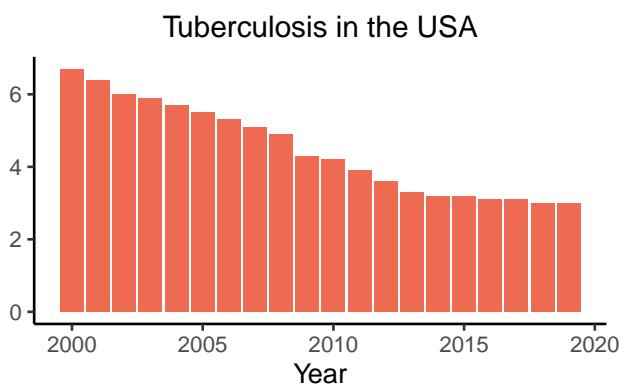
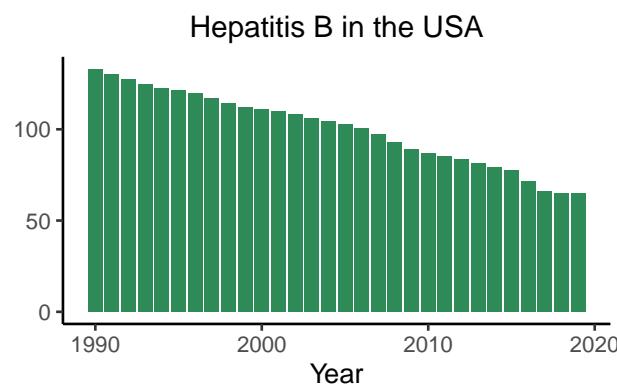
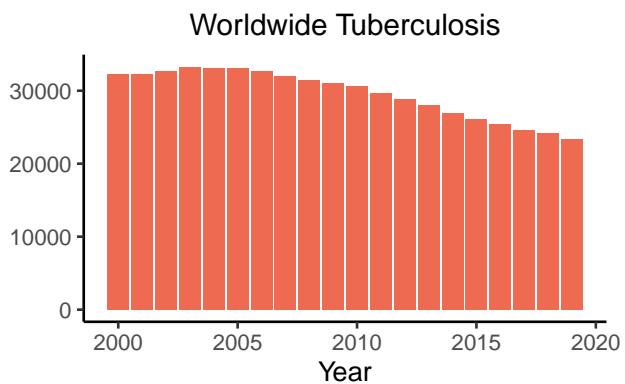
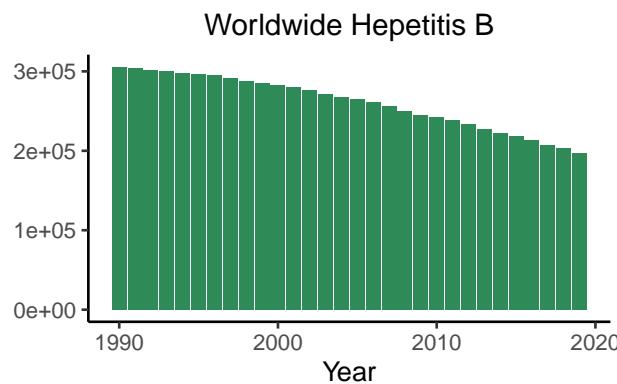


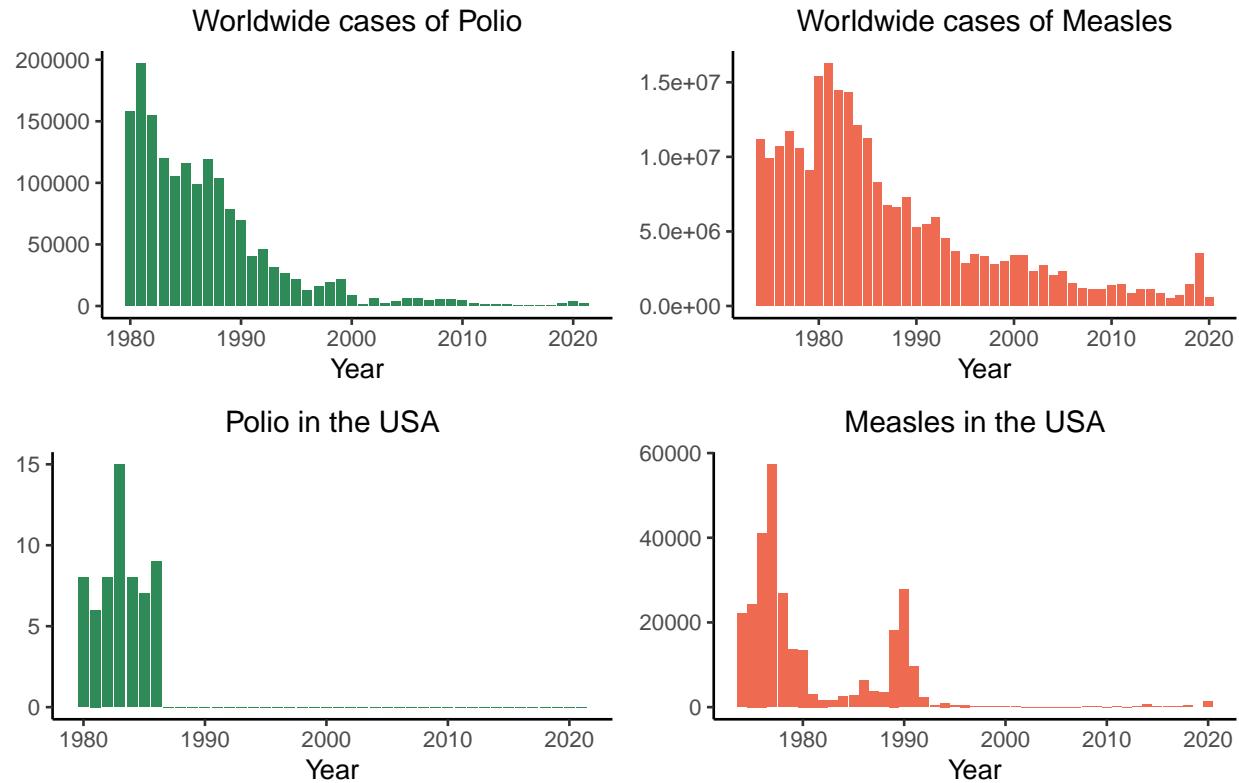
ProjectDBM

Shika, Kevin, Laura

Distribution of diseases

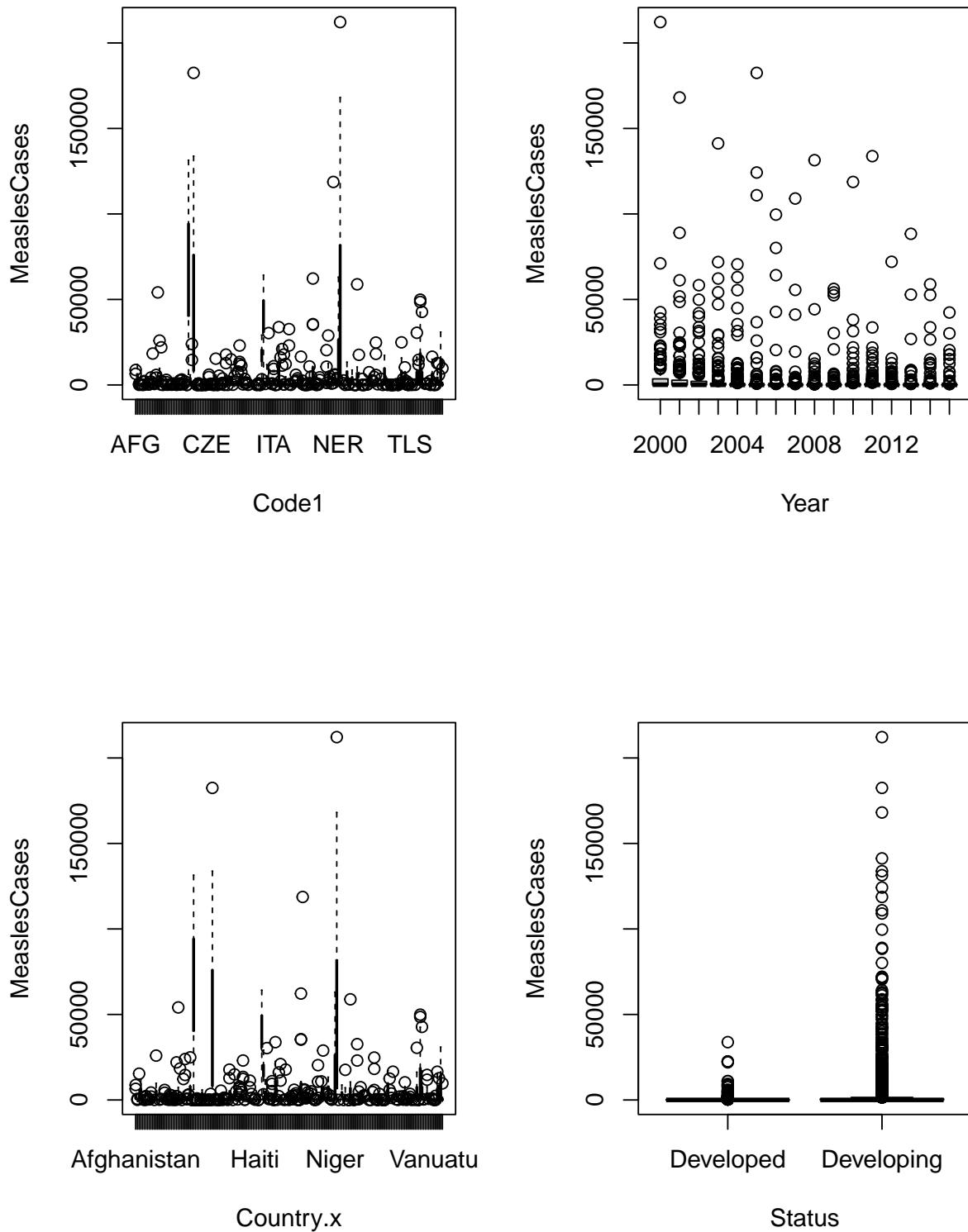
Cases per year across the world and Cases per year in US

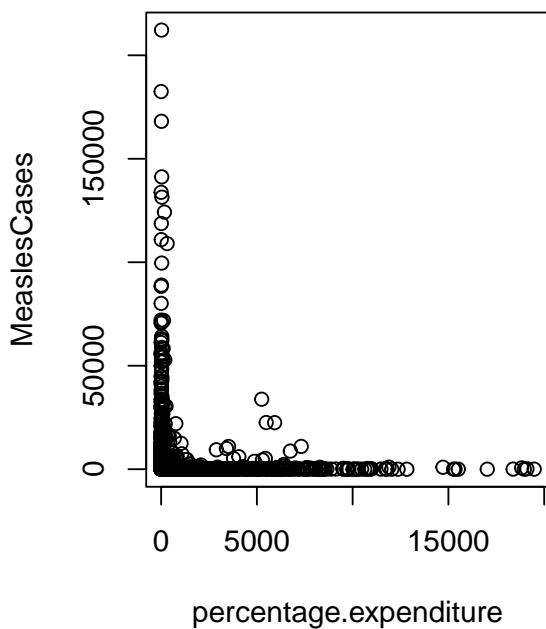
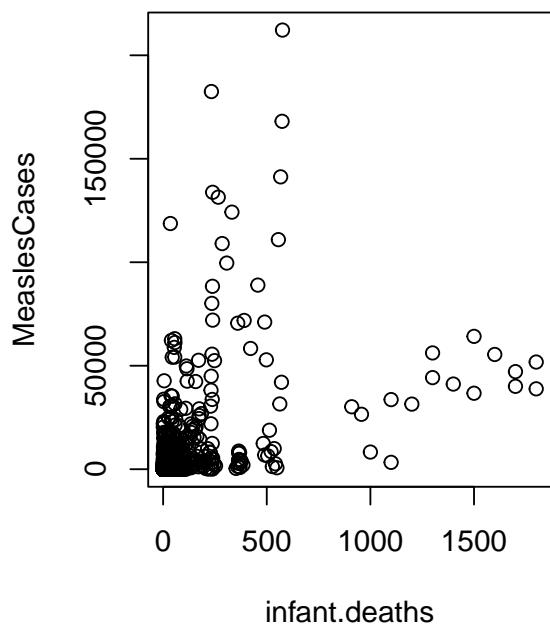
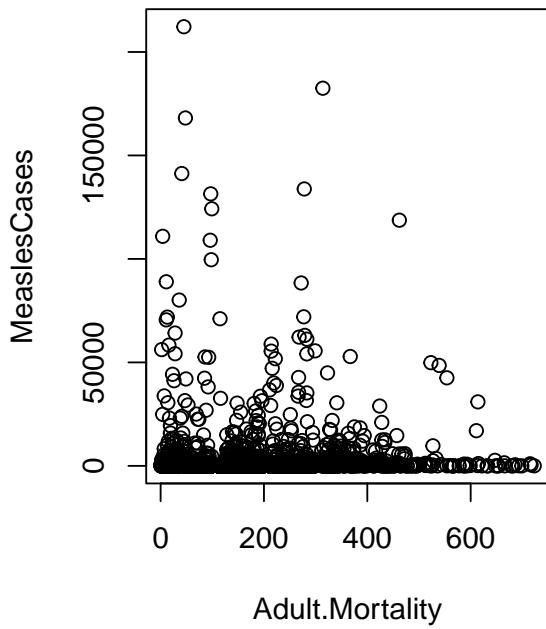
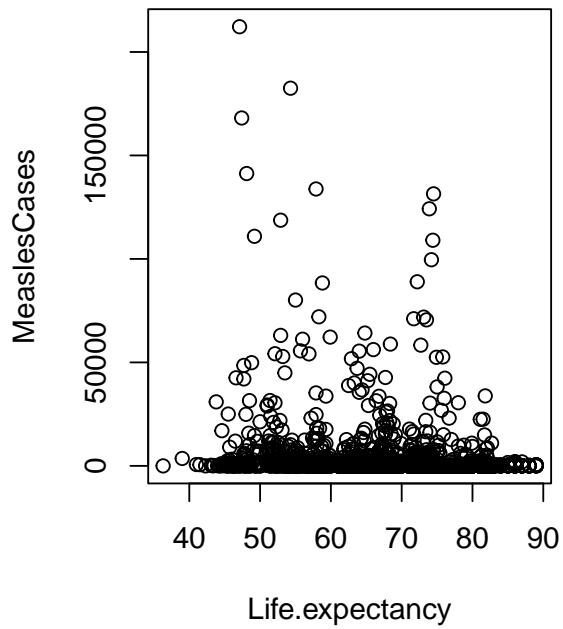


