



Epidemiological Futures and Family Futures

Stage 5

Objectives

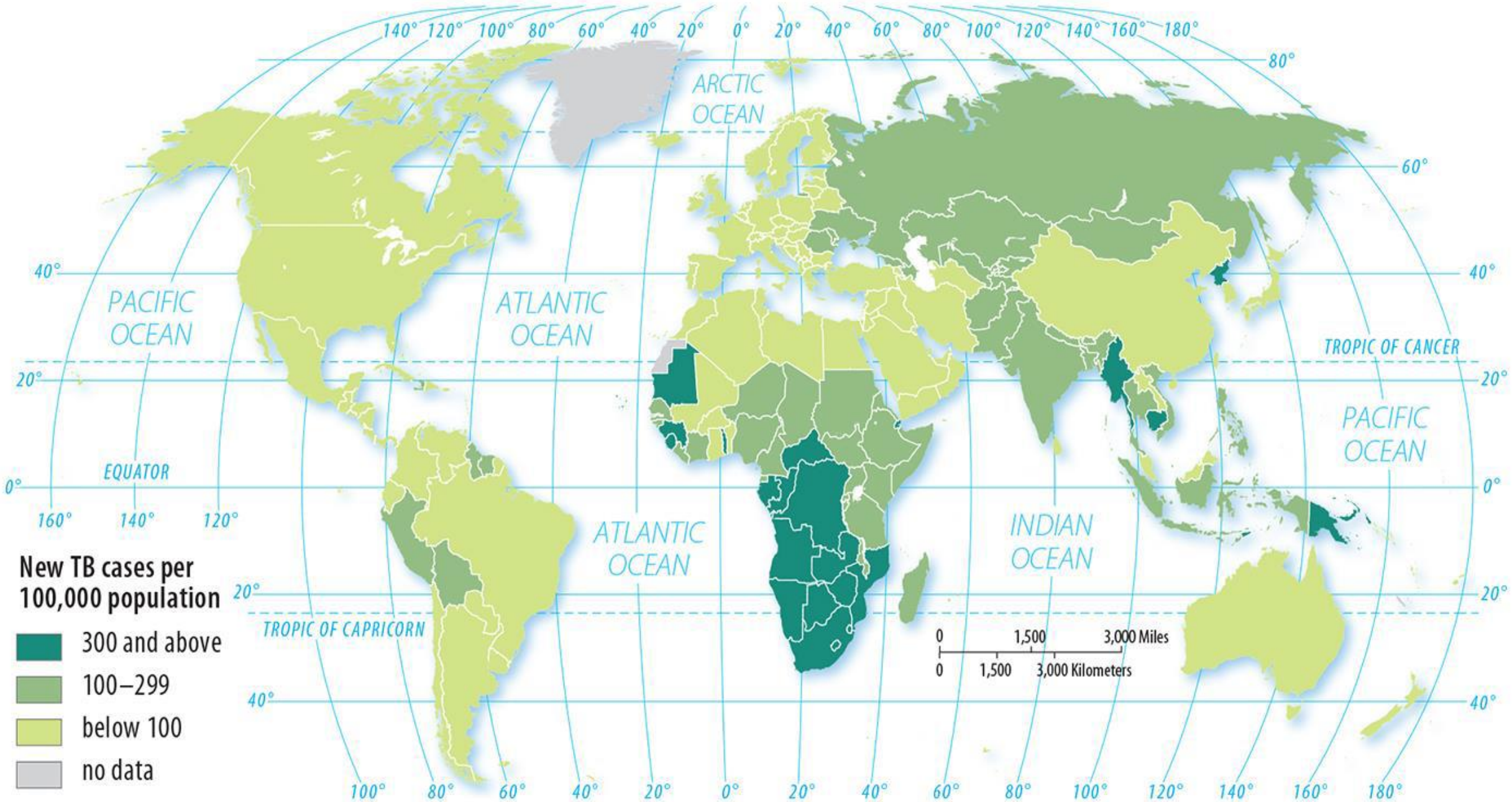
- Explain the reasons for possible stage 5 in the Epidemiological Transition
- Explain reason for declining birth rate

