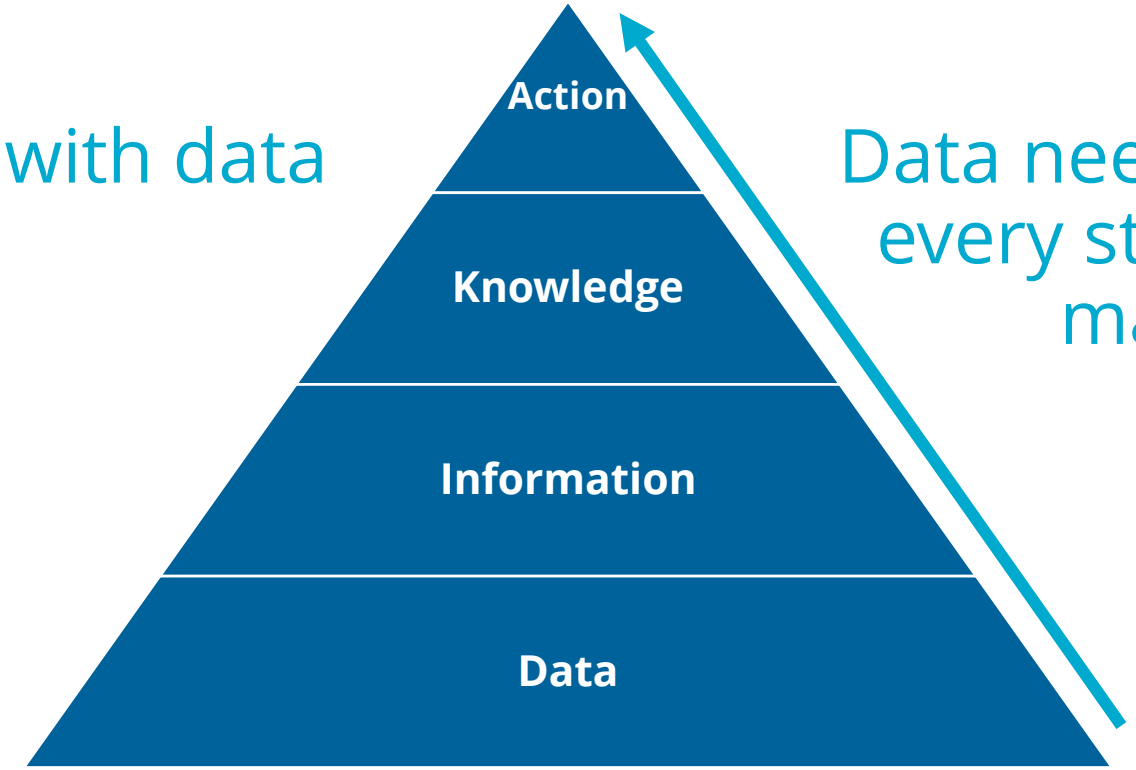
Posters

Reports

Demonstration

Conclusion

Everything starts with data



Data needs to be involved in every step of the decision-making process

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