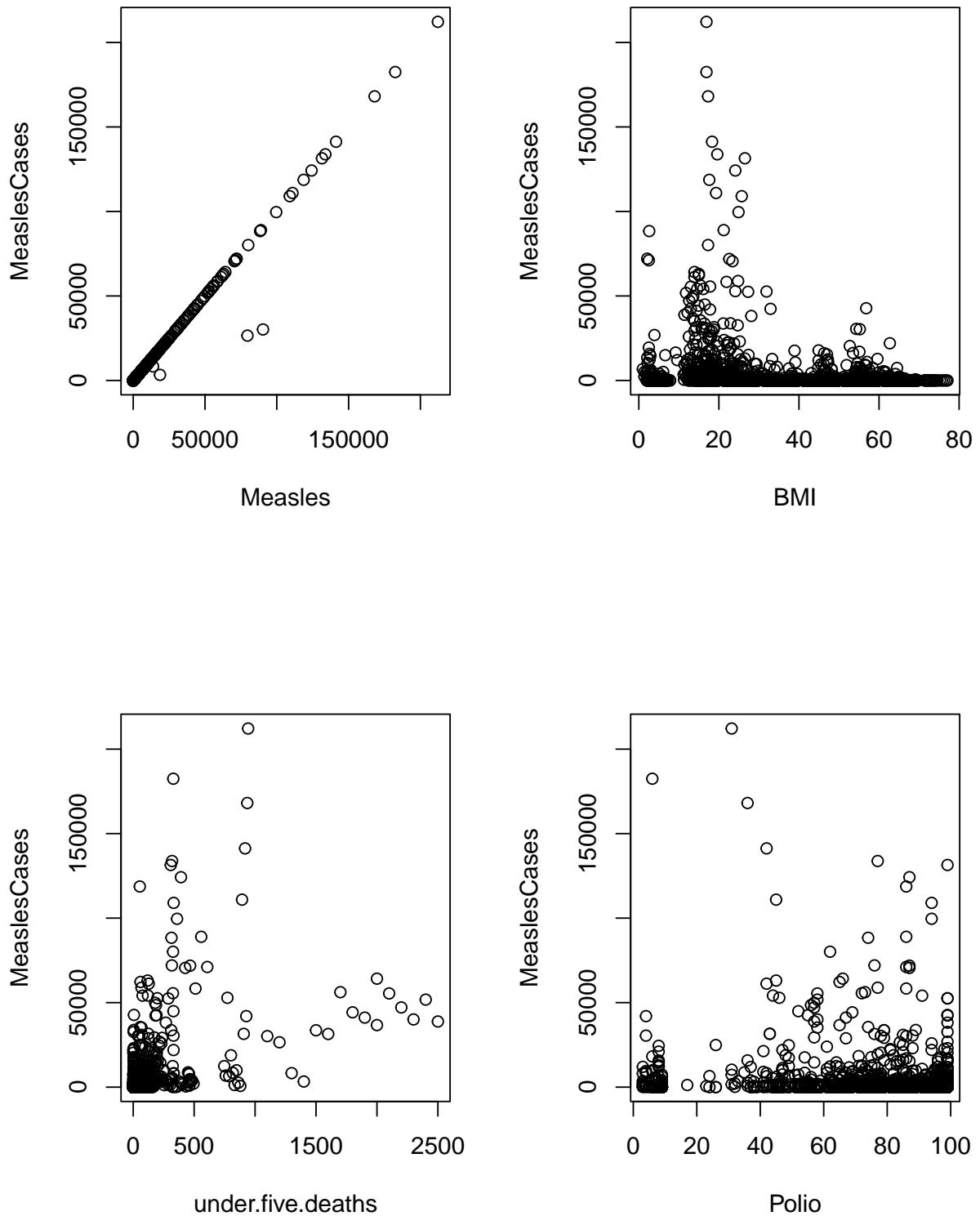


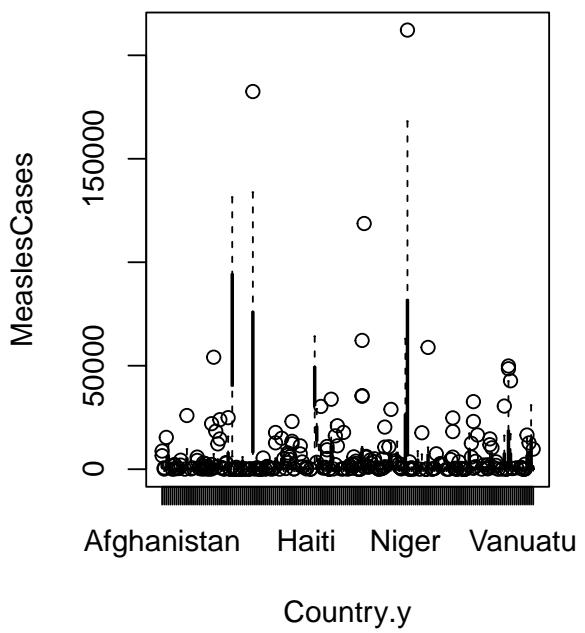
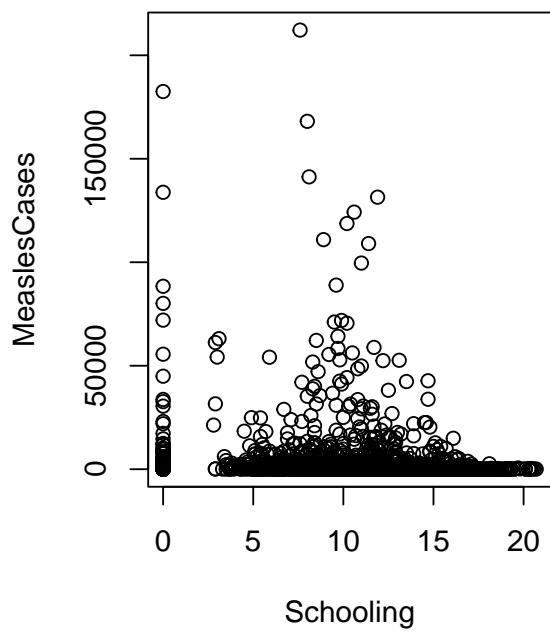
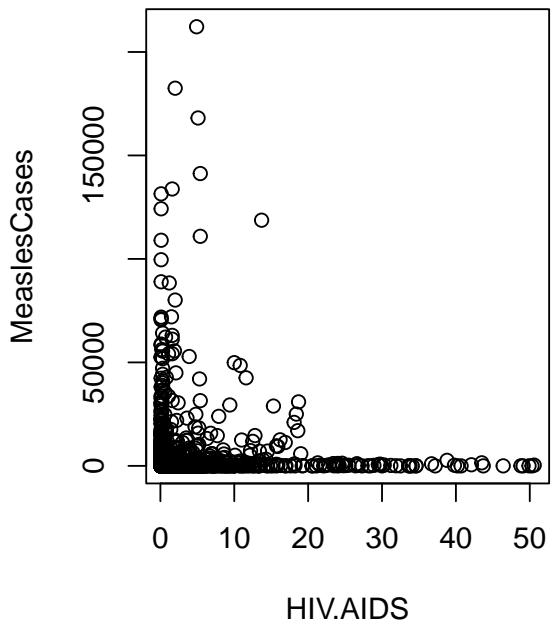
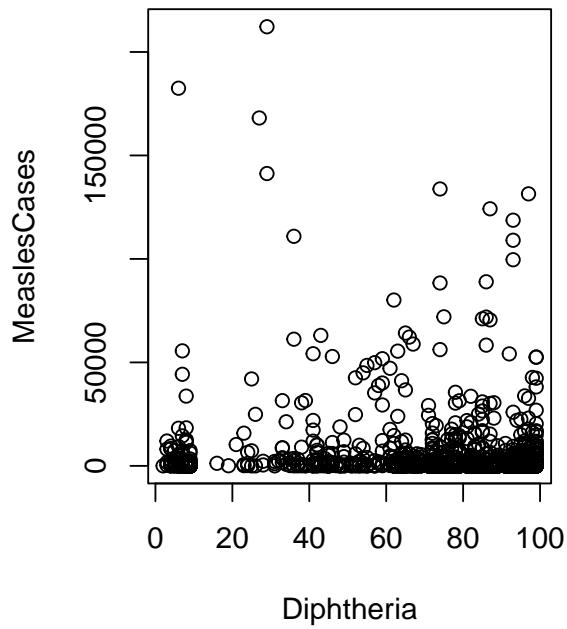
Measles vs every other attribute

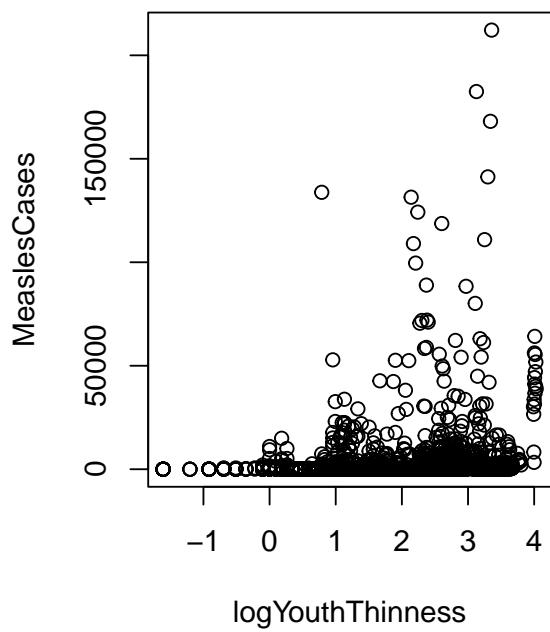
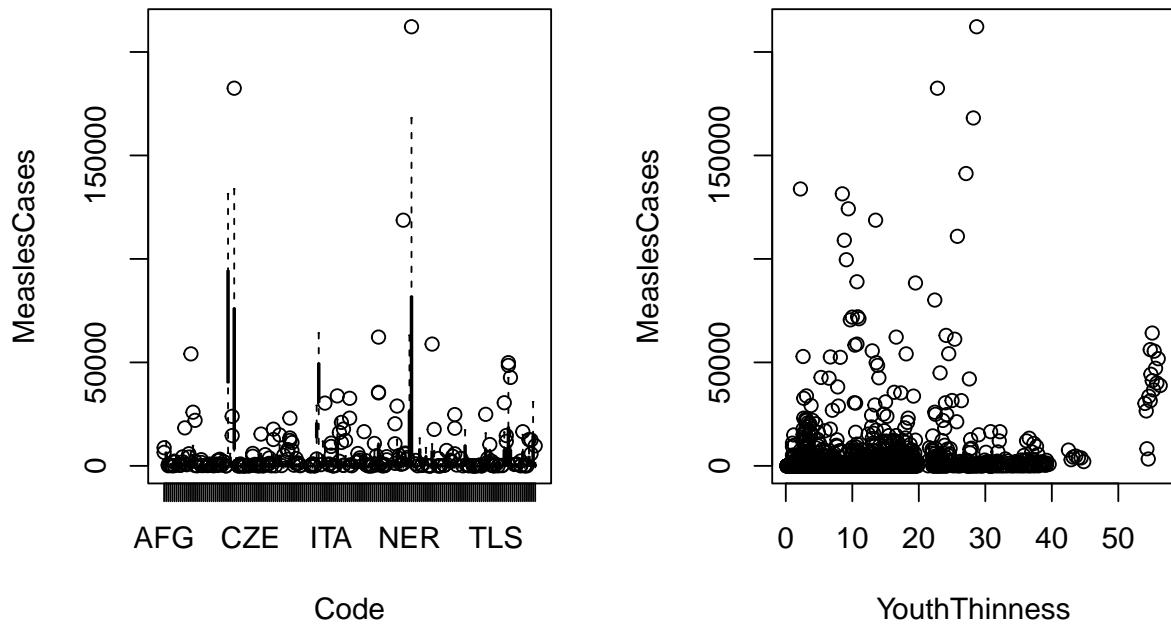
- Measles cases go down from 2000 to 20012
- There is definitely a significant difference of measles cases between developed and developing countries. more cases in developing countries.
- **Now we can do an anova to see if the difference is statistically significant.**
- life expectancy and adult mortality do not seem to have a pattern
- Infant deaths do seem to have a linear relationship with measles cases
- Polio immunization vs Measles cases have an interesting graph it does look like a somewhat negative relationship which would make sense.
- Diphtheria immunization vs Measles cases have an interesting graph it does look like a somewhat negative relationship as well
- **Do box plots of cases per country**
- YouthThinness vs Measles seem to have somewhat a linear relationship
- **What do you all think?**