Evolution

- Infectious disease microbes have evolved (resistant to drugs and insecticides)
- Antibiotics and genetic engineering contribute to new strains of virus and bacteria
- Malaria killed est. 118,648 people in 2014 (Congo 30,918)
- Mosquito resistant

Poverty

- Infectious diseases are more prevalent in poor areas
 - Sanitation, medications
 - Tuberculosis (example)- AKA Consumption is spread by coughing and sneezing



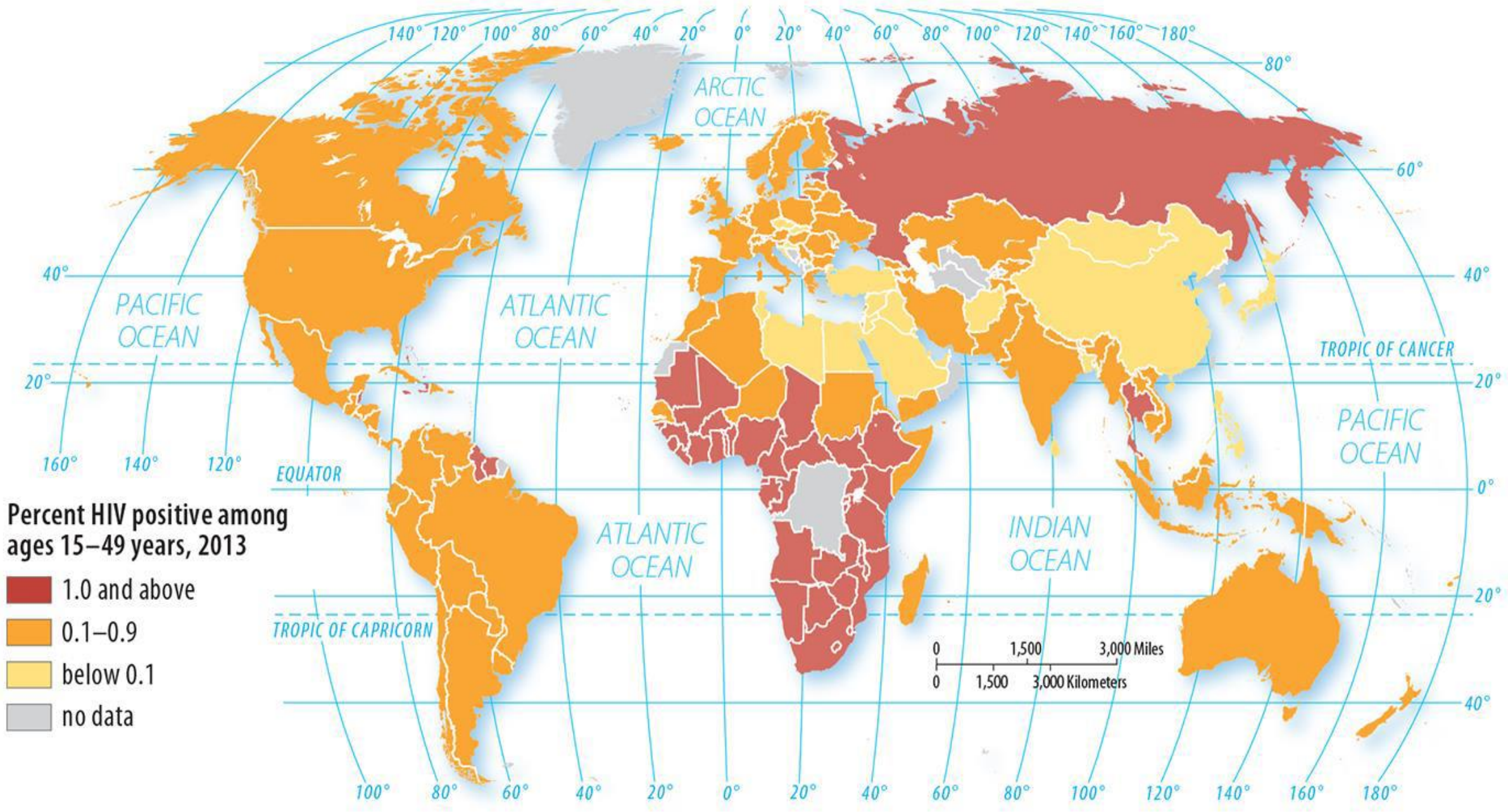
