

IA HEALTH & HYGIENE

Disease & Prevention
Packet H – 37

IA H&H DISEASE & PREVENTION

CLASS OUTLINE

- 5 minutes Attendance, Breath of Arrival, and Reminders
- 50 minutes Lecture
- Transition break 15 minutes

DEFINITIONS-

- Miriam-Webster calls **Disease-**
- a condition of the living animal or plant body or of one of its parts that impairs normal functioning and is typically manifested by distinguishing signs and symptoms
- Sickness- a disordered, weakened, or unsound condition

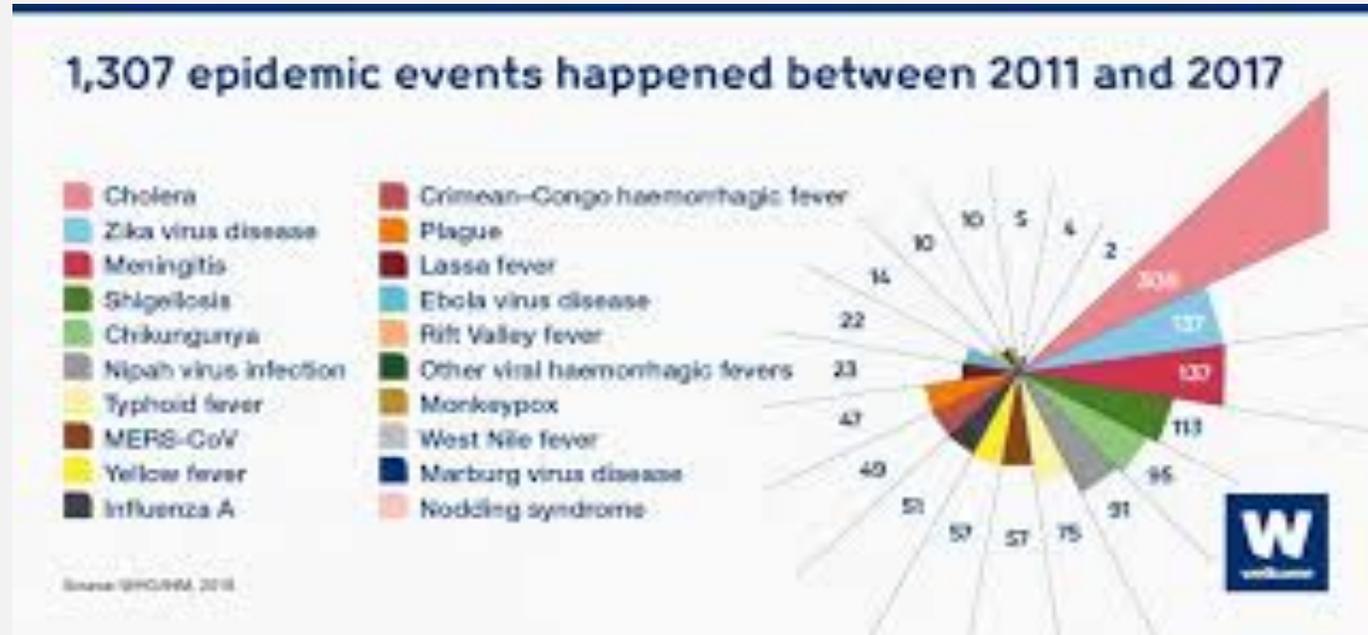


DEFINITIONS-

- Cambridge Dictionary calls Disease-
- (an) illness of people, animals, plants, etc., caused by infection or a failure of health rather than by an accident
- Traditional Chinese Medicine breaks it down simply as-
- A Dis-Ease of or lack of ease or health in the body resulting in stagnation or the free flow of Qi and blood.

DEFINITIONS-

- Epidemic-
- Affecting or tending to affect a disproportionately large number of individuals within a population, community, or region at the same time.
- (America and most of Planet Earth has a flu epidemic yearly)



DEFINITIONS-

- Epidemic-
- A disease can be declared an *epidemic* when it spreads over a wide area and many individuals are taken ill at the same time.
- If the spread escalates further, an epidemic can become a *pandemic*, which affects an even wider geographical area and a significant portion of the population becomes affected.