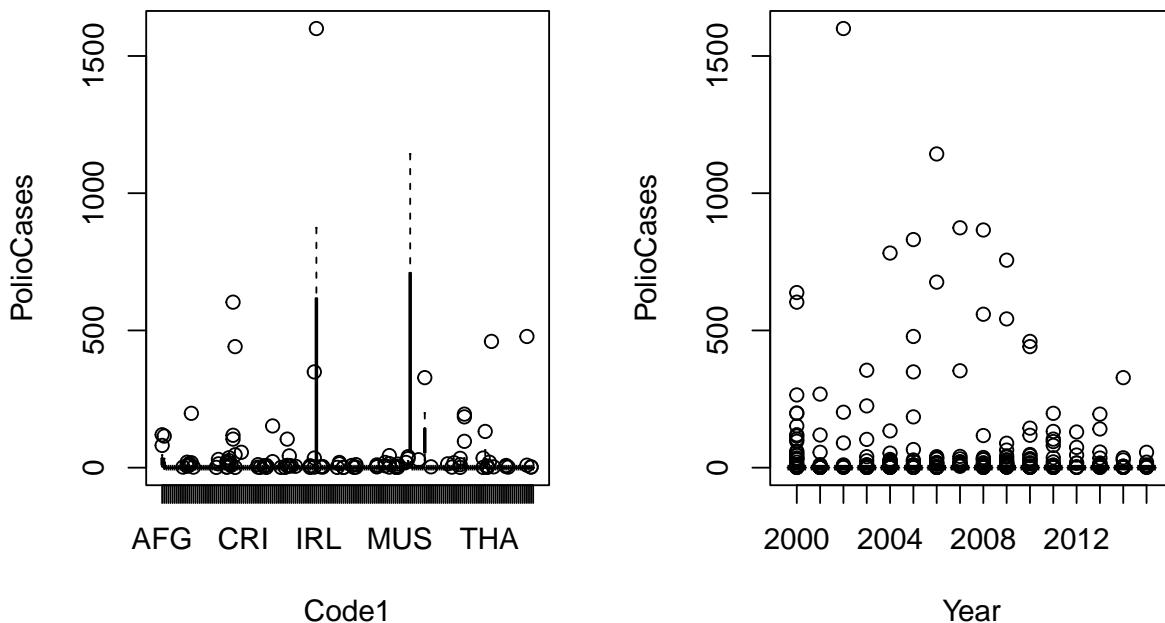


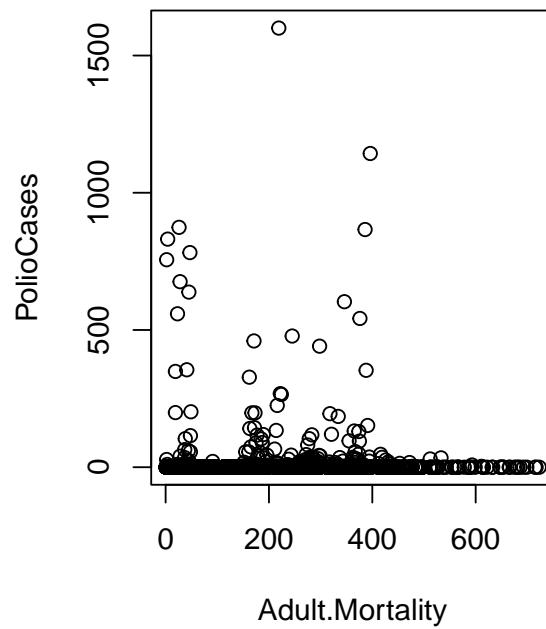
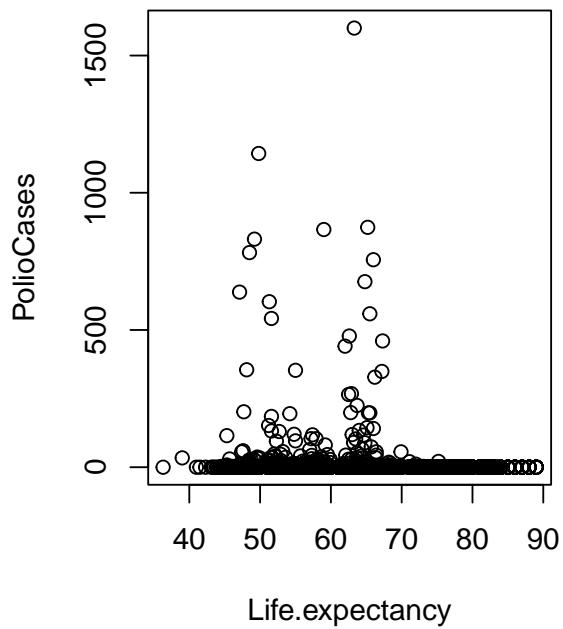
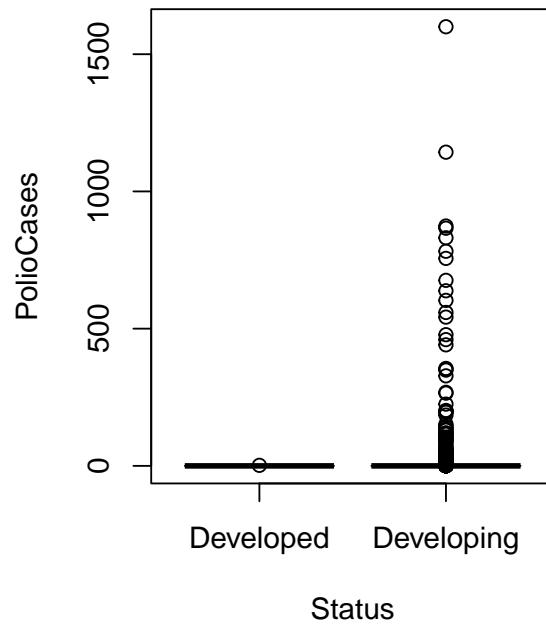
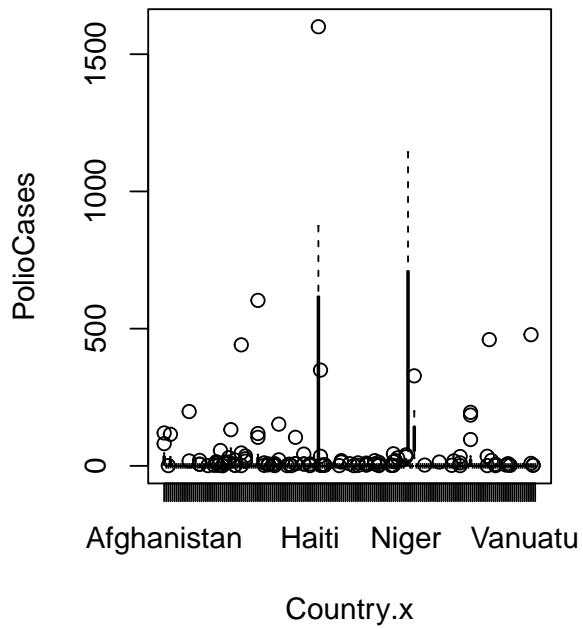


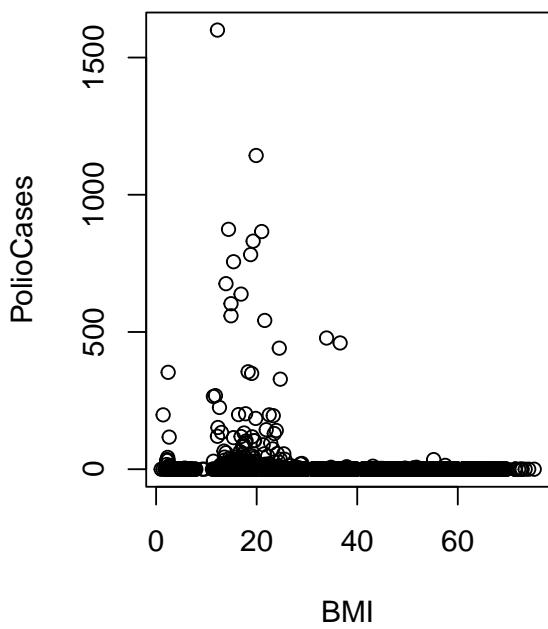
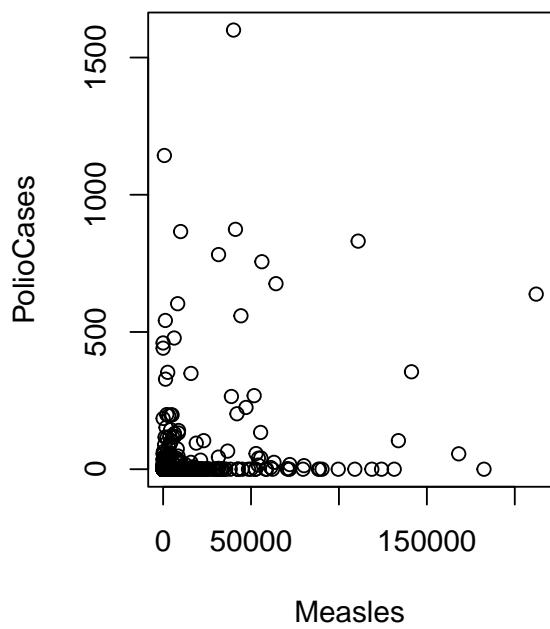
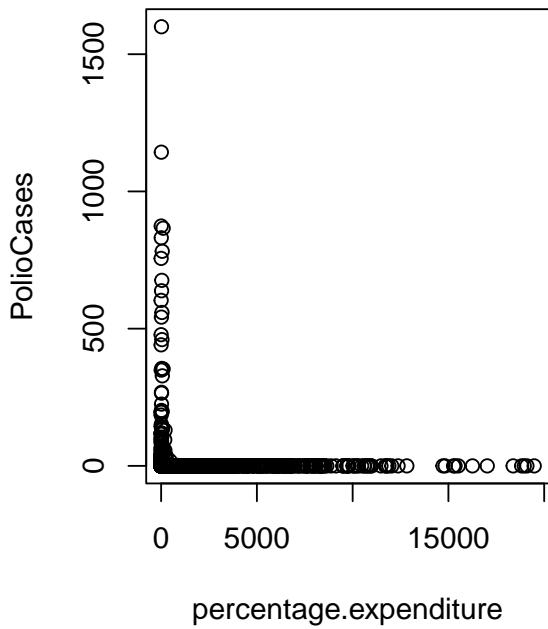
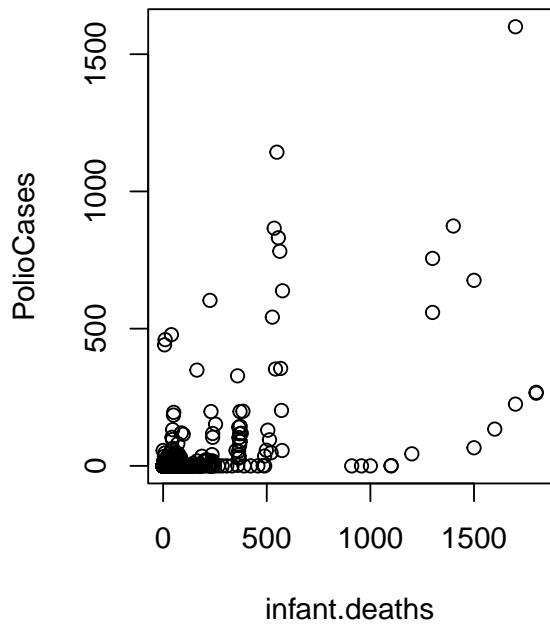


