

EPIDEMIOLOGIC TRANSITION

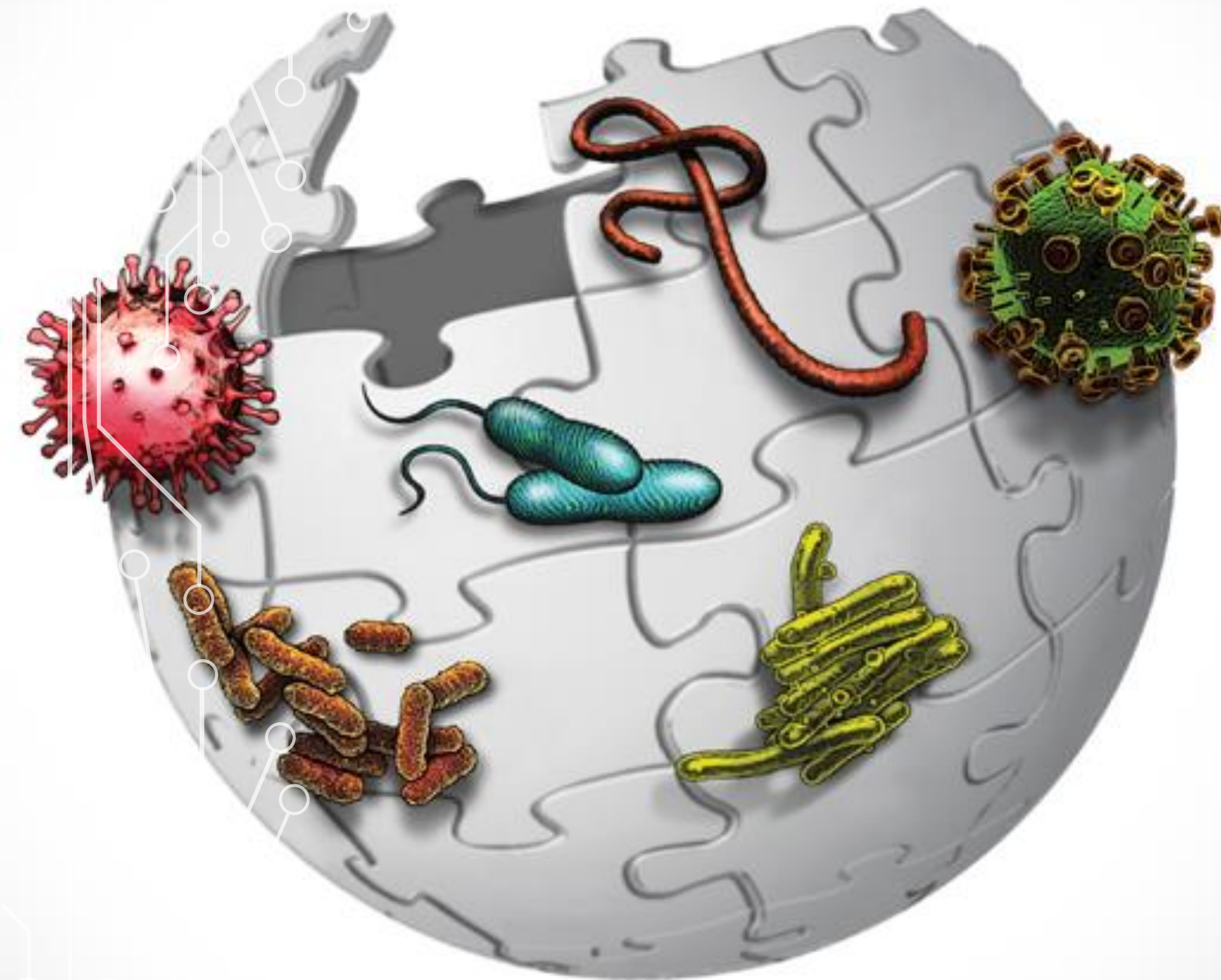
FOUR STAGES

= x 1000 (deaths from dominant
infectious disease in 2012)