New TB cases per 100,000 population

- 300 and above
- 100–299
- below 100
- no data

0 1,500 3,000 Miles
0 1,500 3,000 Kilometers

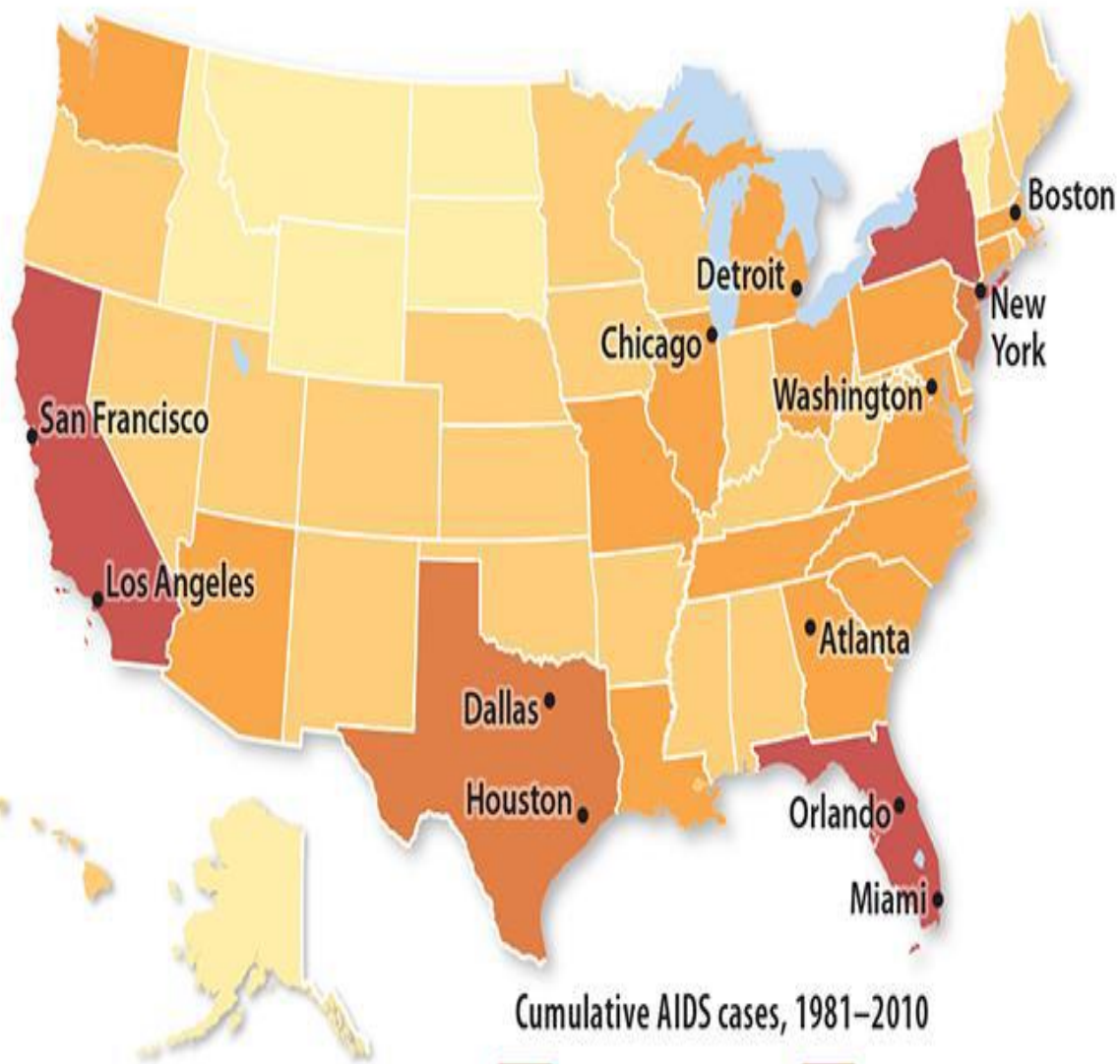
Connections

- Pandemics spread by relocation diffusion
- AIDS 39 million died
 - Diffused from Sub-Saharan Africa
 - Entered the US in early 1980s NY, CA, and FL
- EBOLA
 - Named for the Ebola River in DRC 1976
 - West Africa 2013
 - Carried by Fruit Bats
 - Healthcare workers unknowingly carried it while being infected