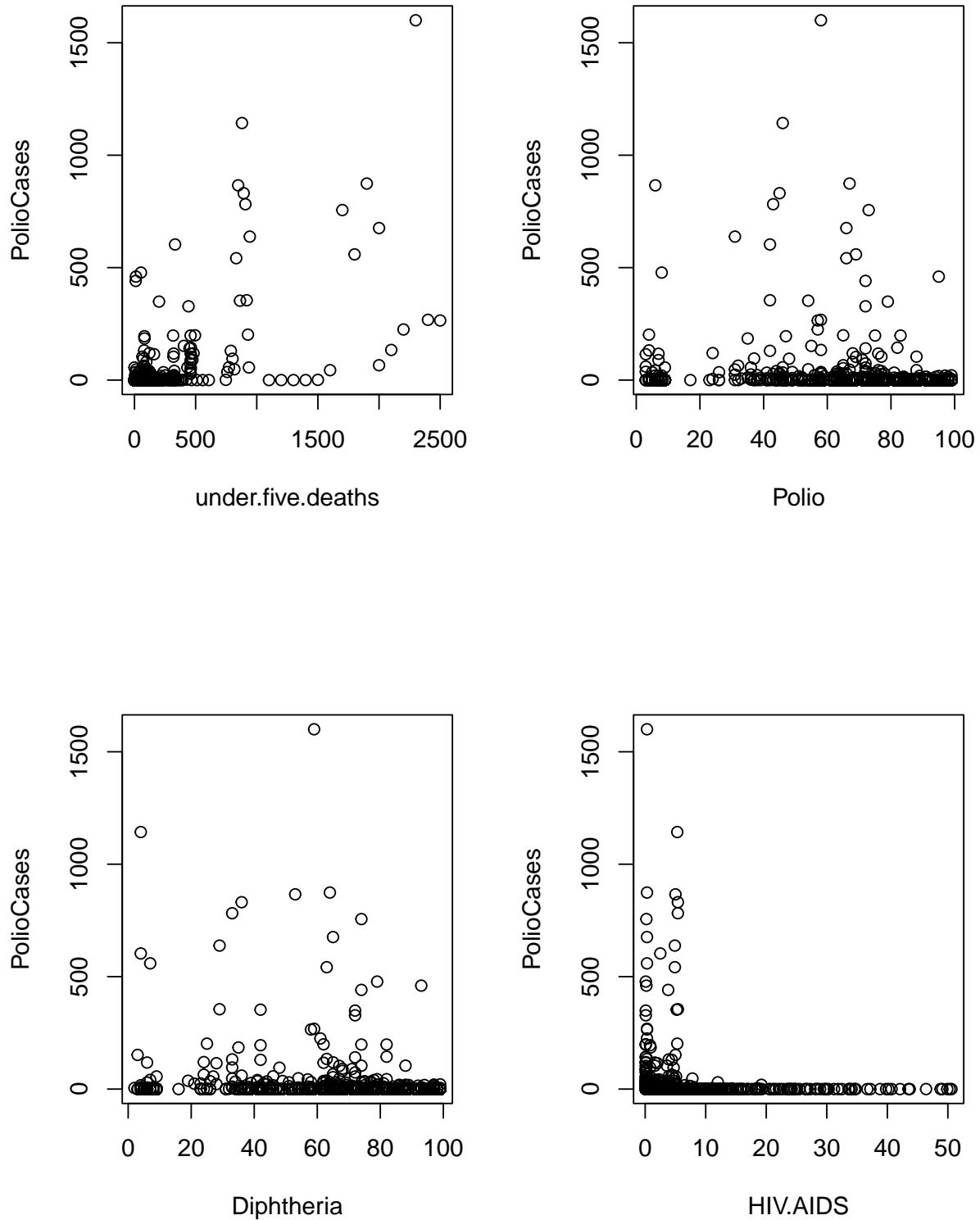
Polio vs all other attributes

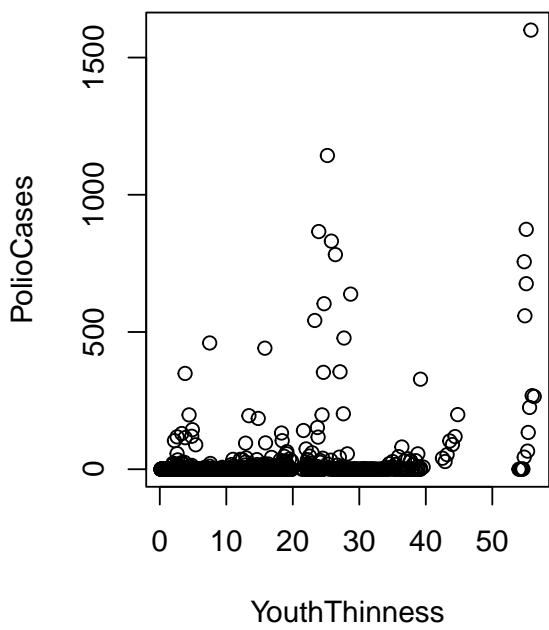
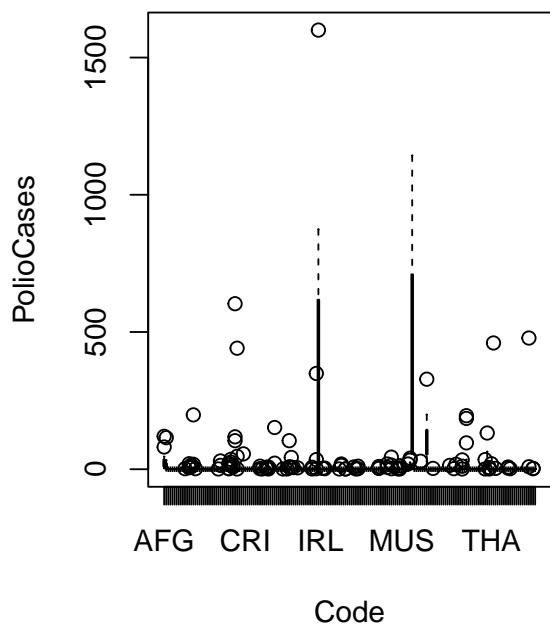
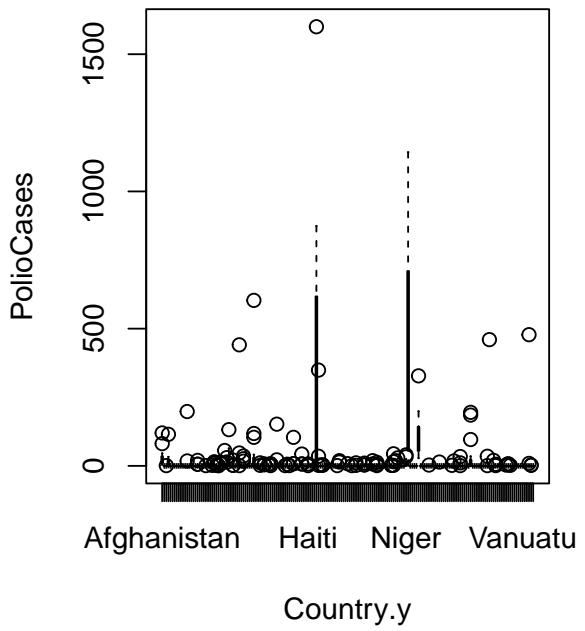
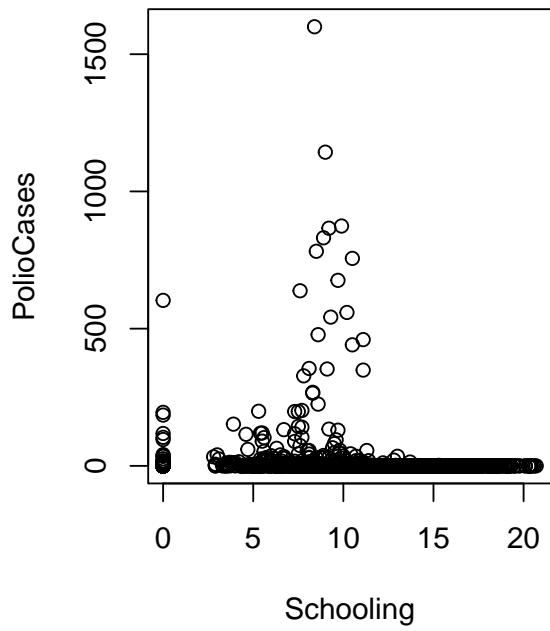
- Polio cases do seem to go down from 2000 to 2015 but slower decrease than that observed in measles
- Polio seems to have almost no cases in Developed vs developing!
- **create more graphs to get deeper insights**
- ** looking online “Polio is transmitted through contaminated water and food or contact with an infected person.” which would explain the developed vs developing graph
- Nigeria and Haiti seem to have the highest cases per Country y
- The graph for code has IRL and MUS as the highest cases
- **Definitely more graphs on countries for all diseases, as the graphs do noe include all countries**





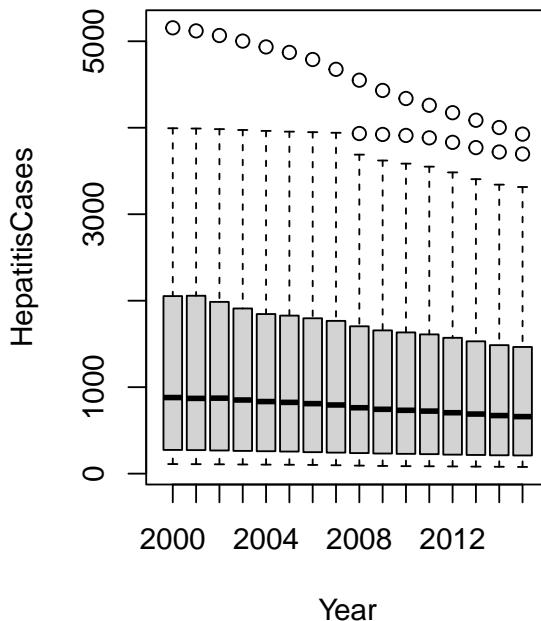
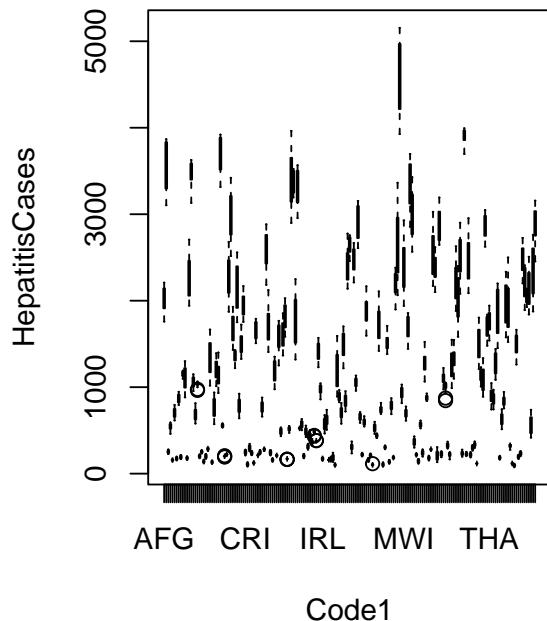


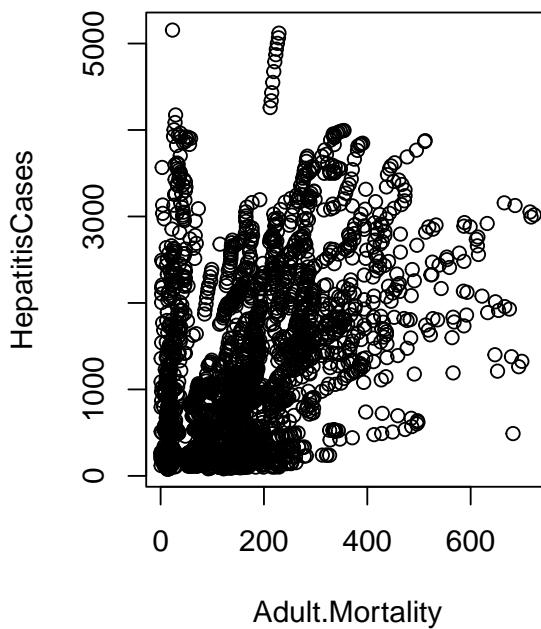
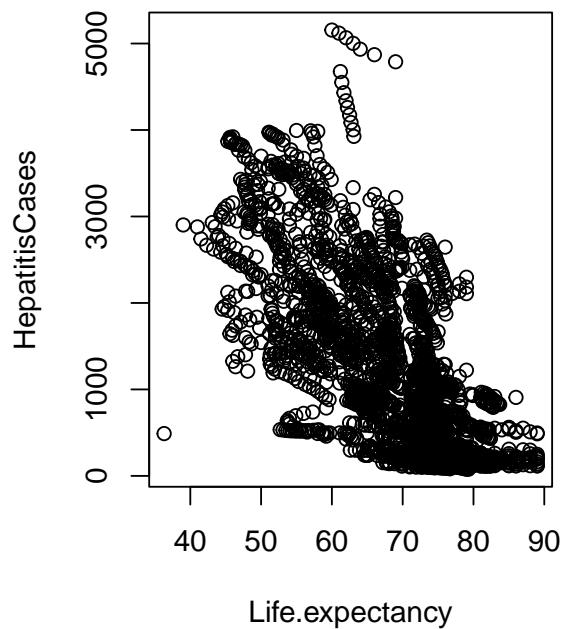
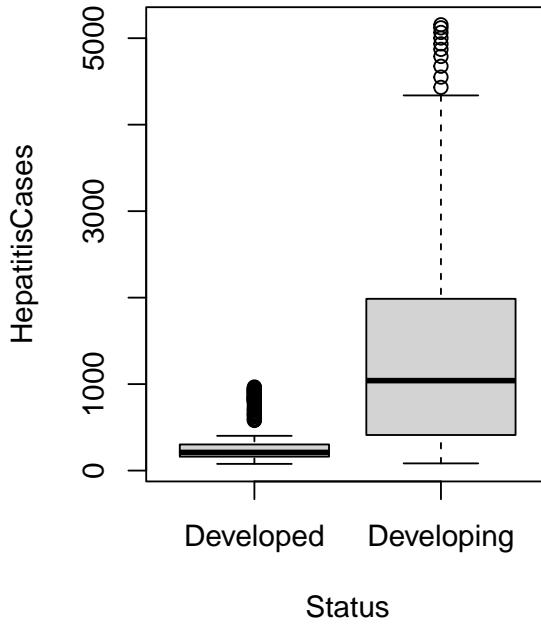
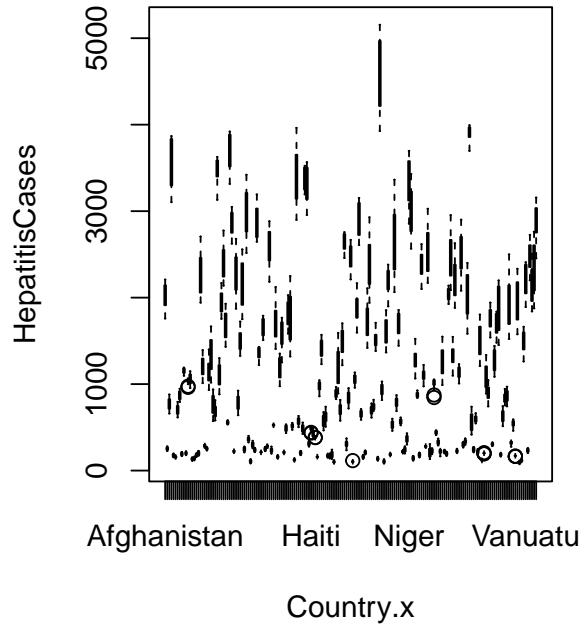


