

2019 HIV Data Summit

Co-Presented by
Los Angeles County Division of
HIV and STD Program Staff

Commission on HIV
St. Anne's Maternity Home
July 23, 2019



Meeting Agenda

- Welcome
- Epidemiology 101
- Data Sources
- Using Data for Decision Making
- Summary of RWP Utilization Data
- HIV Care Continuum Snapshot
- Unmet Need Measured by
 - NHBS and MMP data
- Health District Snapshots
- Resource Inventory Review

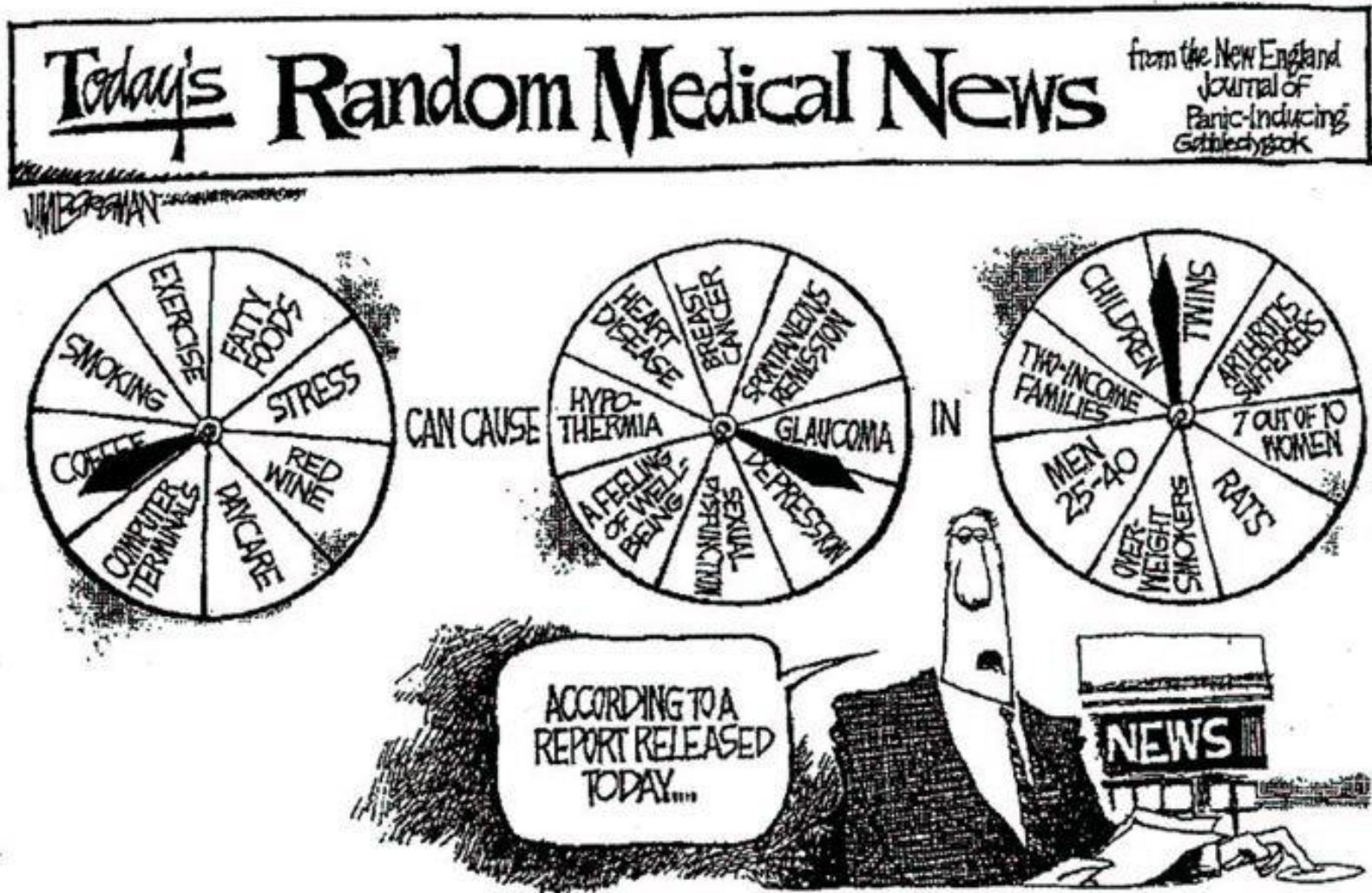


The ABCs of Epidemiology

Michael Green, Ph.D.
Chief of Planning, Development and Research
Division of HIV and STD Programs
Los Angeles County Department of Public Health

Pamela Ogata
Manager of Strategic Planning
Division of HIV and STD Programs
Los Angeles County Department of Public Health





What is Epidemiology?