OBJECTIVES

- Summarize the four stages of the Epidemiological Transition Model

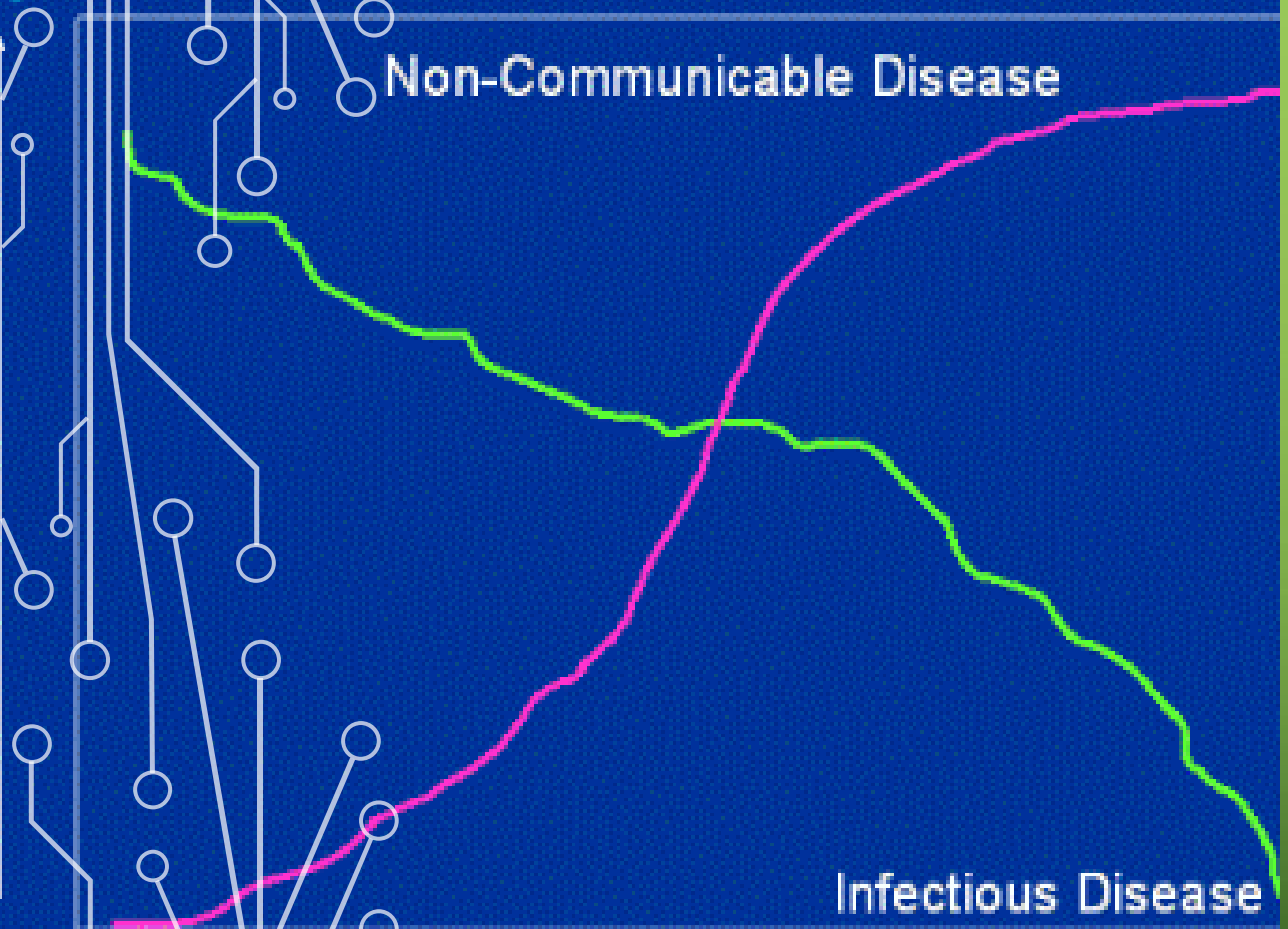


EPIDEMIOLOGY

- Branch of medical science concerned with incidences, distribution, and control of diseases that are prevalent among a population at a particular time and are produced by some special cause not generally present in the affect place

Epidemiologic Transition

The Epidemiologic Transition: A theory of the epidemiology of a population
Q. 1971:49:509-533



Epidemiologic Transition

Information available at <http://www.pltt.edu/~super1/lecture/lec00>

EPIDEMIOLOGICAL TRANSITION

- Focuses on distinctive health threats in each stage of the demographic transition.
- Use scale and connection because it's important to understand distinctive distribution and methods of diffusion (where the disease starts and how it spreads)
- Abdel Omran – person with who the concept originated (1971)