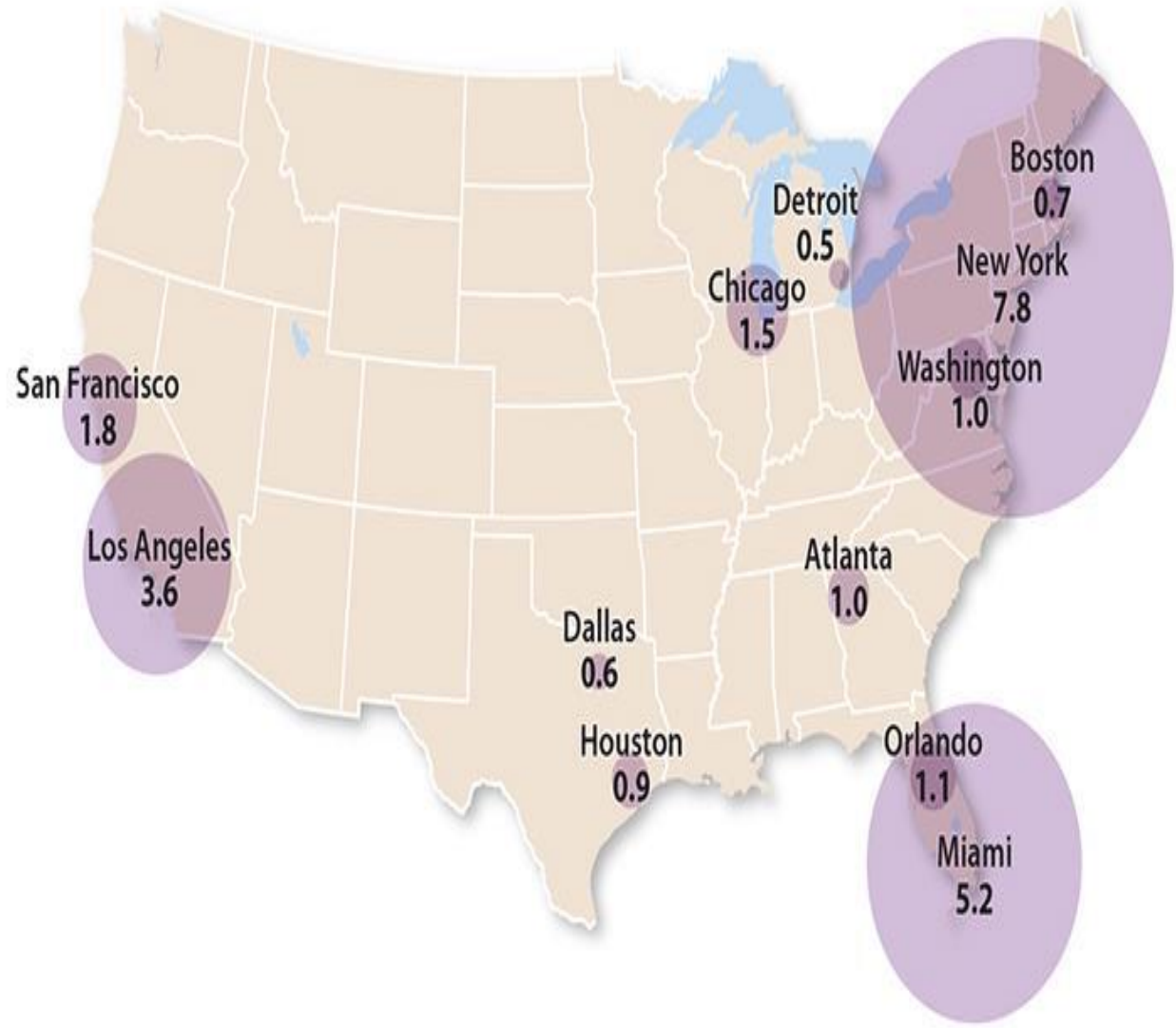


Percent HIV positive among ages 15–49 years, 2013

- 1.0 and above
- 0.1–0.9
- below 0.1
- no data



(a) U.S. AIDS cases, 1981–2010



(b) International arrivals to the U.S.