The study of the **distribution** and **determinants (causes)** of disease in a specific population with the aim of promotion, protecting and restoring health in that population.

Primary focus of epidemiology is to figure out or determine the **Person**, **Place**, and **Time** for a specific disease by answering **who, what, when, why, and how**.

Terms used for one person

CASE:

An individual with HIV or Disease X.

OBSERVATION:

A single count or case.



Terms used for more than one person (cont.)

CLUSTER:

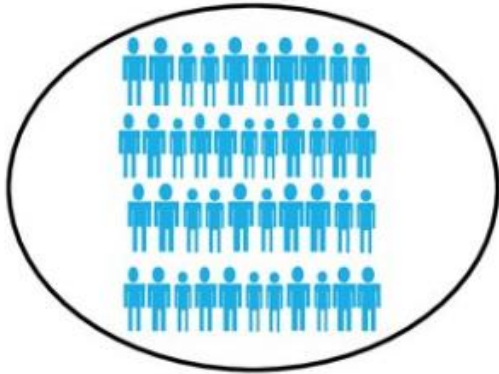
A number of cases closely grouped in time and place.

COHORT:

A group of people that have a common experience (e.g., same birth year)

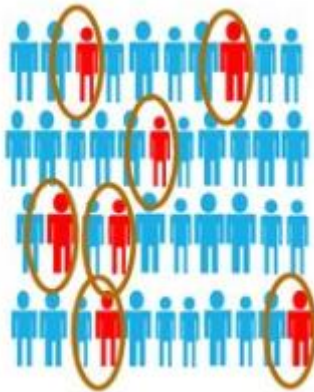


Terms used for more than one person (cont.)



POPULATION:

Total number of people in an area.



SAMPLE:

A selected subset (part) of a population. A sample may be random or non-random and it may be representative or non-representative.

Terms related to measuring disease

SURVEILLANCE:

The **systematic** and **ongoing** collection and analysis of information about a disease within a population.

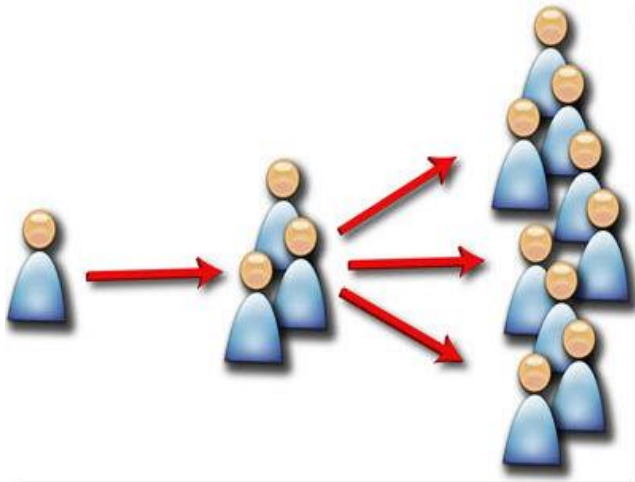
ACTIVE SURVEILLANCE:

Collecting information by contacting health care practitioners and reviewing medical records in hospital and clinics.

PASSIVE SURVEILLANCE:

Health care practitioners, hospitals, clinics and/or labs report cases.

Terms related to measuring disease (cont.)