STAGE 1 – PESTILENCE AND FAMINE

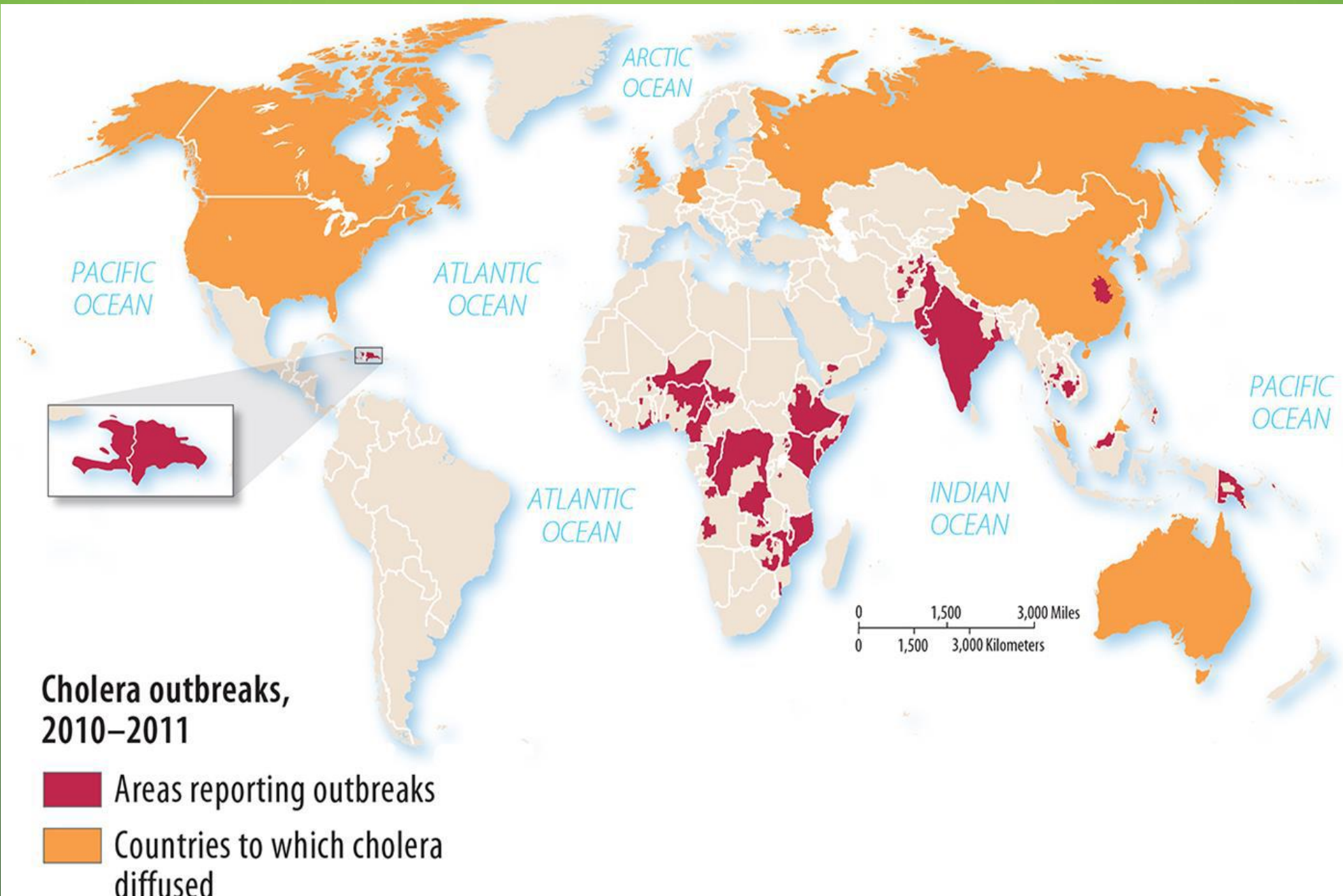
- Major Causes on human death
 - Infectious diseases
 - Parasitic diseases
 - Accidents
 - Animal attacks
 - Human murder/killings
- Black Plague (Bubonic Plague)
 - Transmitted from infected rats
 - 25 mil killed between 1347-1350