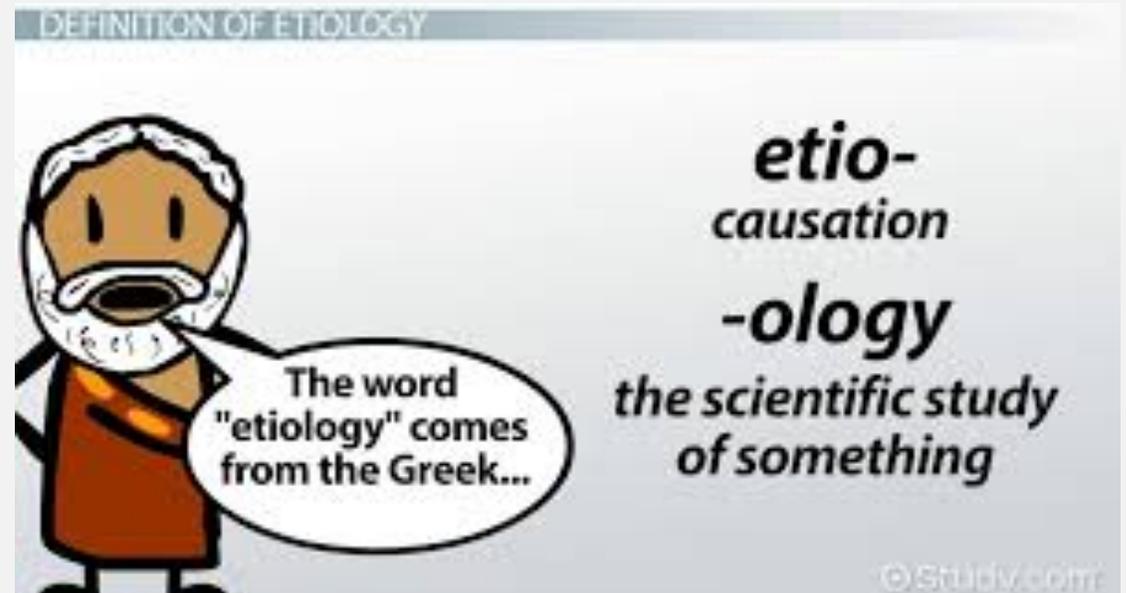
DEFINITIONS-

- Pandemic-
- occurring over a wide geographic area and affecting an exceptionally high proportion of the population



DEFINITIONS-

- Etiology-
- 1: CAUSE, ORIGIN
- *specifically* : the cause of a disease or abnormal condition
- 2: a branch of knowledge concerned with causes
- *specifically* : a branch of medical science concerned with the causes and origins of diseases



DEFINITIONS-

- Epidemiology-
- the branch of medicine which deals with the incidence, distribution, and possible control of diseases and other factors relating to health
- Since the terms Disease and Disease Prevention can be addressed on an incredibly wide and varied scope, we will narrow our conversation to the basics and look at how you can keep you and your clients safe when performing massage.
- Etiology and Epidemiology are very interesting subjects and we invite you to find out more.

ORIGINS OF DISEASE- HISTORY-EARLY HUMANS



Ten thousand years ago humans were hunter-gatherers.