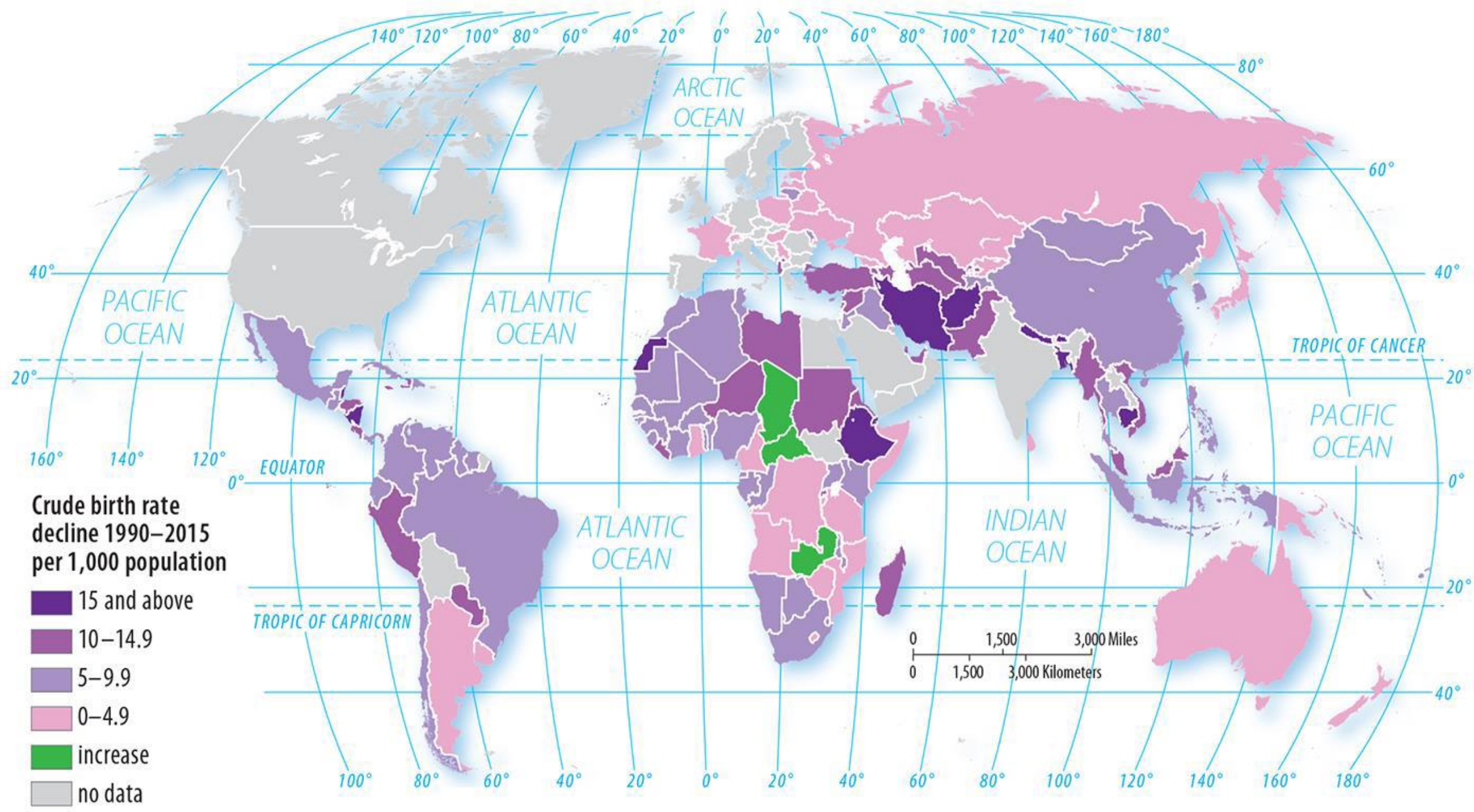


Family Futures

Declining Birth Rates

Contraception

- Diffusion of modern contraception methods
- Family Planning
- Contraception is the best method to lowering the birth rate
- Developing Countries
 - Demand for contraceptive devices is greater than the supply