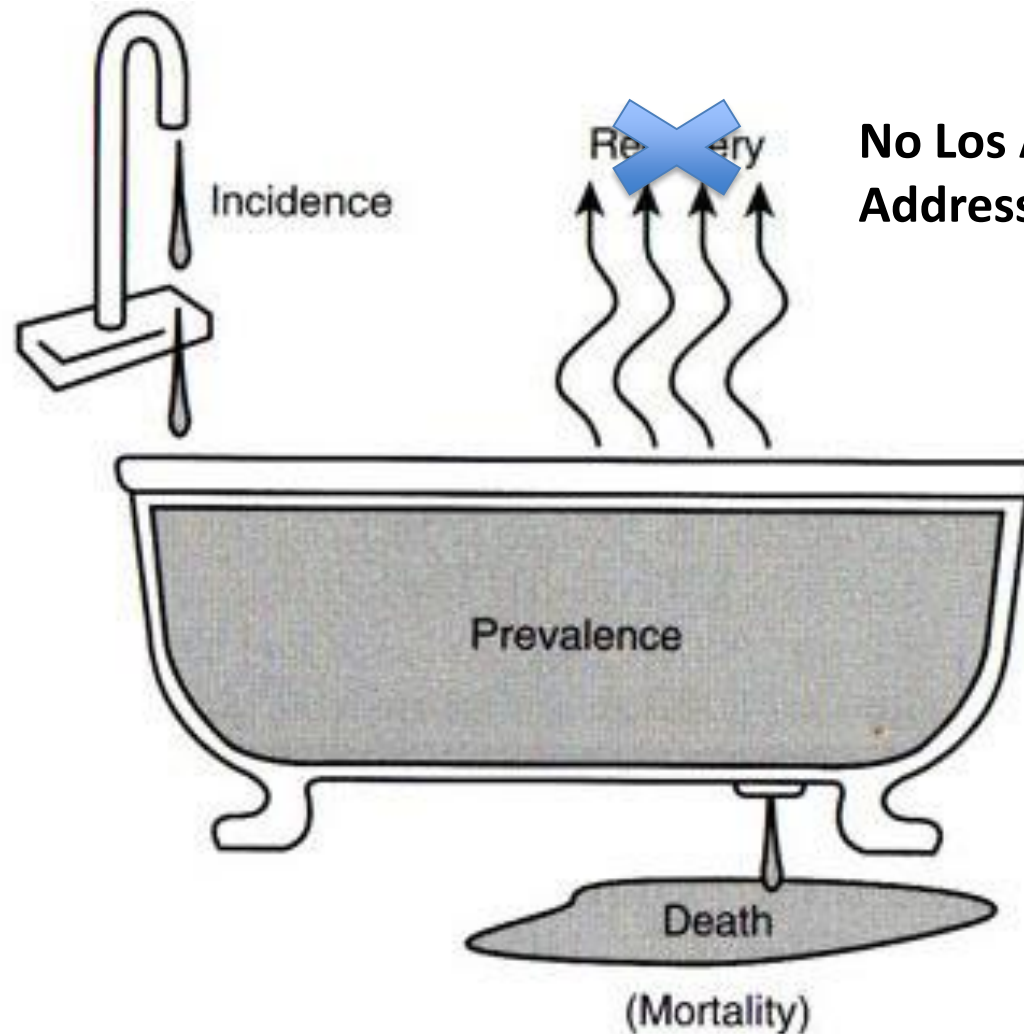
EPIDEMIC:

An increase above the usual or expected occurrence of a disease within a population.

The most important use of epidemiology is to identify epidemics so that effective disease control measures may be put in place

FREQUENCY:

Total number of cases or individuals in the category of interest.



**No Los Angeles County
Address (Moved)**

Figure 6-1 The epidemiologist's bathtub

Relationship between Incidence and Prevalence

$$\text{Prevalence} = \text{Incidence} \times \text{Duration}$$

Would prevalence increase or decrease if incidence was stable (no change) but people lived 30 years longer than they do today?

Answer: Prevalence would **increase**

What can we conclude about incidence if the prevalence of HIV in 2020 is the same as it was in 2013, and no PLWH died between 2013 and 2020 and no one moved out of Los Angeles County?

Answer: Incidence had to **decrease**

What are some things that can affect “Duration”?

Terms related to measuring disease (cont.)

#Diagnosed Cases \neq Incidence \neq #PLWH

Diagnosed Cases:

Number of cases reported to DHSP or State. This may contain duplicate reports or results that were previously reported.

Incidence:

Total number of new infections in a given period of time. These may be diagnosed or undiagnosed.