STAGE 2 – RECEDING PANDEMICS

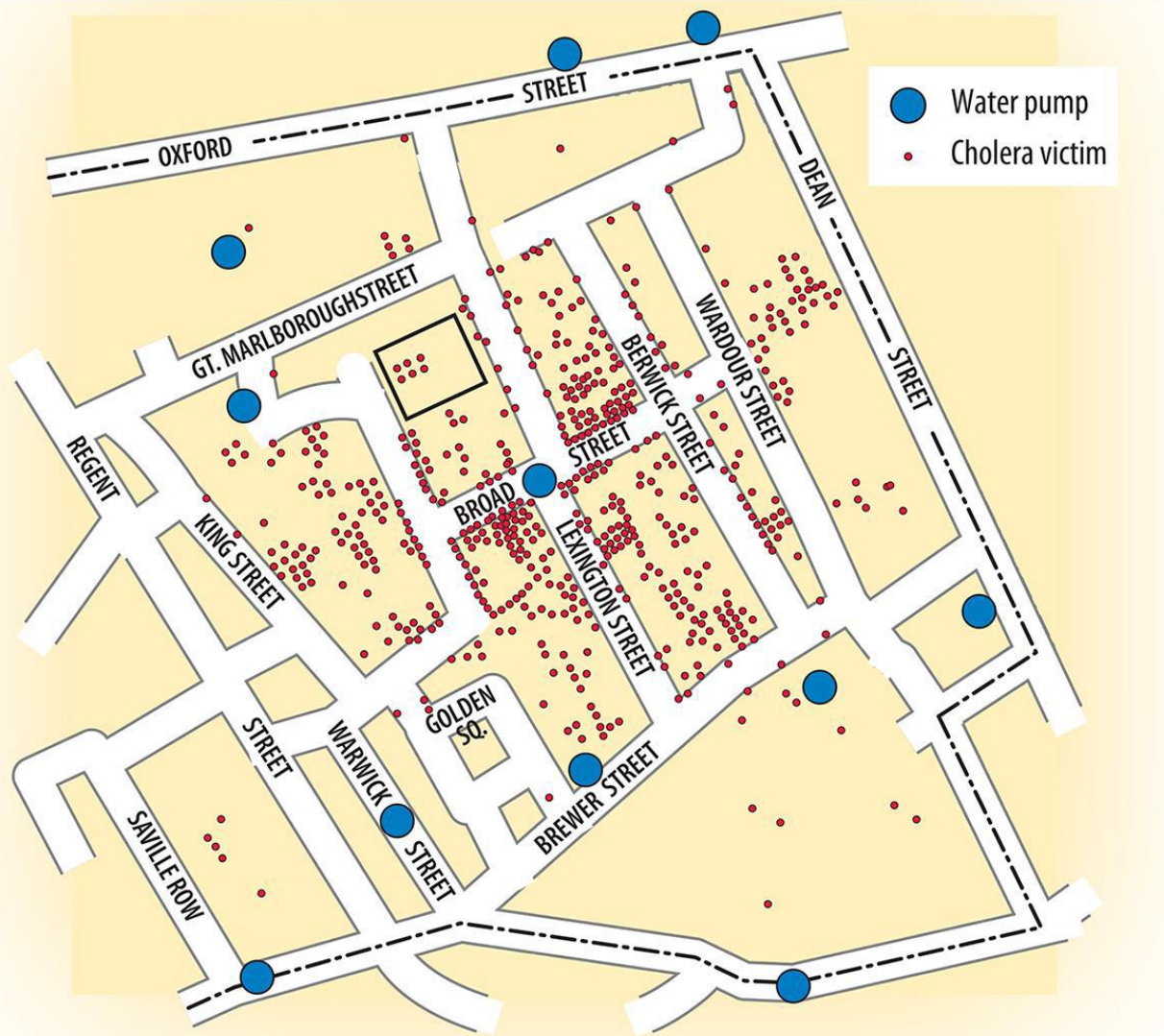
- Pandemic- a disease that occurs over a wide geographic area and affects a very high proportion of the population
- Pandemics recede in stage 2 because of improved sanitation, nutrition and medicine during Industrial revolution
 - Reduction in the spread of infectious diseases
 - Death rates didn't see an immediate reduction
 - Industrial cities had high death rates