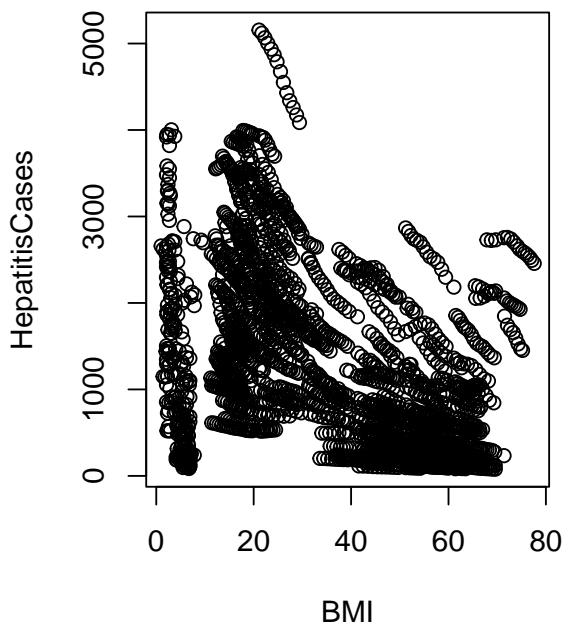
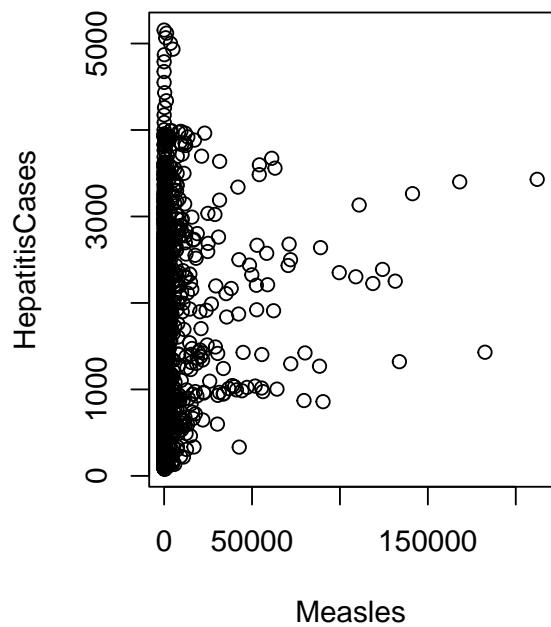
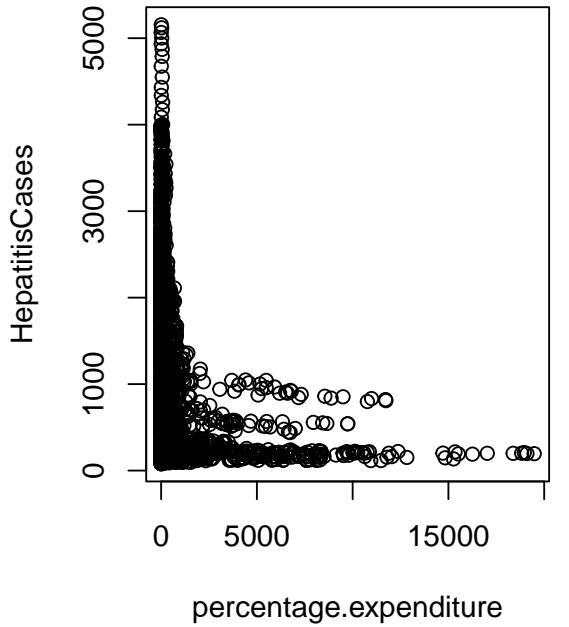
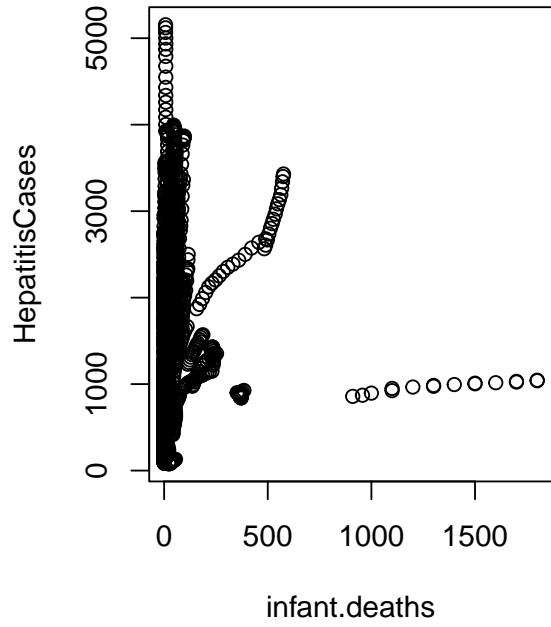


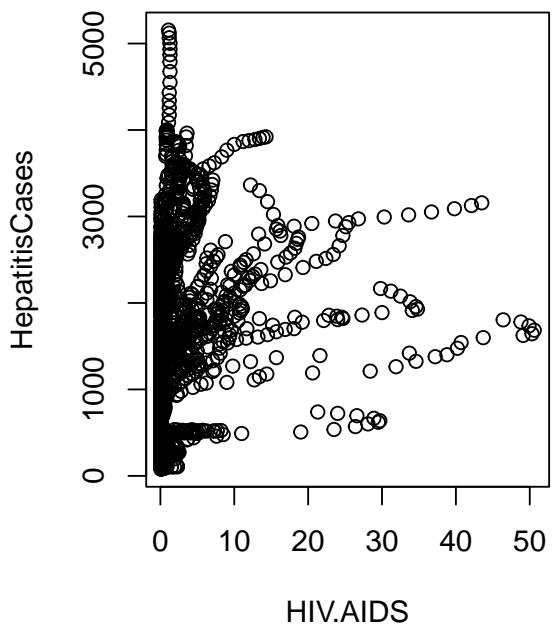
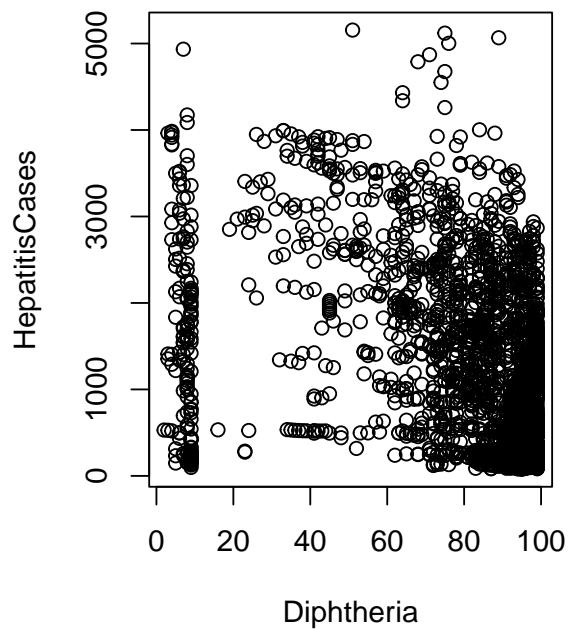
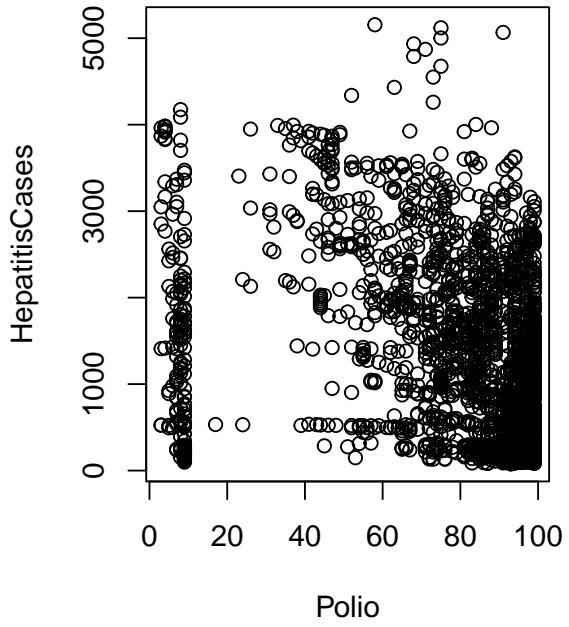
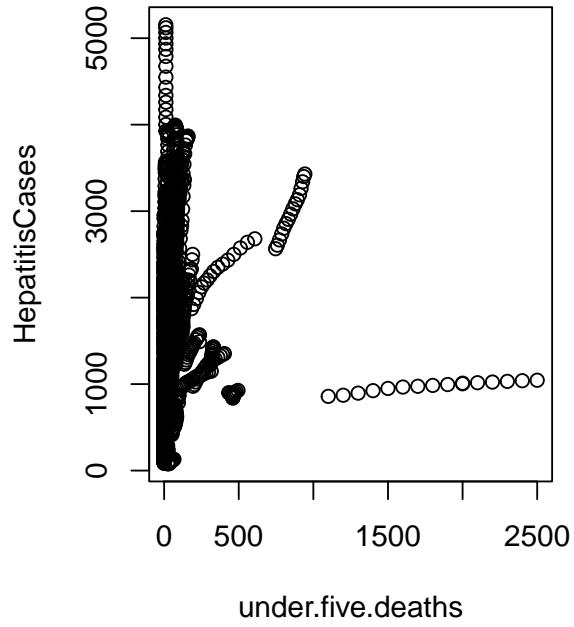
HepatitisB vs all other attributes

