UNIT 2: POPULATION
HOW DOES THE GEOGRAPHY OF HEALTH INFLUENCE POPULATION DYNAMICS?
Why Study Medical Geography?

Medical Geography: maps disease patterns & location of health facilities

- Explain population issues
- Explain economic development
- Explain why some areas are considered healthier than others
- Explain geographic variances (environment)
Types of Diffusion

Contagious Diffusion
- Expands to all nearby areas
- Ex. Measles/Smallpox

Hierarchical Diffusion
- Expansion to some susceptible groups but leapfrogs others
- Ex. AIDS
Diffusion – The “S” Curve

- Innovators
- Early Adopters
- Majority Adopters
- Laggards
The Distribution of Disease

Types of Disease
• Infectious Disease
  – Malaria
• Chronic/Degenerative Disease
  – Cancer
• Genetic/Inherited Disease
  – Hemophilia

Disease Outbreaks
• Epidemic
• Pandemic
• Endemic
  – Disease carried by many people
SMALLPOX ORIGIN
NORTH-EAST AFRICA
- 2900 BC
Smallpox is believed to have first appeared with early agricultural settlement.

HUNGA
- 1400
Infections of major agricultural settlements stretch from Europe all the way to Siberia.

ABERDE
- 1400
One of two remaining stocks of smallpox is said to have been created under lead and iron to prevent possible use as biological weapon.

MALAIA
- 1300
First recorded smallpox epidemic during 13th-century

ITALY
- 1650
Pestilence's troops return from Syria with new territory and leprosy.

ROMANIA
- 1900
Last remaining leper colony in Europe.

CARIBBEAN DA
- 1600
South America introduced smallpox to the Americas.

MEXICO
- 1600
Smallpox spread across Central and South America.

LEPROSY ORIGIN
EAST AFRICA
- 4000 BC
Likely point of origin.

LEPROSY INCREASE
- 1000
Increase in leprosy seen in Europe.

MALARIA EARLIEST EVIDENCE
- 50,000,000 BC
Malaria plasmodium is traced to a mosquito blood in a piece of amber.

MALARIA INCREASE
- 1225
Increase in malaria seen in Europe.

MAMBA ORIGINS
- 1425
Increase in smallpox seen in Europe.

MALARIA INCREASE
- 1450
Increase in malaria seen in Europe.

MAMBA ORIGINS
- 1500
Increase in smallpox seen in Europe.

MAMBA ORIGINS
- 1550
Increase in smallpox seen in Europe.
Flu Pandemic of 1918

50-100 million people may have died (1918-1920)
Influenza

Influenza kills 20,000 people annually in the US

http://www.cdc.gov/flu/weekly/usmap.htm
This map indicates geographic spread and does not measure the severity of influenza activity.
Epidemiological Transition Model

- Age of Pestilence & Famine
- Degenerative Diseases
- Discovery of Penicillin (1928)
Advances in Healthcare

1943  Penicillin successfully used in the treatment of chronic diseases.
1948  Antibiotics developed
1950  Antihistamine developed for allergies
1952  A type of contraceptive pill is introduced
1953  First reports linking cancer to cigarette smoking are published
1955  Dr. Jonas Salk introduces the polio vaccine