Number of People Living with HIV:

Total number of cases in a given period of time who have HIV and have a Los Angeles County address, and who are not deceased.

Quick Discussion A:

Terms Related to Measuring Disease

1. Why is it important to use epidemiologic terms?
2. How can incorrect interpretation of epidemiologic terms (ie. Incidence vs. prevalence) impact the community?

Terms related to measuring disease (cont.)

RATIO:

The relationship between two groups or quantities.

Ex. There is a ratio of 1:3 women to men in this room

PROPORTION:

The part, portion or share of a whole or total group. Usually calculated as a percentage and it has a specific numerator and a denominator.

Ex. If there are 33 individuals in this room and 10 are women, what proportion are women?

$$\frac{10}{33} = 30.3\%$$

RATE (used to measure incidence):

The number of new cases of a disease that occur during a specified period of time in a population at risk for developing the disease. Usually calculated per 100,000:

Number of new cases of disease during a
specified period of time

Number of persons who are at risk for the
disease during that same period of time

X 100,000

- Rates take the size of the population into account and are used in order to make comparisons**

Which racial/ethnic group has the highest Chlamydia rate in Los Angeles County, 2017?

Race/Ethnicity	Number	%	Rate
White	6,003	9	209
African American	8,234	13	946
Latino	18,073	28	361
Asian	1,799	3	122
Pacific Islander	116	0	468
American Indian/Alaskan Native	63	0	343
Other/Multi-race	17,447	27	-
Missing	12,356	19	-
Total	64,091	100	624

Terms related to measuring disease (cont.)

ASSOCIATION:

A relationship between two groups or measures that is proven by conducting statistical calculations. This association can be positive or negative.

Ex. Being male is associated with higher number of accidents.

CORRELATION:

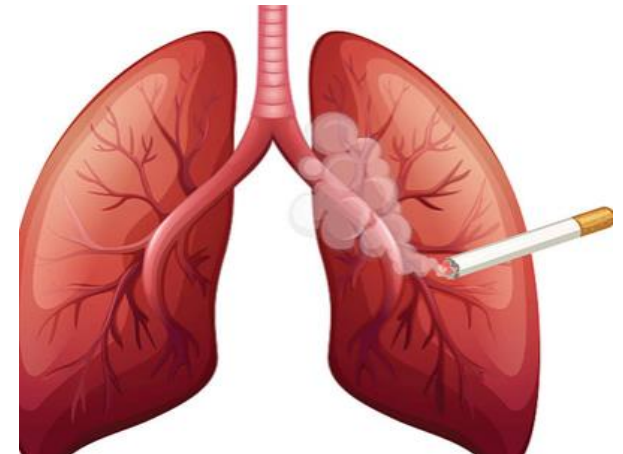
Another word for association.

Terms related to measuring disease (cont.)

CAUSATION:

A relationship that establishes that one thing causes another thing or disease. This must be proven by conducting statistical calculations and following the scientific methodology.

Ex. Smoking tobacco causes lung cancer.



Terms related to measuring disease (cont.)

RISK RATIO:

The comparison of the risk of some health-related event (disease/death) in two groups.

Ex. If 3 out of 10 women get Hep A and
8 out of 40 men get Hep A

What is the risk ratio of Hep A for women compared to men?

$$\frac{3 \div 10}{8 \div 40} = \frac{0.3}{0.2} = 1.5$$

Women have a 50% greater risk than men in getting Hep A.