- Bangladesh
 - Contraceptive Percentages 62% in 2014 as opposed to 6% of 1980
 - 30% in Africa vs. 73% in Latin America



Crude birth rate decline 1990–2015 per 1,000 population

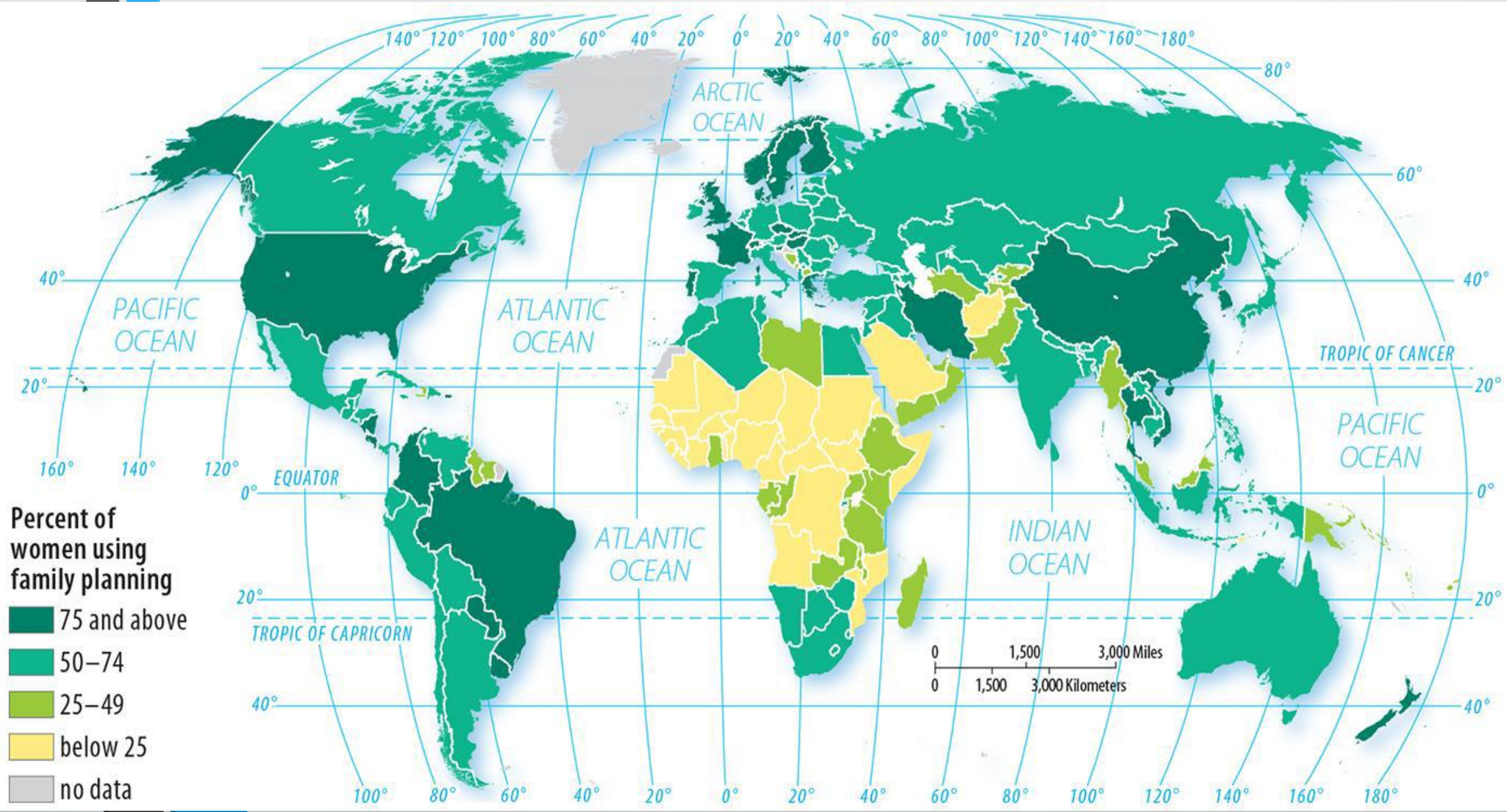
- 15 and above
- 10–14.9
- 5–9.9
- 0–4.9
- increase
- no data