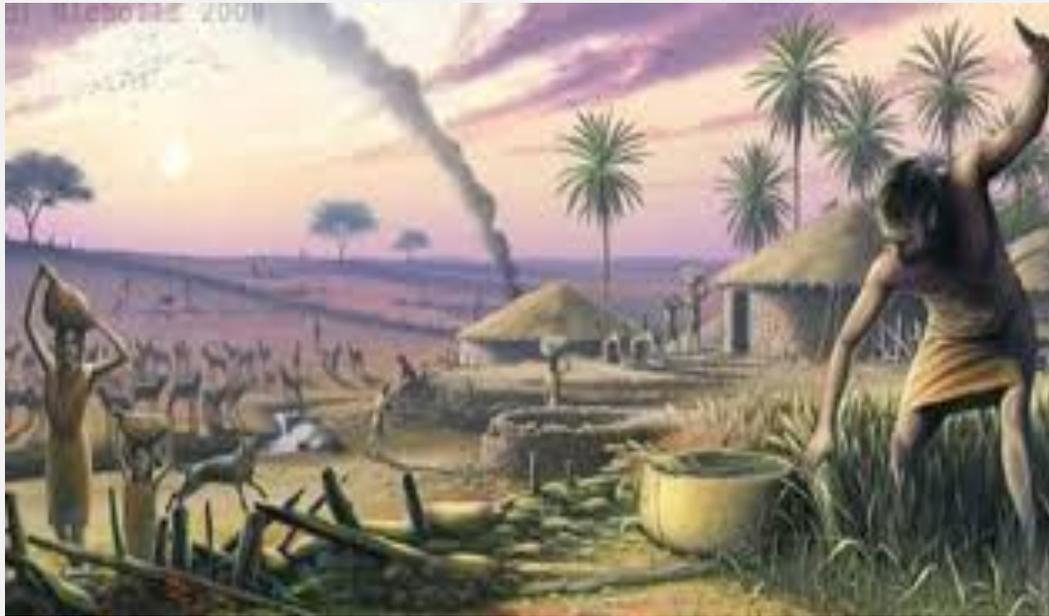
ORIGINS- HISTORY-EARLY HUMANS

- They had a short life span, but not because of epidemics; their primary problem was just finding enough food to eat.
- They lived and traveled in small groups and hunted and foraged for food.
- Their mixed diet was probably fairly balanced and nutritionally complete. Since they lived in small groups and moved frequently, they had few problems with accumulating waste or contaminated water or food.



ORIGINS- HISTORY-EARLY HUMANS

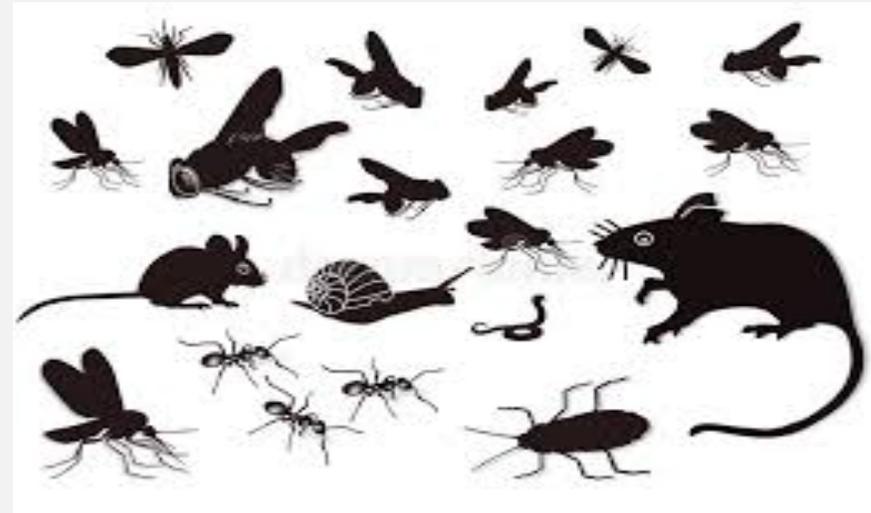
- The shift from the hunter-gather mode of living to an agricultural model provided a more secure supply of food and enabled expansion of the population.



- However, domesticated animals provided not only food and labor; they also carried diseases that could be transmitted to humans.
- People also began to rely heavily on one or two crops, so their diets were often lacking in protein, minerals, and vitamins.

ORIGINS- HISTORY-EARLY HUMANS

- People began living in larger groups and staying in the same place, so there was more opportunity for transmission of diseases.
- Garbage and waste accumulated, and rodents and insect vectors were attracted to human settlements, providing sources of disease.



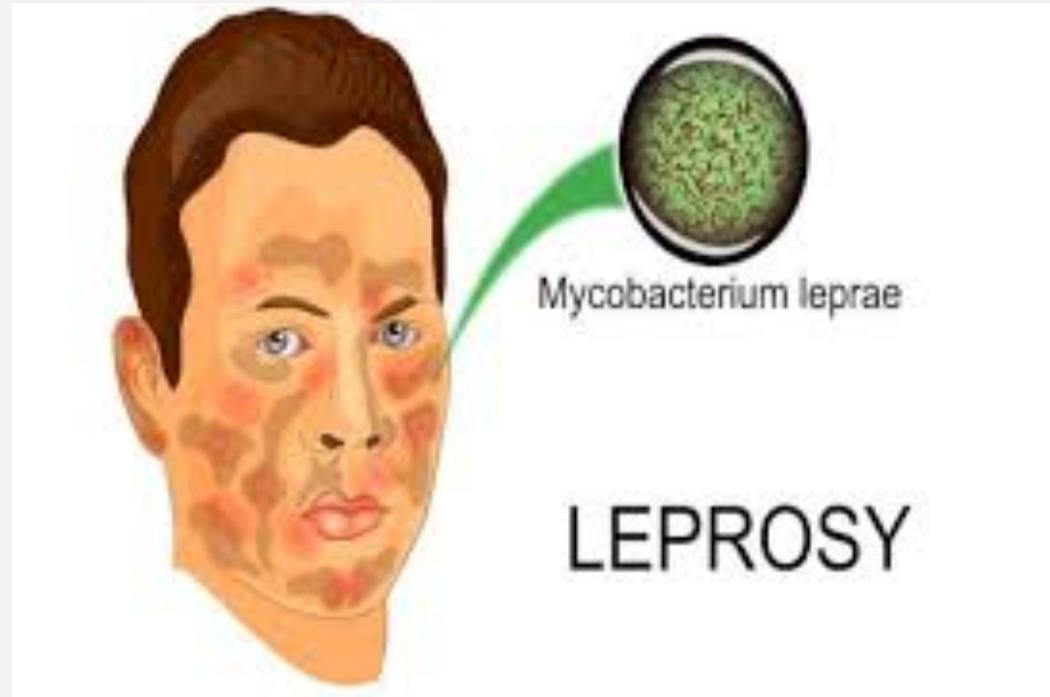
FIRST RECORDED DISEASE?