CHOLERA

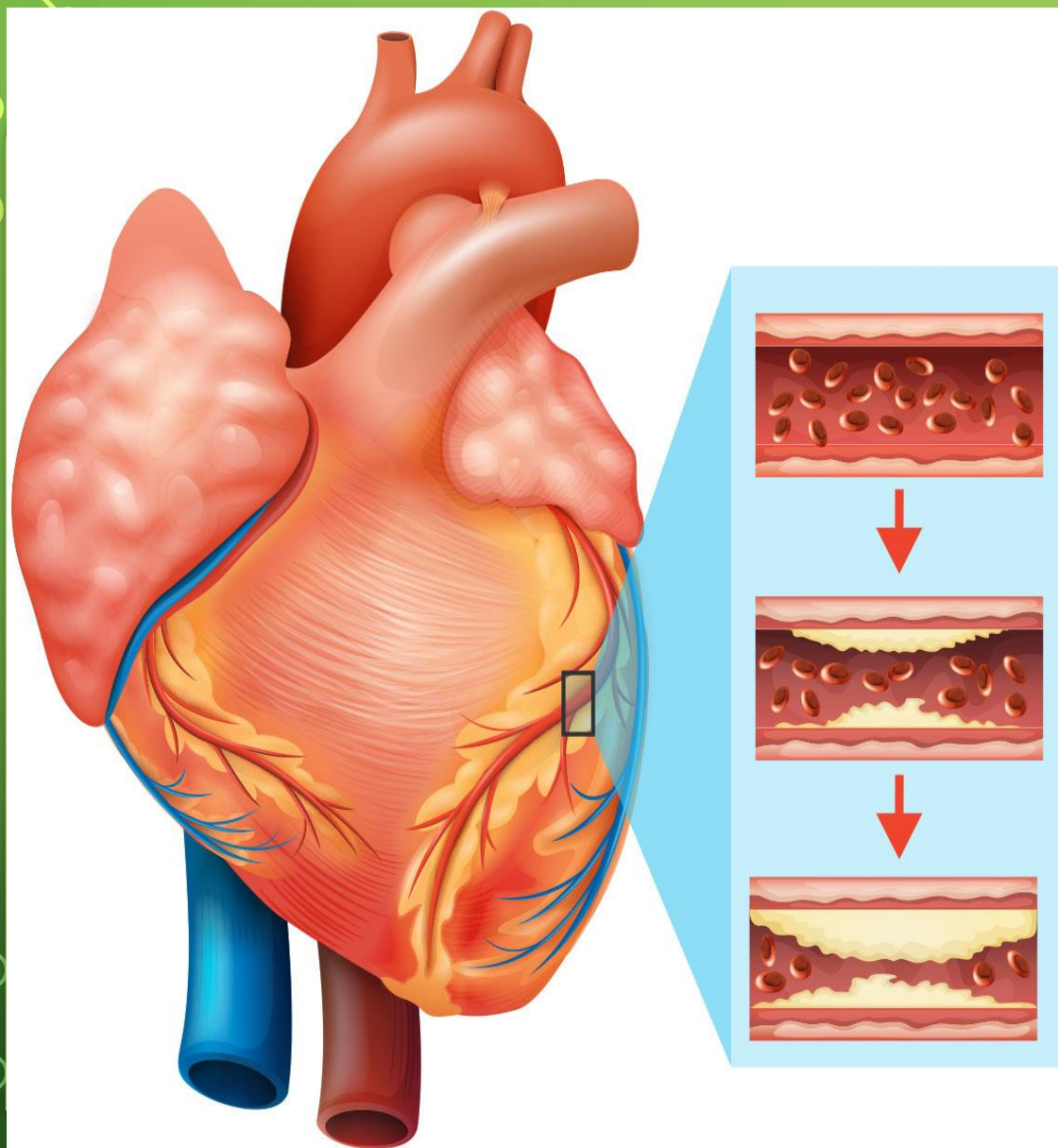
- Cholera was an epidemic
- Water and sewer improvements helped
- Some regions in stage 2 still have Cholera problems – Sub Saharan Africa, South, and Southeast Asia
- Access to clean drinking water
- Hispanola (Haiti and Dominican Republic) found in 2010 after earthquake



SIR JOHN SNOW'S CHOLERA MAP



- Many believed that they were being punished for “sinful behavior” before Sir John Snow studied the problem