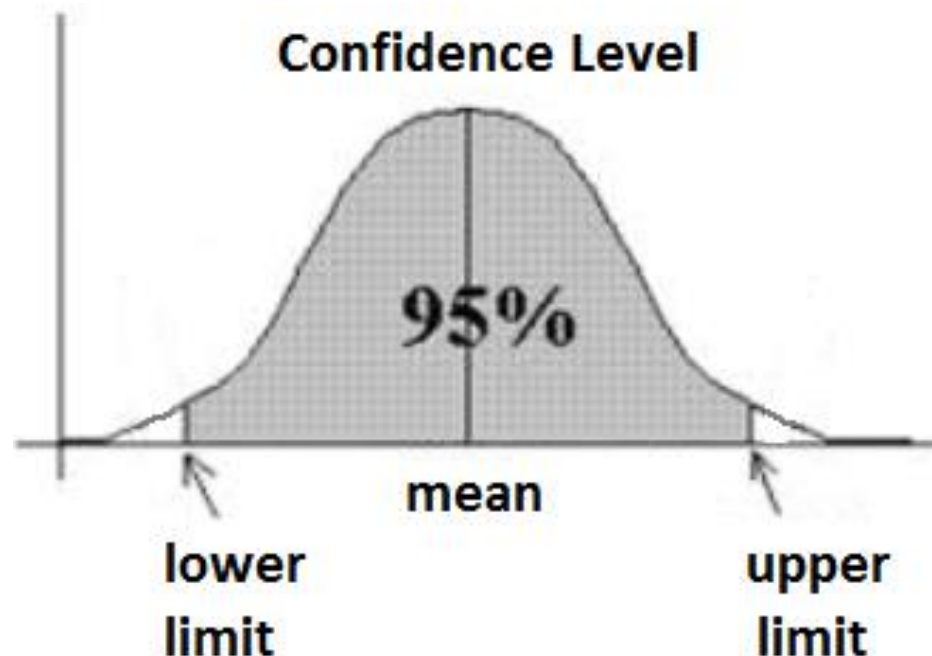
The risk of getting Hep A is 1.5 times higher than the risk of getting Hep A in men. 19



Terms related to measuring disease (cont.)

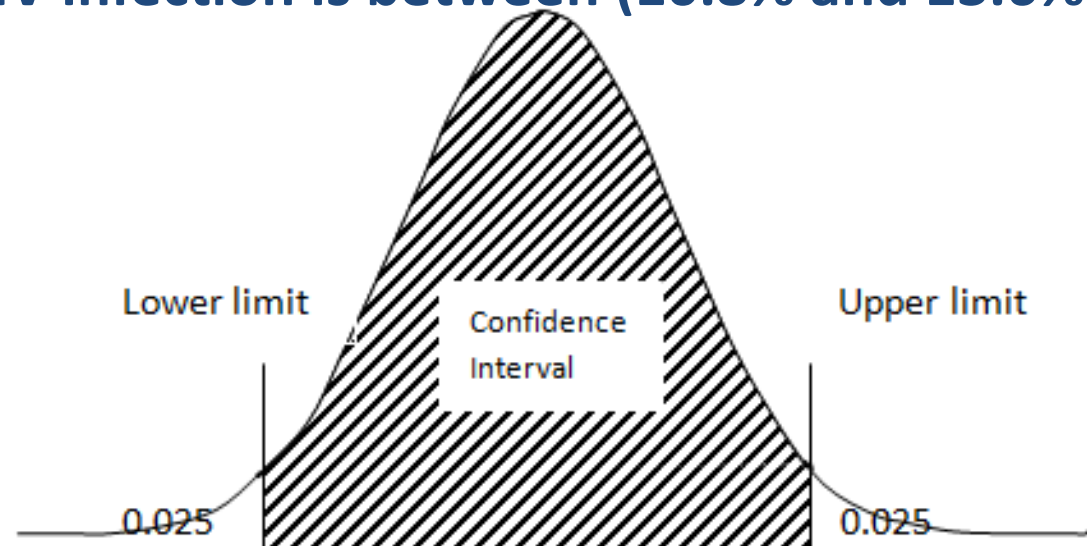
95% CONFIDENCE INTERVAL:

A lower and upper range of values for a measure/variable of interest which contains the true value of the variable 95% of the time.



Estimated number of undiagnosed MSM age 13 years or older in California (MMWR June 26, 2015 64(24; 657-662)

According to this report, CDC **estimates** that 12.2% of MSM age 13 years or older are unaware of their HIV infection. Because they used statistics to generate this number they provide a **95% Confidence Interval**. CDC is certain that the true number of MSM age 13 years or older who are unaware of their HIV infection is between (10.8% and 13.6%) 95% of the time.



Quick Discussion B:

Terms Related to Measuring Disease

1. Why are rates sometimes reported instead of number of cases?
2. What might PC/PB do to improve understanding of terms related to measuring disease and data interpretation?

Question and Answer Session 1