- In 2014 A University of Texas Houston study found two leprosy-causing bacteria's came from a common bacterial ancestor around 10 million years ago.
- Humans carried leprosy bacteria when departing Africa around 100,000 years ago to populate the rest of the world
- Hundreds of thousands of people around the world still suffer from the disease, which attacks a sufferer's skin and nerves

FIRST RECORDED DISEASE?

- Leprosy is a disease that has been known *since biblical times*. It causes nerve damage and muscle weakness that can lead to deformities, crippling, blindness and isolation.
- **Every two minutes** someone is diagnosed with leprosy. Many Americans think leprosy no longer exists, but it still occurs in more than 100 countries worldwide.

FIRST RECORDED DISEASE?



THE BUBONIC PLAGUE (1347-1700S)

- [Bubonic plague](#) is an acute infectious disease caused by the bacterium *Yersinia pestis*. The bacteria live in the intestines of fleas and are transmitted to rats by flea bites.



THE BUBONIC PLAGUE (1347-1700S)

- Occasionally, an infected flea would jump to a human and introduce the bacteria when a blood meal was taken.
- The bacteria would then spread to the regional lymph nodes and multiply, causing dark, tender, swollen nodules (buboes), for example, a walnut-sized swelling in the inner aspect of the upper thigh.
- As the infection spread, the victim would experience headache, high fever, delirium, and finally death in about 60% of cases.



THE BUBONIC PLAGUE (1347-1700S)

- Starting in 1347, Europe experienced multiple waves of bubonic plague epidemics that lasted until the late 1700s.
- It is believed that the bubonic plague originated in Asia and traveled along trade routes into the Black Sea and then into the Mediterranean Sea.
- From there, it swept through Sicily and Italy and then up through France and the northern European countries all the way up into Scandinavia.
- There were many subsequent waves of plague that swept through Europe until the late 1700s.



TYPHOID(MARY MALLON)



TYPHOID-MARY MALLON (1869-1938)

- Mary Mallon was born in 1869 in Ireland and emigrated to the US in 1884. She had worked in a variety of domestic positions for wealthy families prior to settling into her career as a cook.
- As a healthy carrier (Asymptomatic) of *Salmonella typhi* her nickname of “Typhoid Mary” had become synonymous with the spread of disease, as many were infected due to her denial of being ill.



TYPHOID-MARY MALLON (1869-1938)

- No one ever attempted to explain to Mary the significance of being a “carrier”, instead they had offered to remove her gallbladder, something she had denied.
- A post mortem revealed that she shed *Salmonella typhi* bacteria from her gallstones raising the issue of what would have happened if she had accepted the proposed operation.



TYPHOID-MARY MALLON (1869-1938)

- She was forced into quarantine on two separate occasions on North Brother Island off of Manhattan for a total of 26 years and died alone without friends, having evidently found consolation in her religion to which she gave her faith and loyalty.



TYPHOID-MARY MALLON (1869-1938)

- In 1907, about 3,000 New Yorkers had been infected by *Salmonella typhi*, and probably Mary was the main reason for the outbreak. Immunization against *Salmonella typhi* was not developed until 1911, and antibiotic treatment was not available until 1948

**'Typhoid Mary'
Dead at 70; Gave
Fever to Many**

TYPHOID-MARY MALLON
(1869-1938)

If Mary Mallon would have washed her hands diligently (most at this time did not) she may have never infected anyone...