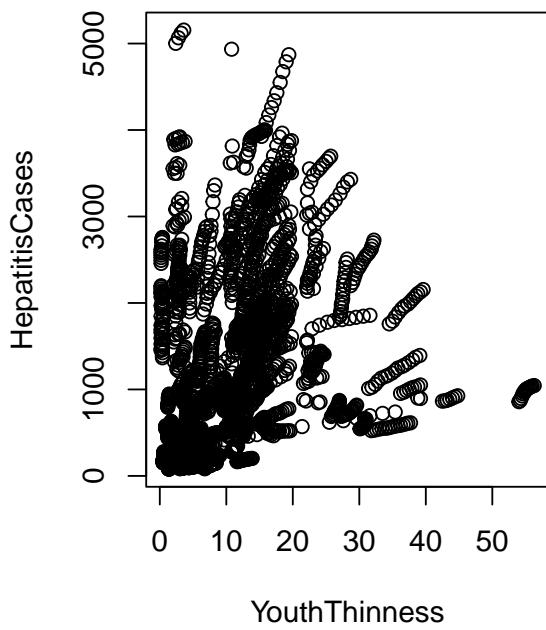
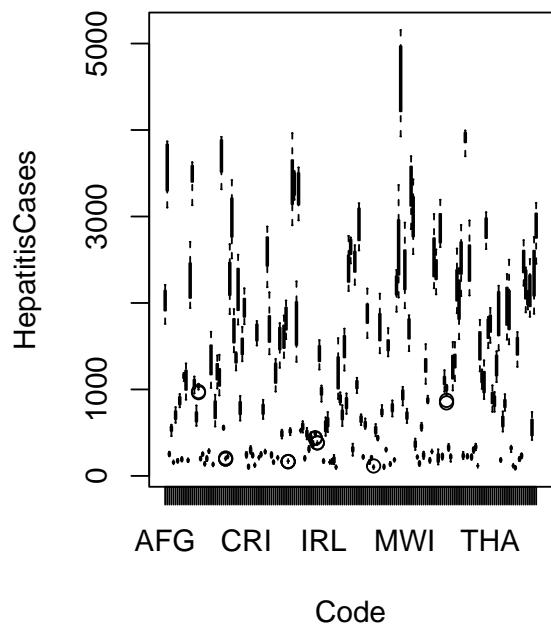
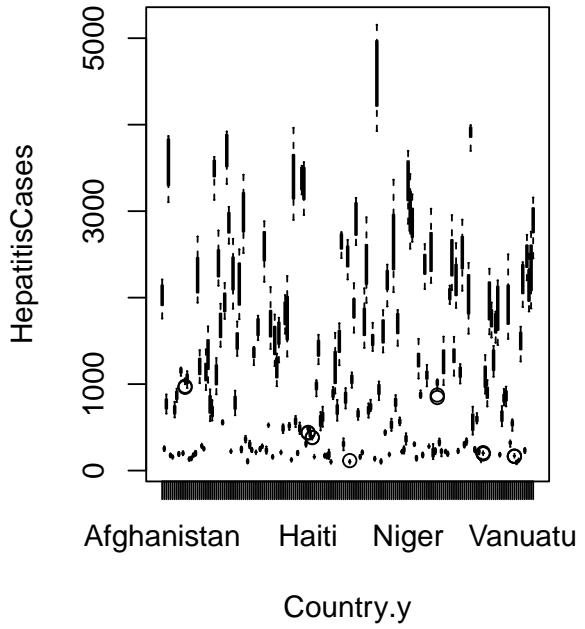
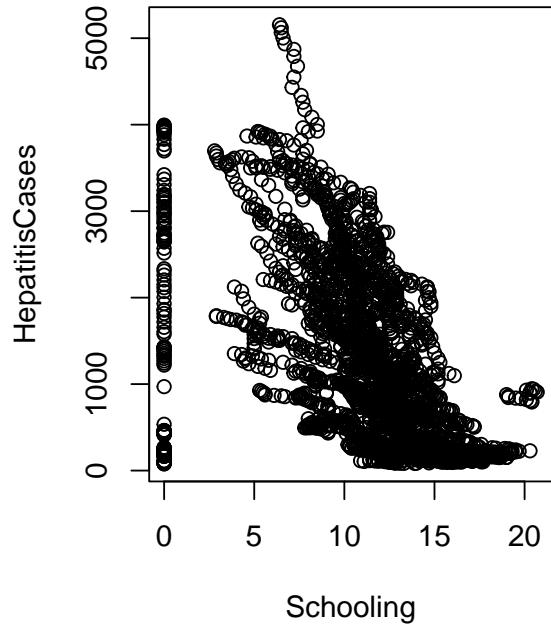
- There is definitely a decrease in hepatitis cases from 2000 to 2018. The mean decreases and so does the standard deviation
- We see again a different mean in developed vs developing. A mean of about 200 in developed to a mean of about 1000 in developing.
- **create a anova to see if it is also statistically significant?**
- Adult mortality and hepatitis do have a linear relationship!
- there is also a negative relationship between life expectancy and measles. The more measles cases the lower the life expectancy the lower or no measles cases lead to higher life expectancy.
- there is also a negative relationship with BMI.
- **there seems to be a relationship, positive, between HIV and hepatitis. we might need to look into it**
- there is a negative relationship between diphtheria and Hepatitis
- **we could look into it**
- schooling vs Hepatitis b have a negative relationship
- youth thinness does have a positive relationship with hepatitis which makes sense





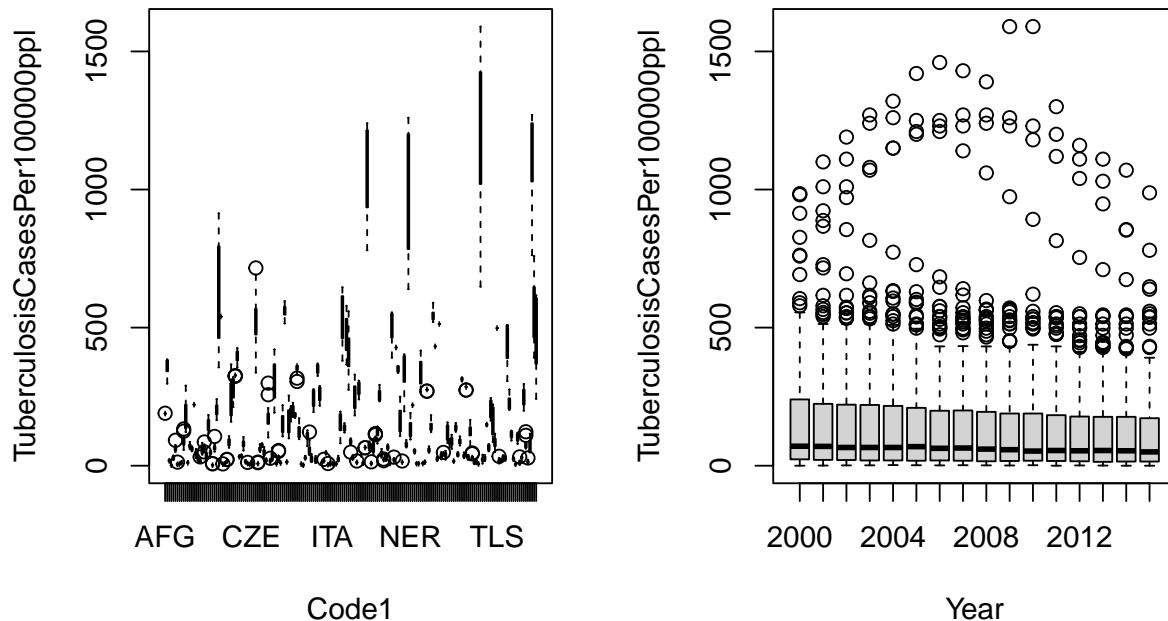


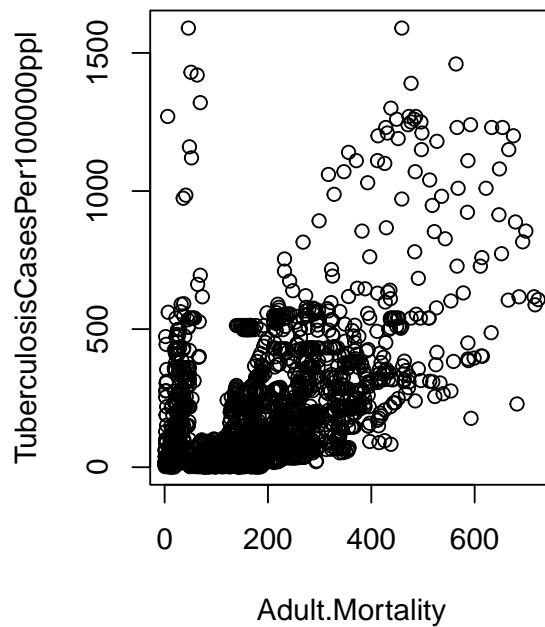
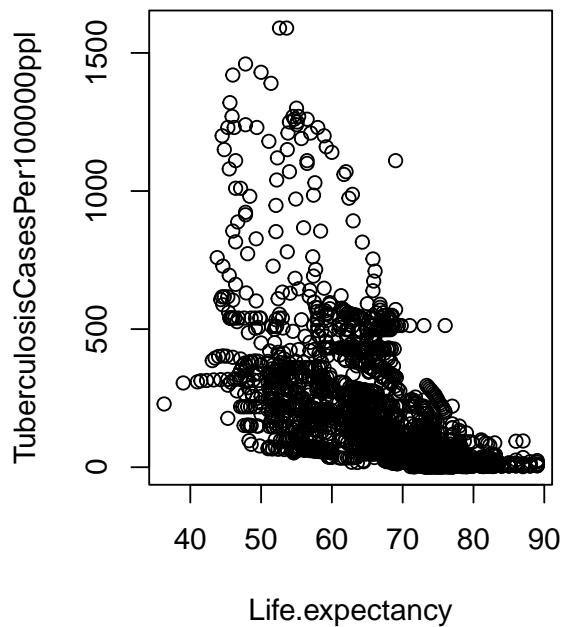
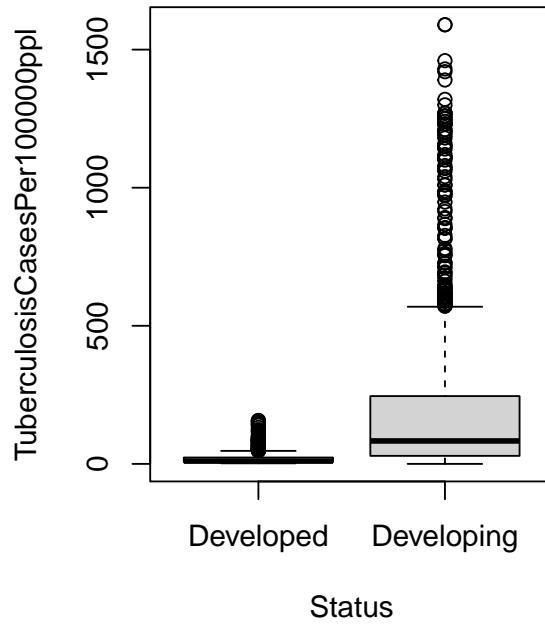
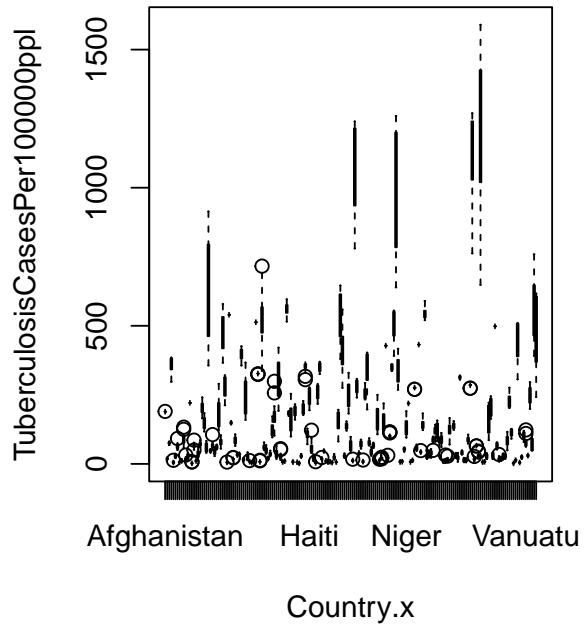


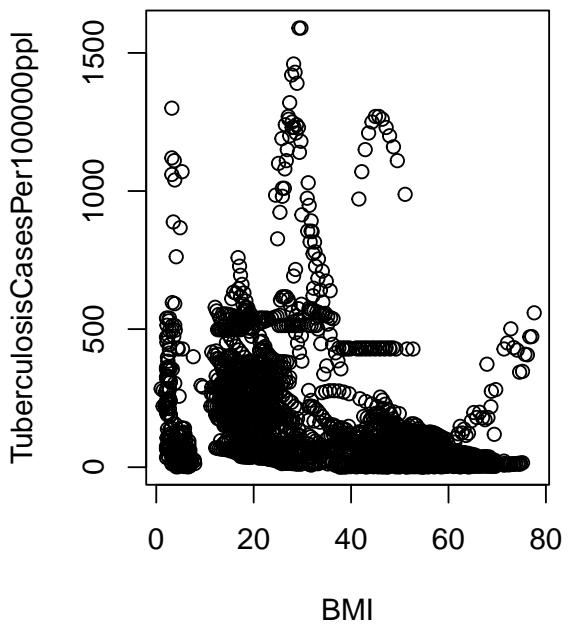
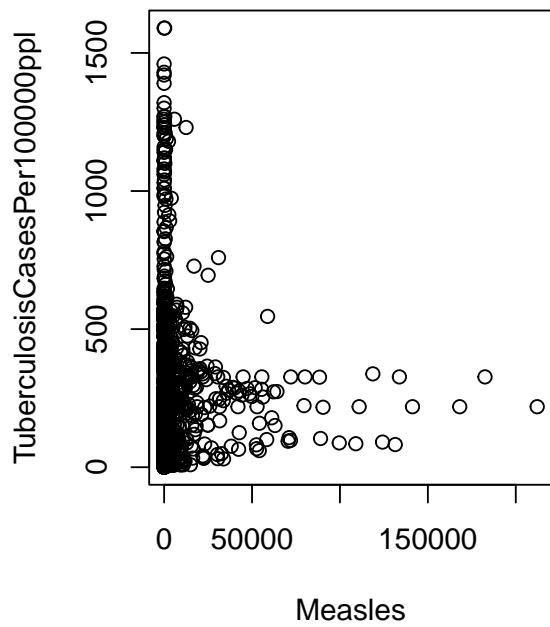
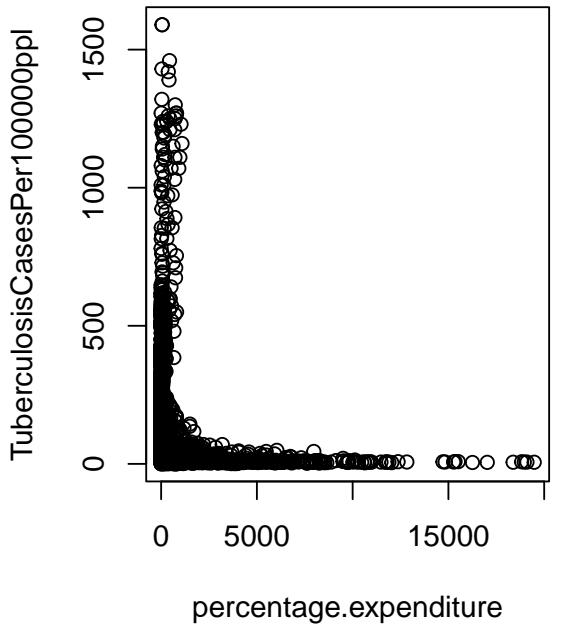
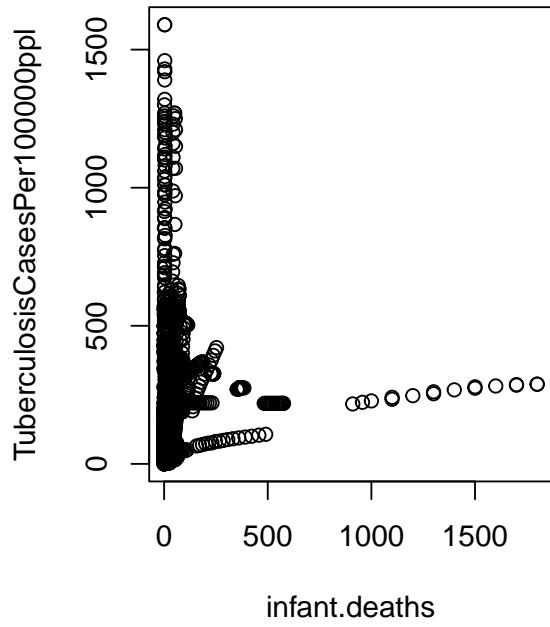