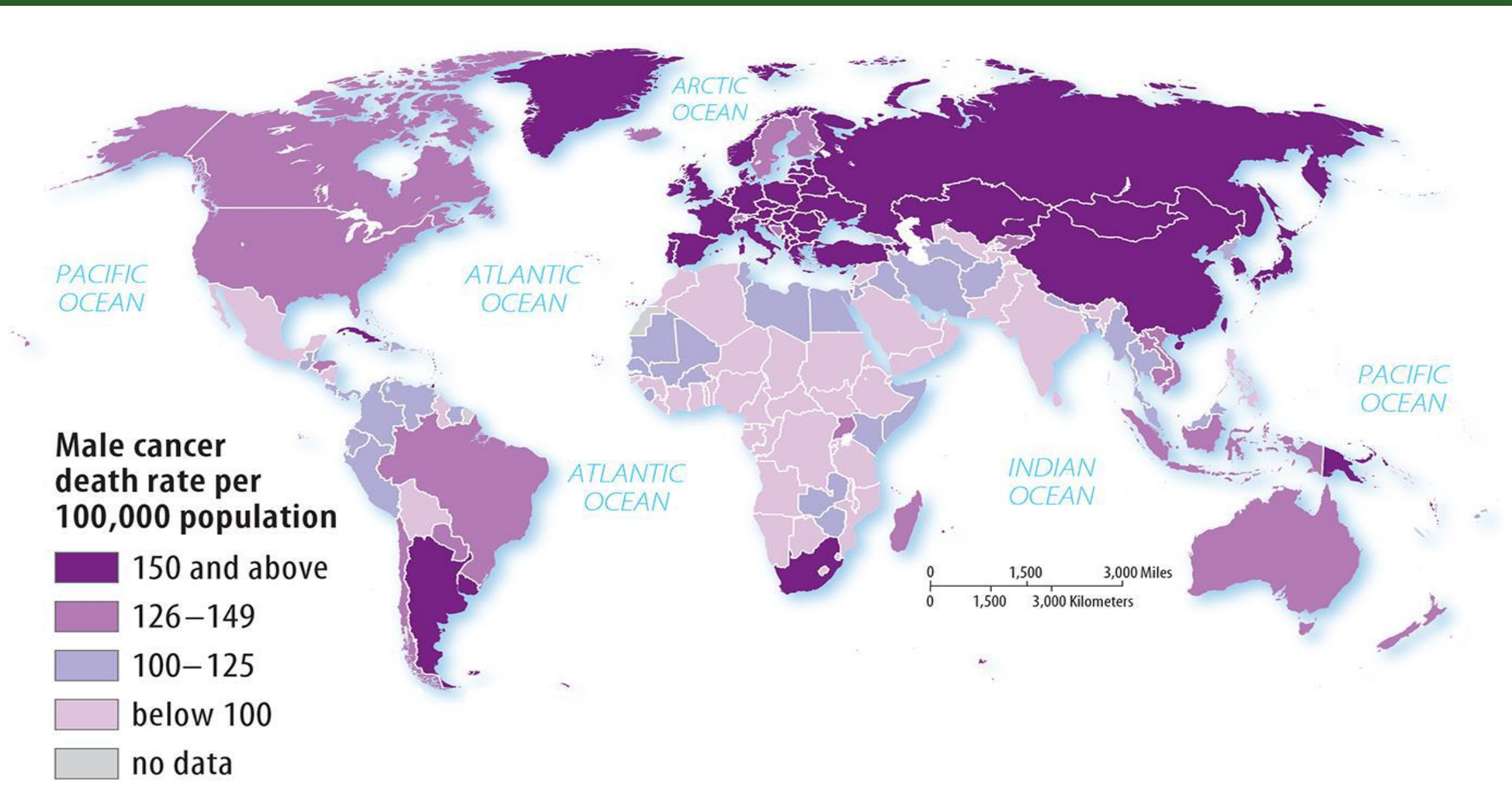
STAGE 3 – DEGENERATIVE DISEASES

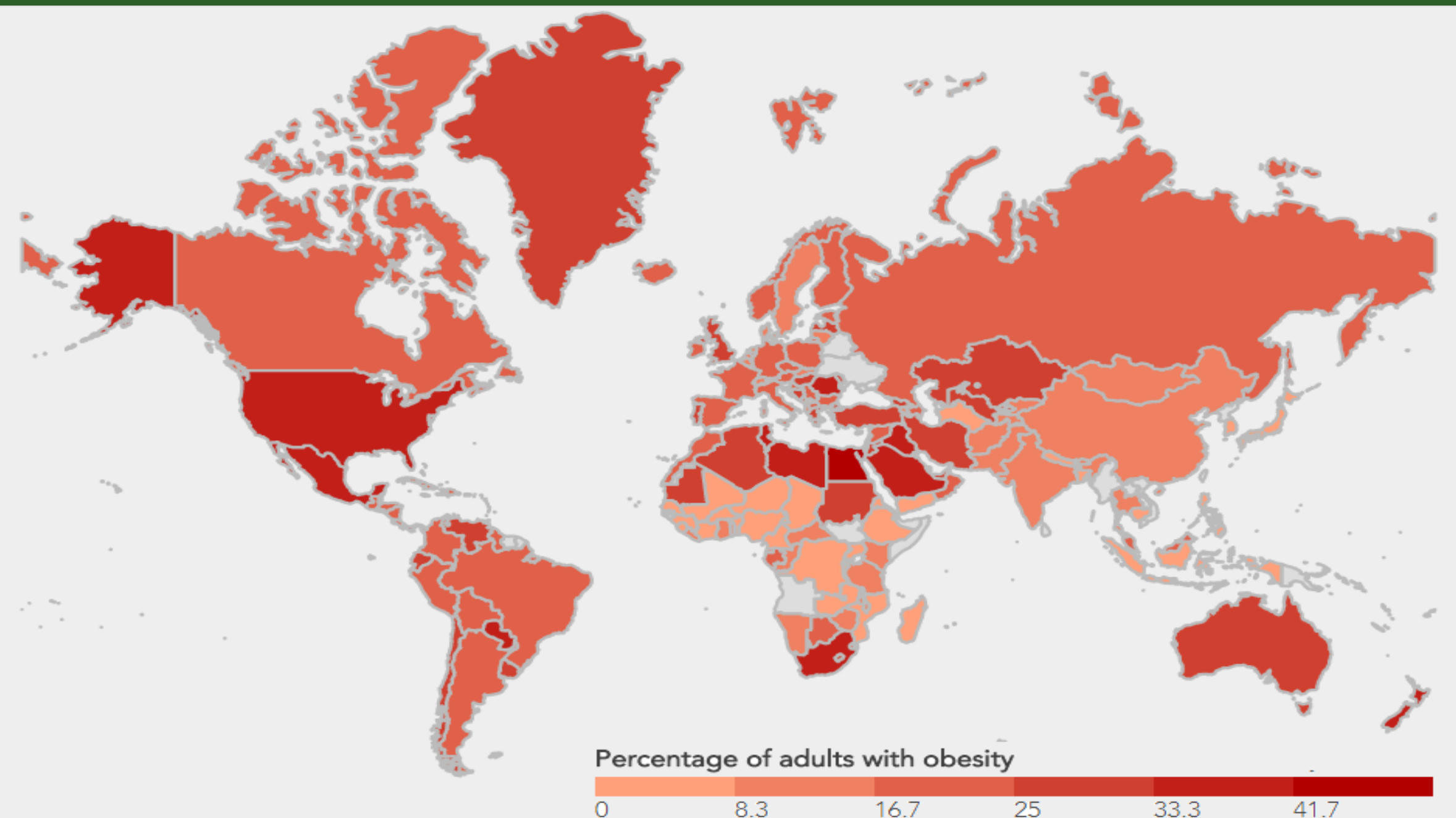
- Decrease in deaths from infectious disease
- Increase in deaths from Chronic disorders associated with aging
- Cardiovascular Disease (CVD)
 - Heart Attacks
 - Cancers