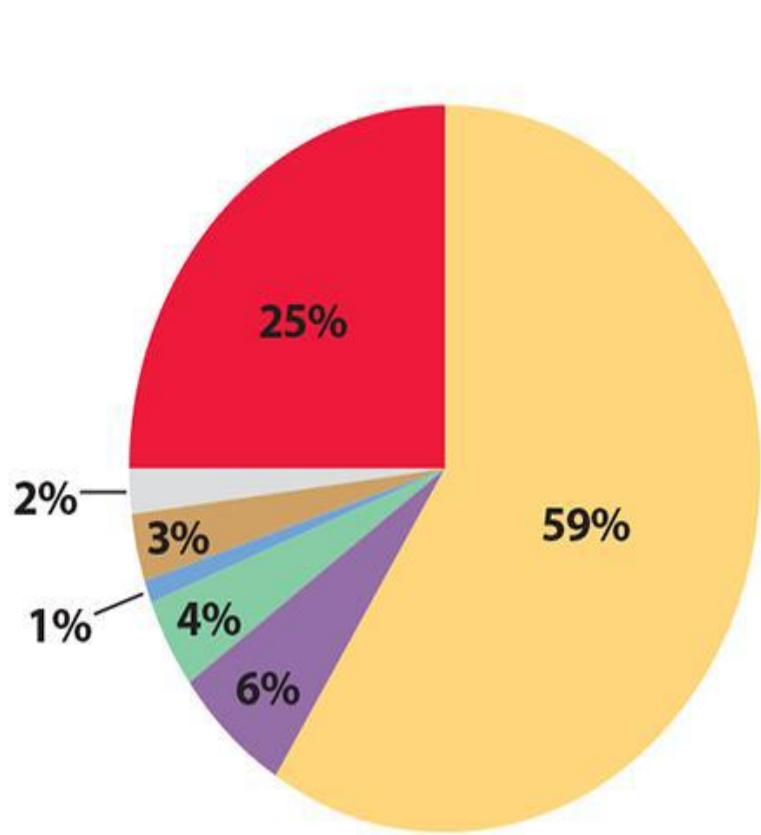
0 1,500 3,000 Miles
0 1,500 3,000 Kilometers