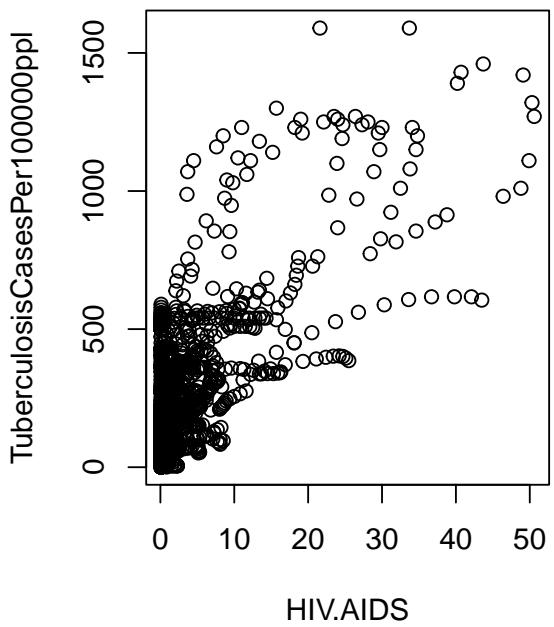
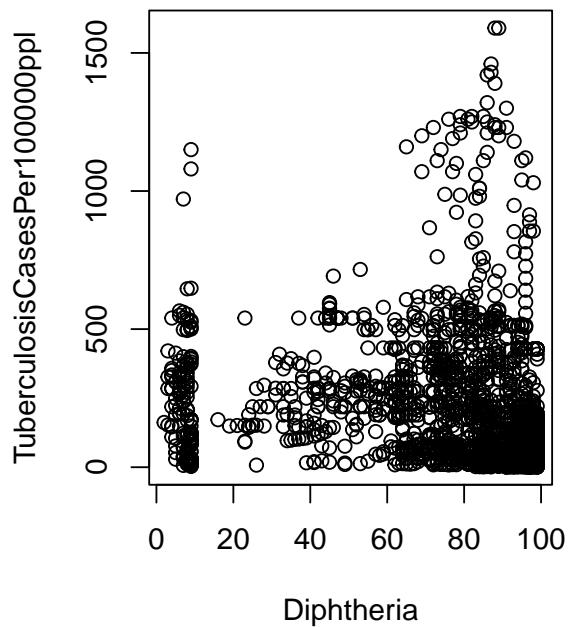
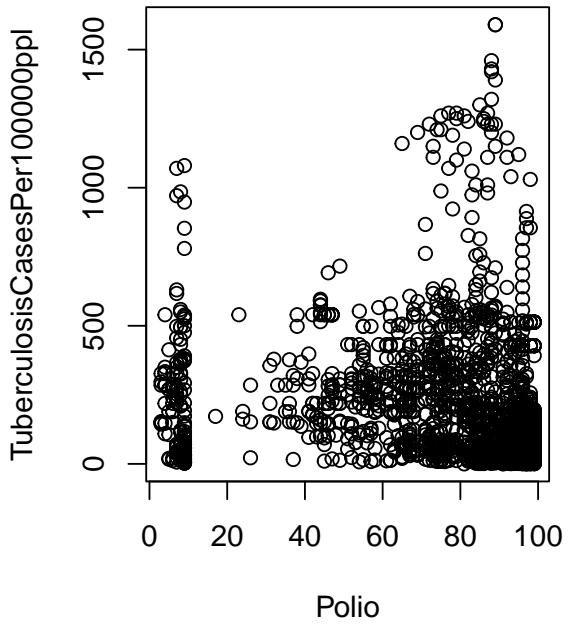
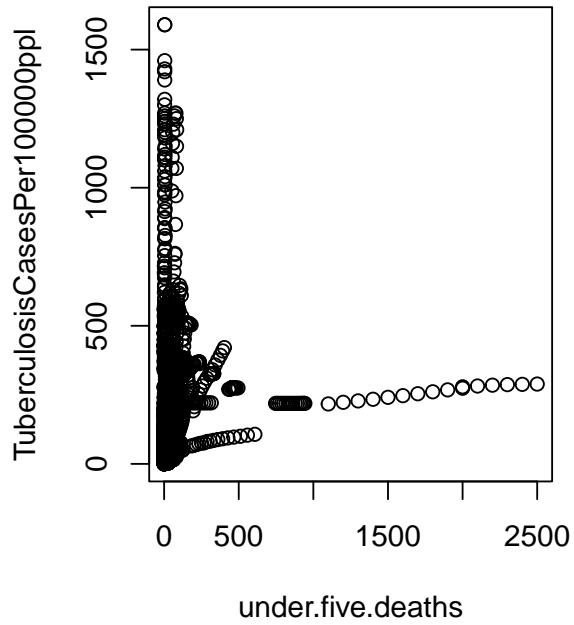
Tuberculosis vs all other attributes

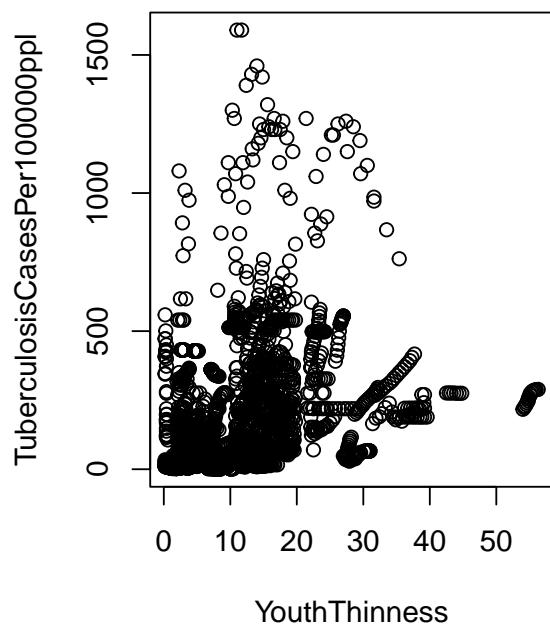
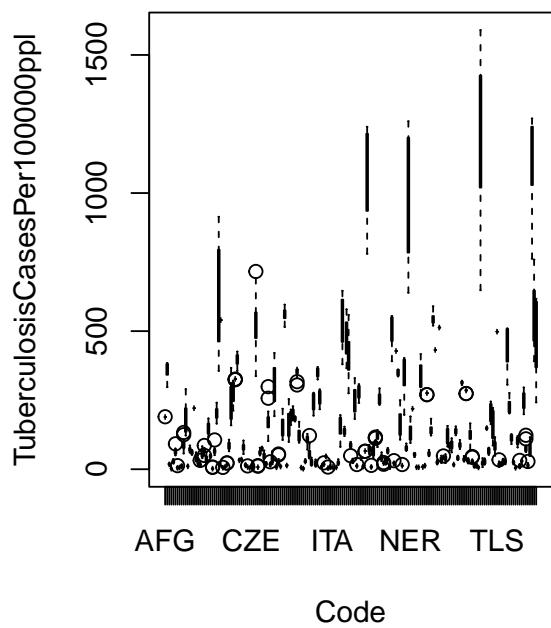
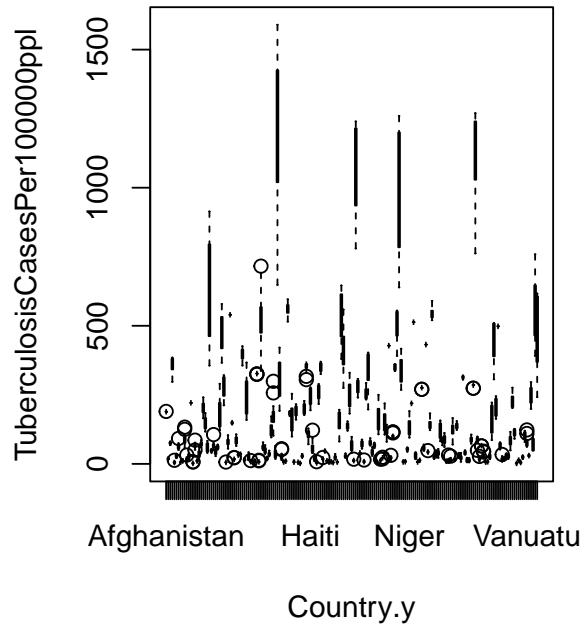
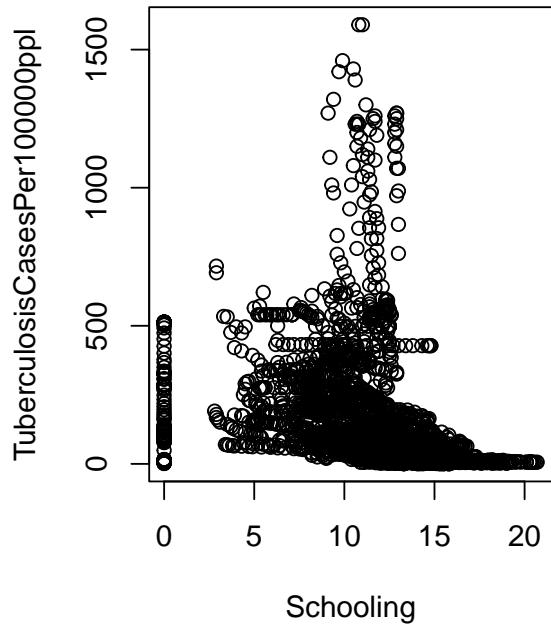
- There is no clear decline of mean deacreas on Tuberculosis per 100000 people crom 200 to 20014.however the range does decreases through the years slightly.
- **need to look if there is a vaccine for tuberculosis or more info on it**
- Developed vs developing has a huge difference the mean in developed is very small. Almos 5 in developed compared to about 20 in developing which is not that much but it has very large outlier and bigger standar devaiation.
- Life Expectancy has a negative relationship with tuberculosis
- adult mortality has a positive relationship with tuberblosis. the more cases he more changes of dying earlier in age.
- **what do you all think of the infant deaths? there seems to be somwhat a small positive relationshio..**
- no relationship with BMI
- inmunitzation of polio vs tuberculosis seem to have a negative reationship
- same for diphtheria nagative relationship with tubercuosis.
- **we might want to look into that**
- Also interesting positive relationship with HIV.AIDS
- **We should look into that.**



