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Geog 245 AE

Assignment 4

30 November 2016

Please be sure to read the directions carefully.

1. Go to [http://vizhub.healthdata.org/gbd-compare/ (Links to an external site.)](http://vizhub.healthdata.org/gbd-compare/).  If you haven’t done so already, click on the blue “Take tour” button on the left-hand side to get oriented to the GBD Compare program.
2. You will start out in a Treemap (causes) visualization. Use the default visualization (global causes of Disability Adjusted Life Years in 2015 broken into three categories:  Infectious Diseases (Red), Non-infectious Diseases (Blue) and Injuries (Green)) to answer the following questions.  NOTE: default “Level” should be set to level 3 for this part (the treemap) and level 2 for the remainder of the assignment.
3. Based on global data from 2015, what are the two fastest growing infectious disease causes of Disability Adjusted Life Years? [1 pt.]

***HIV and Dengue***

b.  Which type of cause (Infections, Non-infections, or Injury) contributed to the most Disability Adjusted Life Years globally in 2015? [.5 pts.]

***Non-infections***

1. On the left-hand column, click on the Pyramid visualization image. Use the settings to illustrate a pyramid that shows the rate of causes of Disability Adjusted Life Years in 2015 by World Bank Income Levels.  The World Bank divides countries into “High Income,” “Upper Middle Income,” “Lower Middle Income,” and “Lower Income” countries.

c.  Which category of countries most closely aligns with stage one of the demographic transition? [.5 pts.]

***Lower Income***

d.  Which category of countries most closely aligns with stage four of the demographic transition? [.5 pts.]

***High Income***

e.  Which category of causes (note that in this visualization, non-infectious diseases are illustrated in both blue and purple; injuries remain in green, and infectious diseases are in red) varies most between the four World Bank categories of countries? [.5 pts.]

***Infectious diseases***

 Change the settings to illustrate a pyramid that shows the rate of causes of DALYs in 2015 in the Middle East/North Africa World Bank Region.  This will show you each country that is in the World Bank classification of that region.

f.  Which country shows the largest Male/Female discrepancy in DALYs in 2015 (in other words, in which country are the DALYs of males most different from those of females)? [.5 pts.]

***It seems to be Syria***

g.  Based on the graphic, which specific cause accounts for this discrepancy?  [.5 pts.]

***Forces of nature, war, and legal intervention***

1. On the left-hand column, click on the Arrow Diagram visualization image. Use the settings to create a diagram comparing the 1990 and 2015 causes of Disability Adjusted Life Years in the United States (note that since we are looking at a single country, the total number (prevalence), rate, and percent of a cause produces the same order of rankings).

h.  Which cause of DALYs has moved up the ranks most between 1990 and 2015 in the United States? [.5 pts.]

***Cirrhosis***

Change the settings to illustrate a diagram comparing the 1990 and 2015 causes of Disability Adjusted Life Years in Iraq.

i.  Which cause of DALYs has moved down the ranks most between 1990 and 2015 in Iraq? [.5 pts.]

***Diarrhea/LHI/Other***

j.  In a sentence or less, what likely explains this change? [.5 pts.]

***Because bacterial infections are known to cause diarrhea, there could be less cases of it throughout Iraq due to people taking more health measures to be clean. In addition, since the diarrhea/LHI/other cause pertains to infectious diseases, the medical field in Iraq could have probably made it a top priority to develop the medicines to combat this cause.***

k.  Which cause of DALYs has moved up the ranks most between 1990 and 2015 in Iraq? [.5 pts.]

***War and disaster***

l.  In a sentence or less, what explains this change? [.5 pts.]

***The Iraq War, which spanned almost 9 years, led to the deaths of many Iraqis during the period between 2003 and 2011.***

Change the settings from DALYs to deaths, but keep everything else the same (comparison of 1990 and 2015 causes of death in Iraq).

m.  Which cause of death has moved up the ranks most between 1990 and 2015 in Iraq? [.5 pts.]

***War and disaster***

1. On the left-hand column, click on the Map visualization image. Use the settings to map the death rate by country in 2015.

n.  What region has the largest number of countries with death rates under 300 per 100,000 people? [.5 pts.]

***The Arabian Peninsula (Saudi Arabia, UAE, Qatar, etc.)***

o.  In a sentence or less, based on the discussions we had and the population pyramids we examined in class, what might explain these low mortality rates? [1 pt.]

***According to recent population pyramids, countries in the Arabian Peninsula are experiencing major population growth (and not many old folks live there), so when we calculate the mortality rates for these countries, they turn out small.***

p.  Which region has the largest number of countries with death rates over 1.2 thousand per 100,000 people? [.5 pts.]

***Eastern Europe (Russia, Ukraine, Belarus, etc.)***

q.  Given what we have discussed in class, in a sentence or less, what about the population structure explains why this region has the highest death rates? [1 pt.]

***According to recent population pyramids, countries in Eastern Europe are experiencing population decline due to low fertility rates and high death rates, meaning older people are dying, yet the population of new generations is not enough to replace them. Therefore, when calculating the mortality rates for these countries, they turn out large.***

***(We also previously discussed that in Russia specifically, the high death rate seems to be caused by drinking too much alcohol. For Ukraine, this is also the case along with poor working conditions.)***

HINT:  for questions o and q, it might be useful to consider that the formula for mortality rate (crude death rate) is:

Mortality Rate = (Number of Deaths / Total Population) \* K