South Asia and Africa have low incidence of cancer- low life expectancy

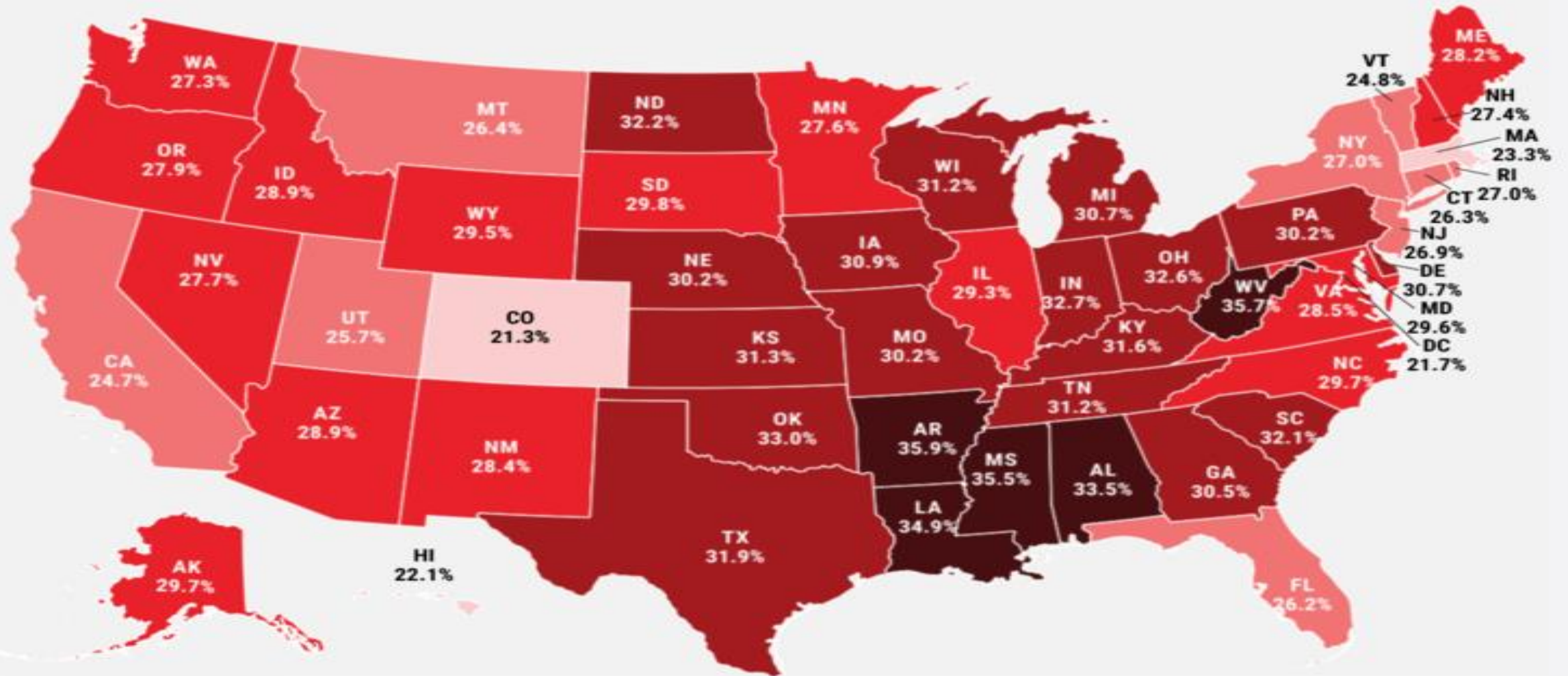
STAGE 4 – DELAYED DEGENERATIVE DISEASES

- S. Jay Olshansky and Brian Ault extended the model to stage 4
- Cardiovascular Diseases and Cancers are the major causes of death but life expectancy is delayed because of medical advances
 - Bypass Operations
 - Cancer Treatments
 - Better Diet, reduced use of tobacco products and alcohol, and exercise
 - Obesity has increased in stage 4 because of non nutritious foods and sedentary lifestyles