Education and Healthcare

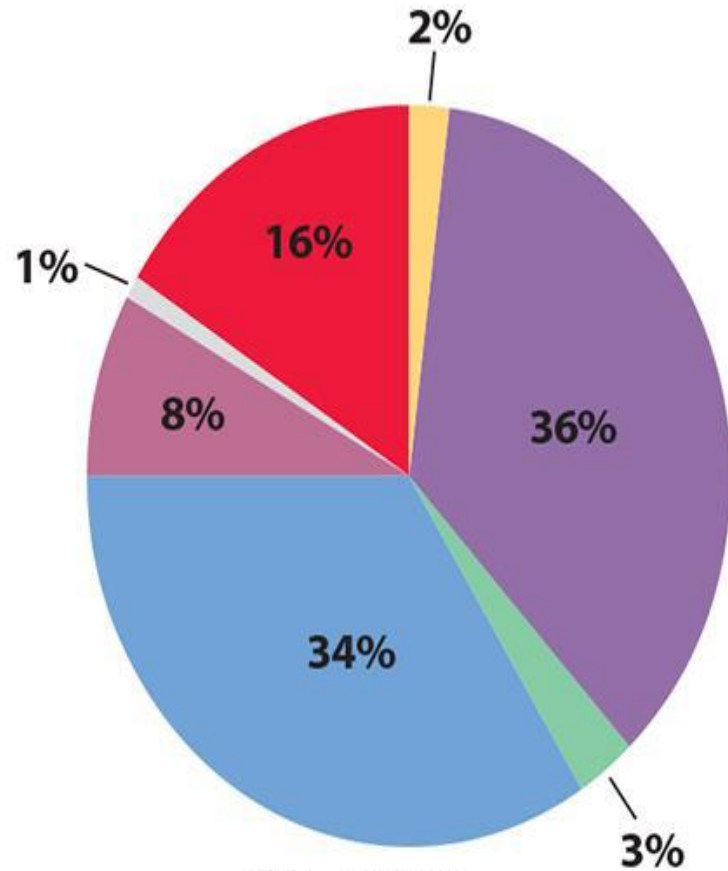
Lowering the CBR

- Women attend school to learn employment skills and get economic control over their lives
- Reproductive education – rights, choices, methods of contraception
- IMRs would decline with prenatal care, counseling on STDs and immunization
- Women choose contraception to limit number of children

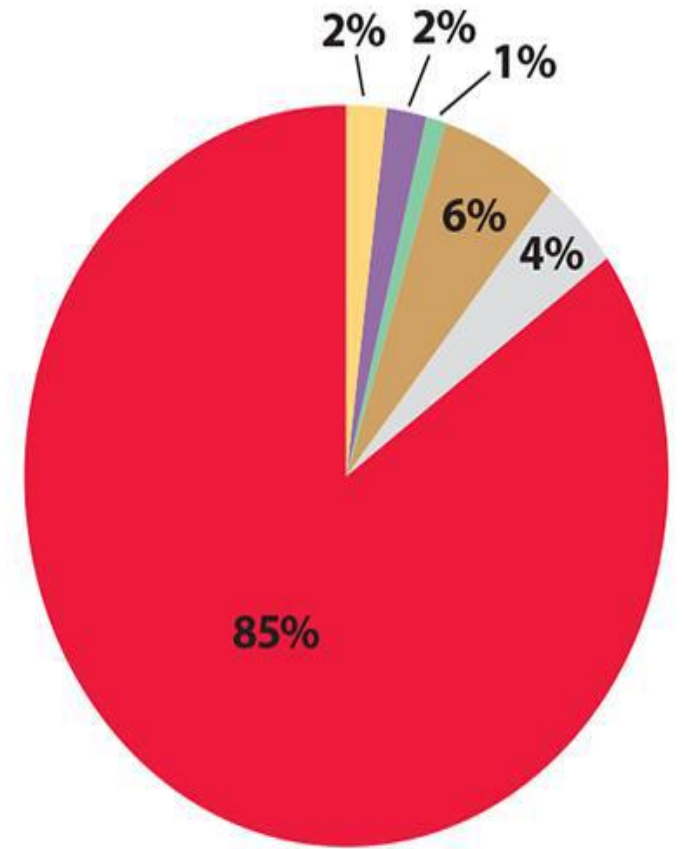




(a) **GERMANY**



(b) **CHINA**



(c) **NIGERIA**

Family Planning Method

- Pill
- IUD
- Condom
- Female sterilization
- Male sterilization
- Periodic abstinence and withdrawal
- Other
- Not using a method