Do you see a trend here?

BEFORE CURES THERE WAS QUARANTINE-

- Quarantine-
- 1: a period of 40 days
- 2: a term during which a ship arriving in port and suspected of carrying contagious disease is held in isolation from the shore
- b: a regulation placing a ship in quarantine c: a place where a ship is detained during quarantine
- 3: a restraint upon the activities or communication of persons or the transport of goods designed to prevent the spread of disease or pests
- b: a place in which those under quarantine are kept
- 4: a state of enforced isolation

BEFORE CURES THERE WAS QUARANTINE.

- The use of quarantine as a public health measure dates back to the 14th century.
- Quarantine comes from the Italian *quarantena*, meaning forty-day period. Travelers and merchandise that had potentially been exposed to disease were isolated for a period of time to ensure that they weren't infected.
- Some cities and towns would create a "cordon sanitaire," a physical barrier that could only be crossed with permission. This practice persisted into the late 19th century and early 20th century.



BEFORE CURES THERE WAS QUARANTINE-

- While quarantine is one of the oldest public health measures, it is still useful today.
- During the SARS epidemic (2003), Toronto quarantined individuals who had potentially been exposed by confining them to their homes until it was certain that they weren't infected.
- This measure was effective in controlling SARS because individuals infected with SARS were not infectious until they began to exhibit symptoms.
- Consequently, if an individual was possibly exposed, but did not yet show symptoms, quarantine prevented them from infecting others.

BEFORE CURES THERE WAS
QUARANTINE.

- However, quarantine is less useful for diseases like influenza, or COVID19 when an infected person can spread the disease even before they begin having symptoms.

VACCINES-



- A substance used to stimulate the production of antibodies and provide immunity against one or several diseases, prepared from the causative agent of a disease, its products, or a synthetic substitute, treated to act as an antigen without inducing the disease.

VACCINES-

- At the beginning of the 20th century, infectious diseases such as smallpox, measles, diphtheria, and pertussis were widely prevalent.
- Since there were few effective measures available, death tolls were high.
- Both the development and promotion of vaccinations against preventable diseases has resulted in dramatic declines in morbidity and mortality and even results in the eradication of smallpox.



DISEASE PREVENTION- (ITS IN YOUR HANDS)

- The leading causes of death in 1900 were pneumonia, tuberculosis (TB), and diarrhea and enteritis whereas in 1997, 4.5% of deaths were attributable to pneumonia, influenza, and HIV infection.
- Sanitation and hygiene, vaccination, and antibiotics are among the control measures responsible for this marked decrease.
- **Who knew hand washing could be so powerful!**

AGENCIES-CDC-(CENTER FOR DISEASE CONTROL)

- Established July 1, 1946 the Communicable Disease Center (CDC, now known as the Center for Disease Control) opened its doors and occupied one floor of a small building in Atlanta.
- Its primary mission was simple yet highly challenging: prevent malaria from spreading across the nation. With only a budget of only \$10 million budget and 400 employees.
- Medical epidemiologists were scarce in those early years, disease surveillance became the cornerstone of CDC's mission of service to the states and over time changed the practice of public health.

AGENCIES-CDC-(CENTER FOR DISEASE CONTROL)

- There have been many significant accomplishments since CDC's humble beginnings.
- Today, CDC is one of the major operating components of the Department of Health and Human Services and is recognized as Americas premiere health promotion, prevention, and preparedness agency.
- Visit: www.cdc.gov



AGENCIES-

- Department of Health and Human Services-
- In 1979 the Department of Education split from HEW, and the Department of Health and Human Services was formed.



AGENCIES-THE WHO- (WORLD HEALTH ORGANIZATION)

- The WHO- (World Health Organization)
- When the United Nations was formed in 1945, one of the mandates discussed was creating a global health organization.
- WHO's Constitution came into force on 7 April 1948 – a date now celebrated every year as World Health Day.



AGENCIES-THE WHO- (WORLD HEALTH ORGANIZATION)

- WHO, adheres to the UN values of integrity, professionalism and respect for diversity.
- Their mission is to promote health, keep the world safe and serve the vulnerable, with measurable impact for people at country level. We are individually and collectively committed to put these values into practice.
- The WHO has been on the frontline of every health related outbreak on Planet Earth since 1948.
- www.who.int

DISEASE & PREVENTION



Q&A

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