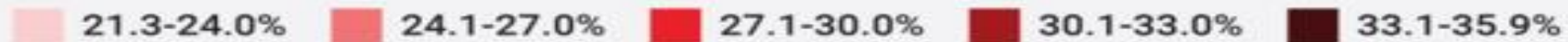




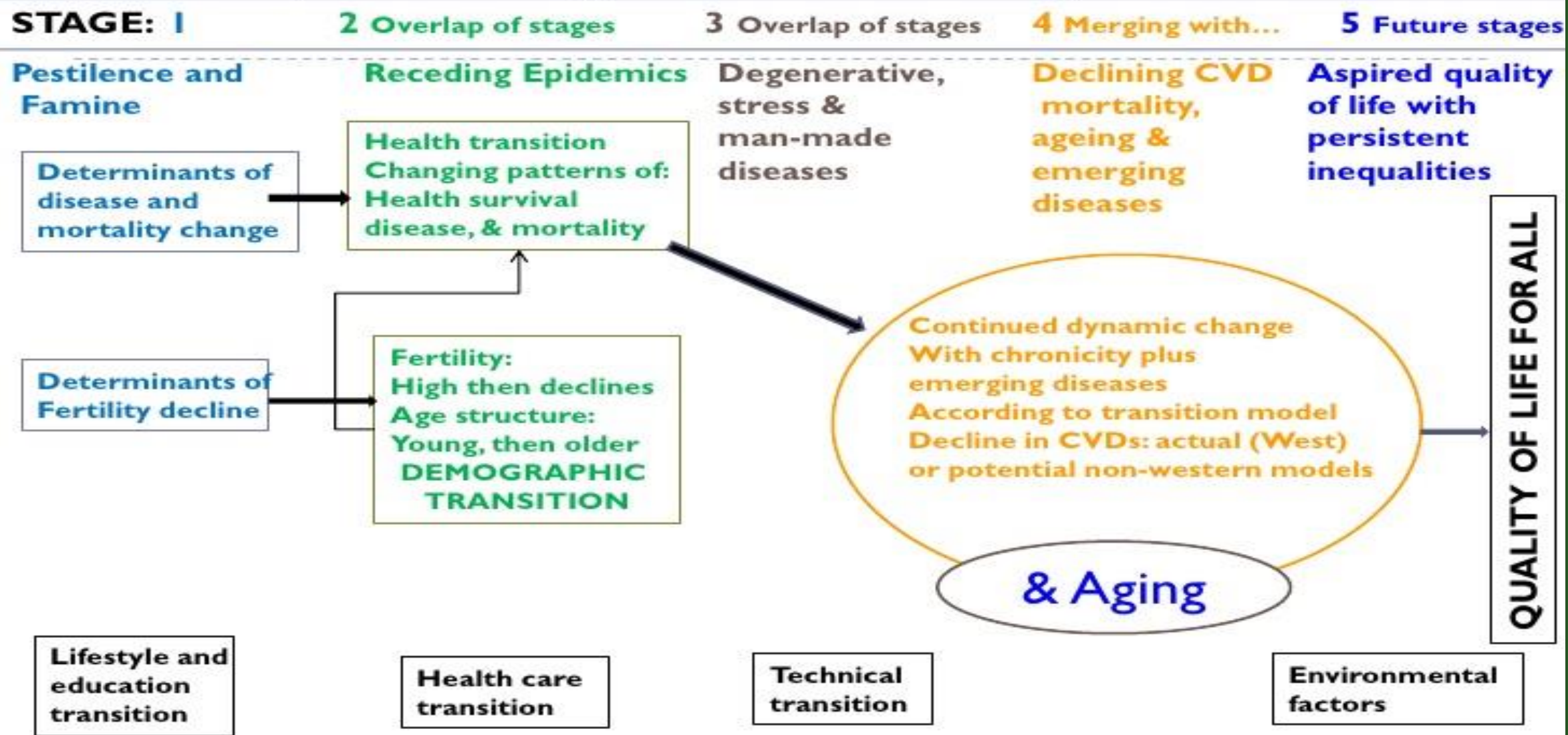
ADULT OBESITY RATES



KEY



The Epidemiologic Transition Dynamics



Flow of the Transition can be disrupted or reversed under crises or may accelerate under strikingly favorable conditions. Source: World Health Statistics Quarterly, 51 (No.2/3), 1998