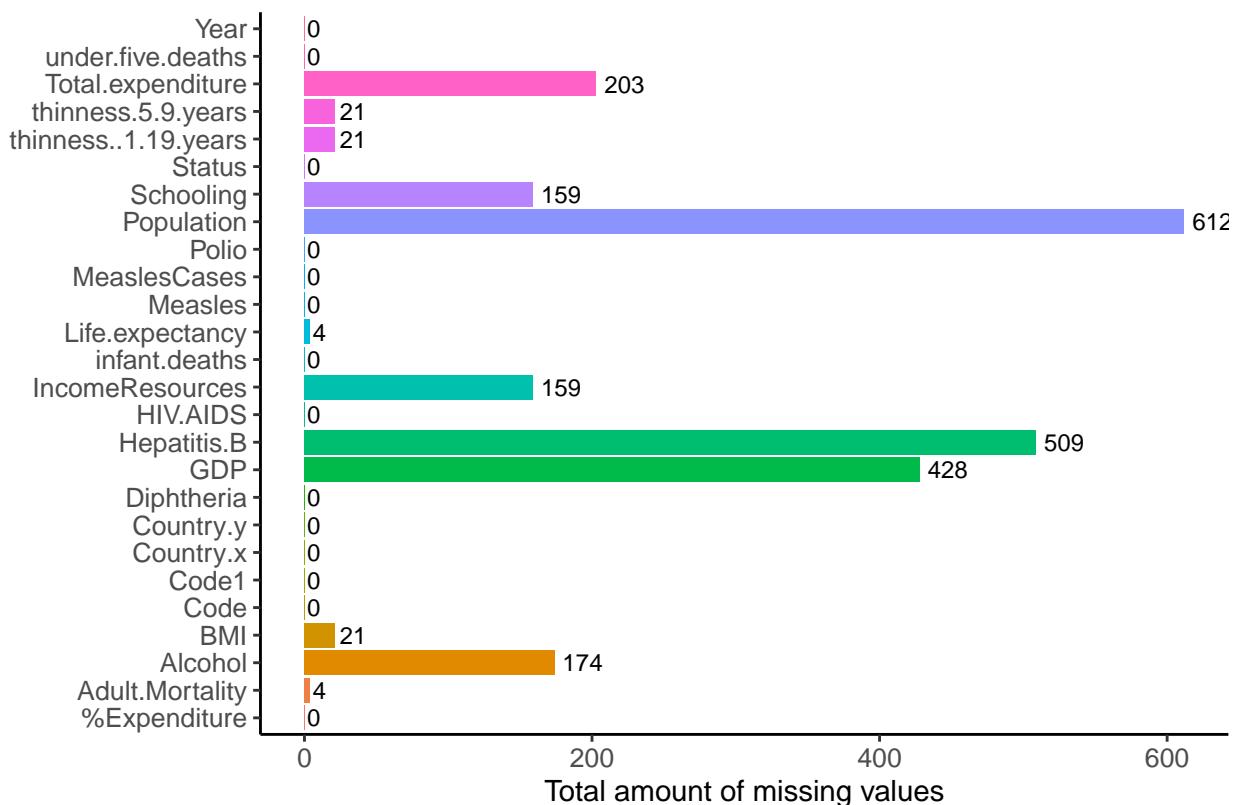




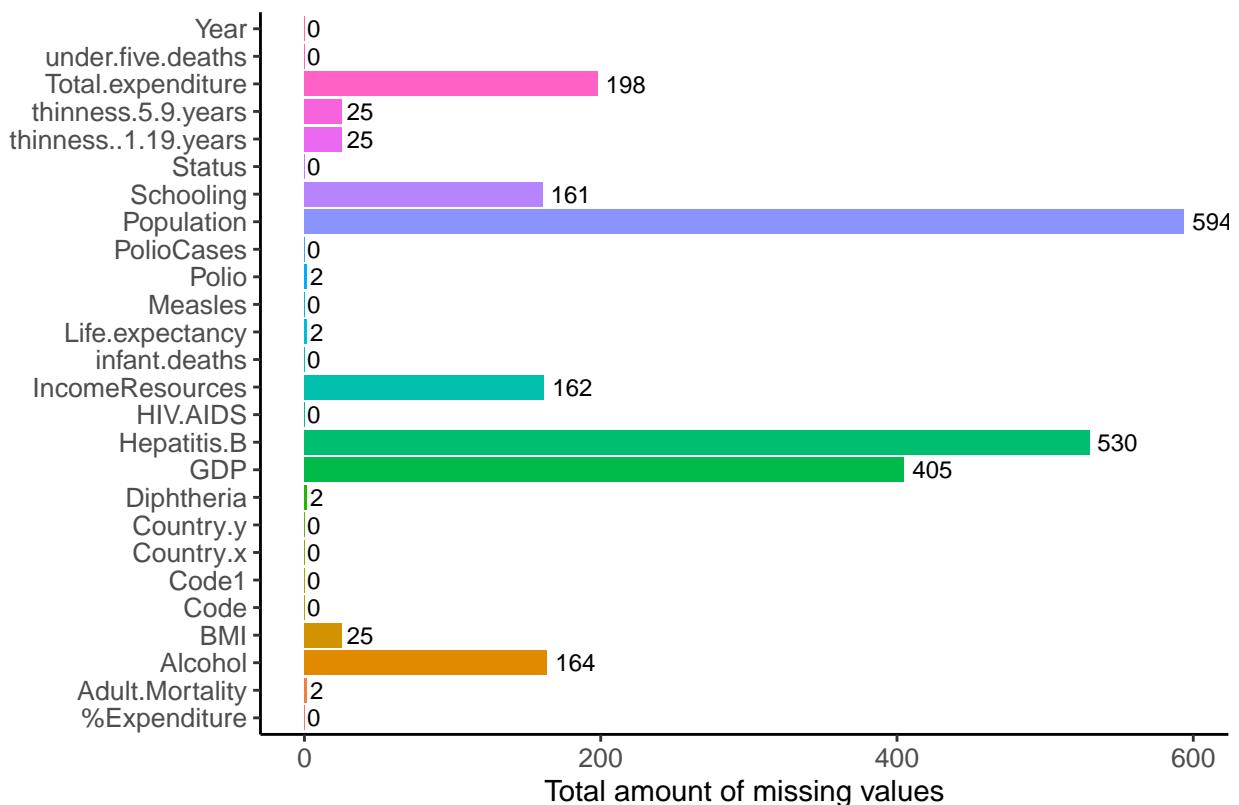




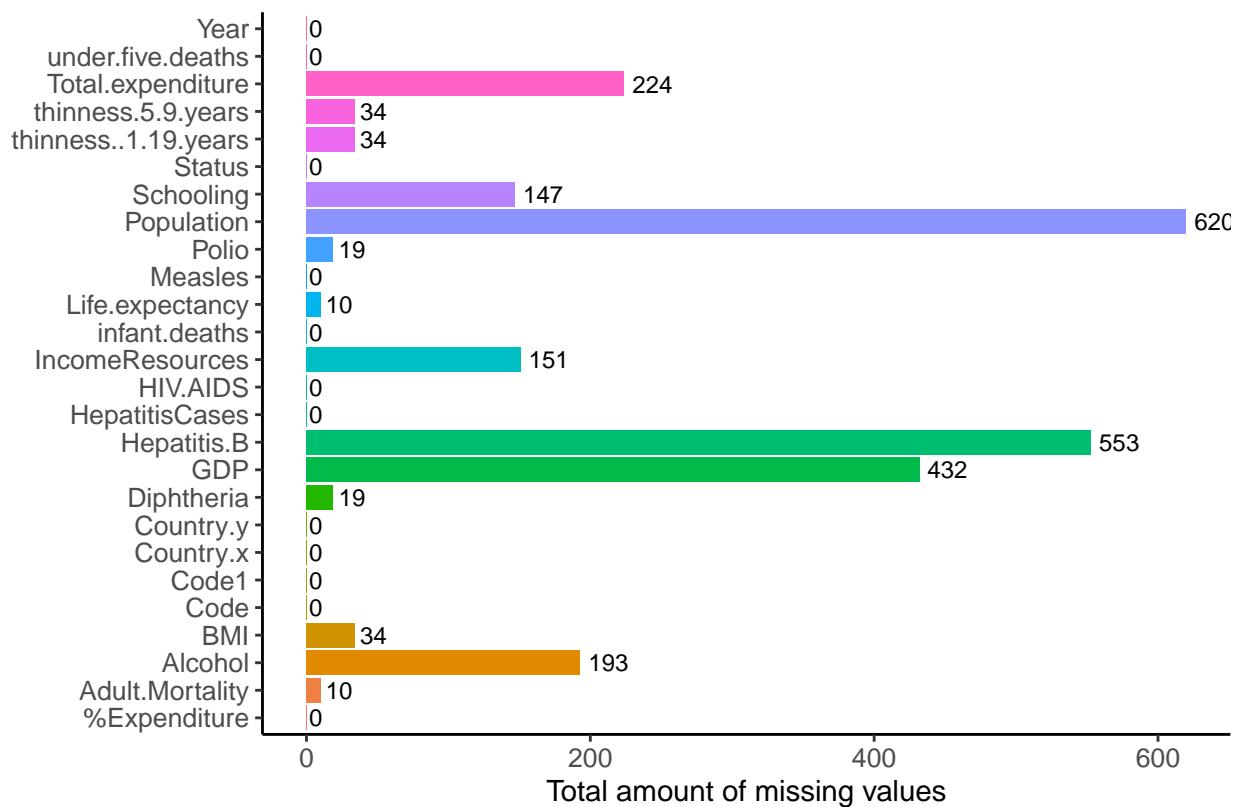
Missing values per variable in Measles data



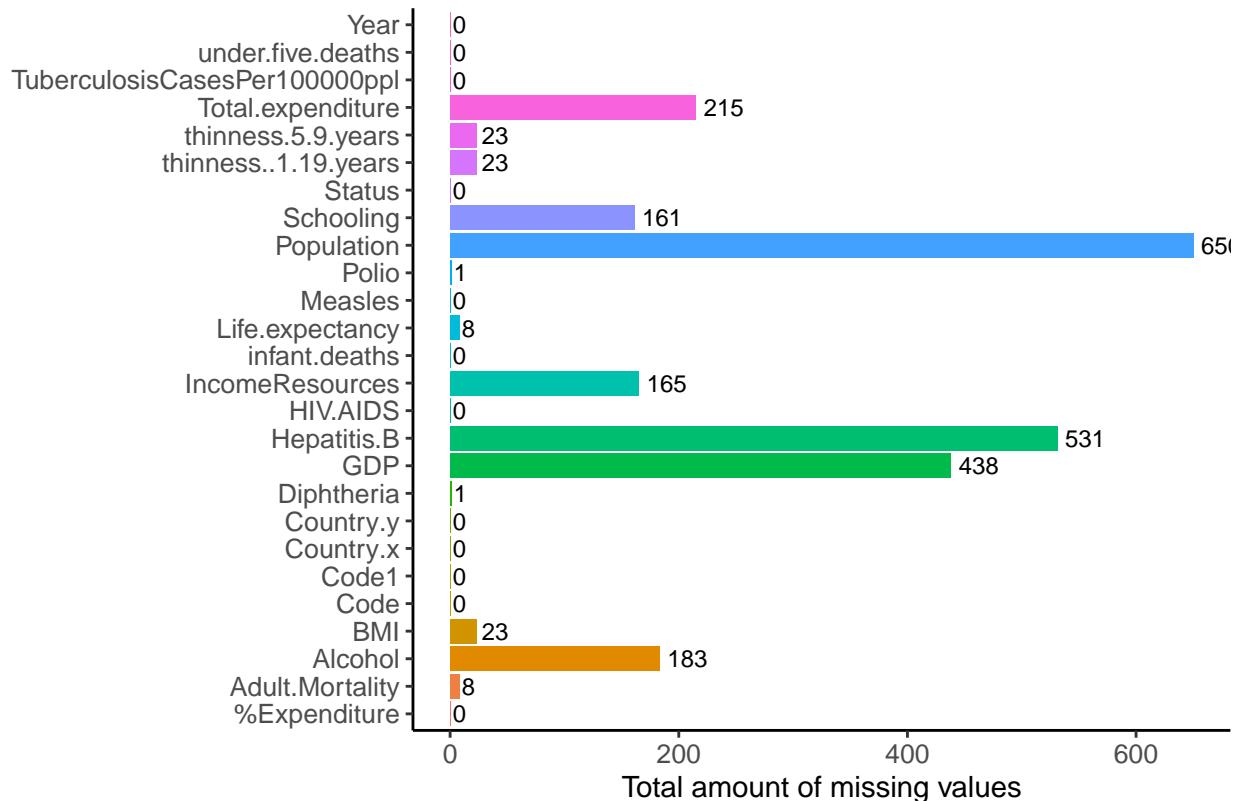
Missing values per variable in Polio dataset



Missing values per variable in Hepatitis dataset



Missing values per variable in Tuberculosis



Developed vs developing

Single data with total cases of each disease per country

- 133 countries without a specific disease
- 114 Polio and 19 Measles

Countries without measles cases Status n missing 19 0

Value Developed Developing Frequency 1 18 Proportion 0.053 0.947

Countries without polio cases Status.x n missing
114 0

Value Developed Developing Frequency 30 84 Proportion 0.263 0.737

```
## `summarise()` has grouped output by 'Country.y'. You can override using the
## `.` argument.
## `summarise()` has grouped output by 'Country.y'. You can override using the
## `.` argument.
## `summarise()` has grouped output by 'Country.y'. You can override using the
## `.` argument.
## `summarise()` has grouped output by 'Country.y'. You can override using the
## `.` argument.
```

```

##          Country.y   Status.x      disease cases
## 1      Afghanistan Developing MeaslesCases 37796
## 2          Albania Developing MeaslesCases    854
## 3          Algeria Developing MeaslesCases 31102
## 4          Angola Developing MeaslesCases 56982
## 5 Antigua and Barbuda Developing MeaslesCases      0
## 6      Argentina Developing MeaslesCases     32

```

Developed vs Developing

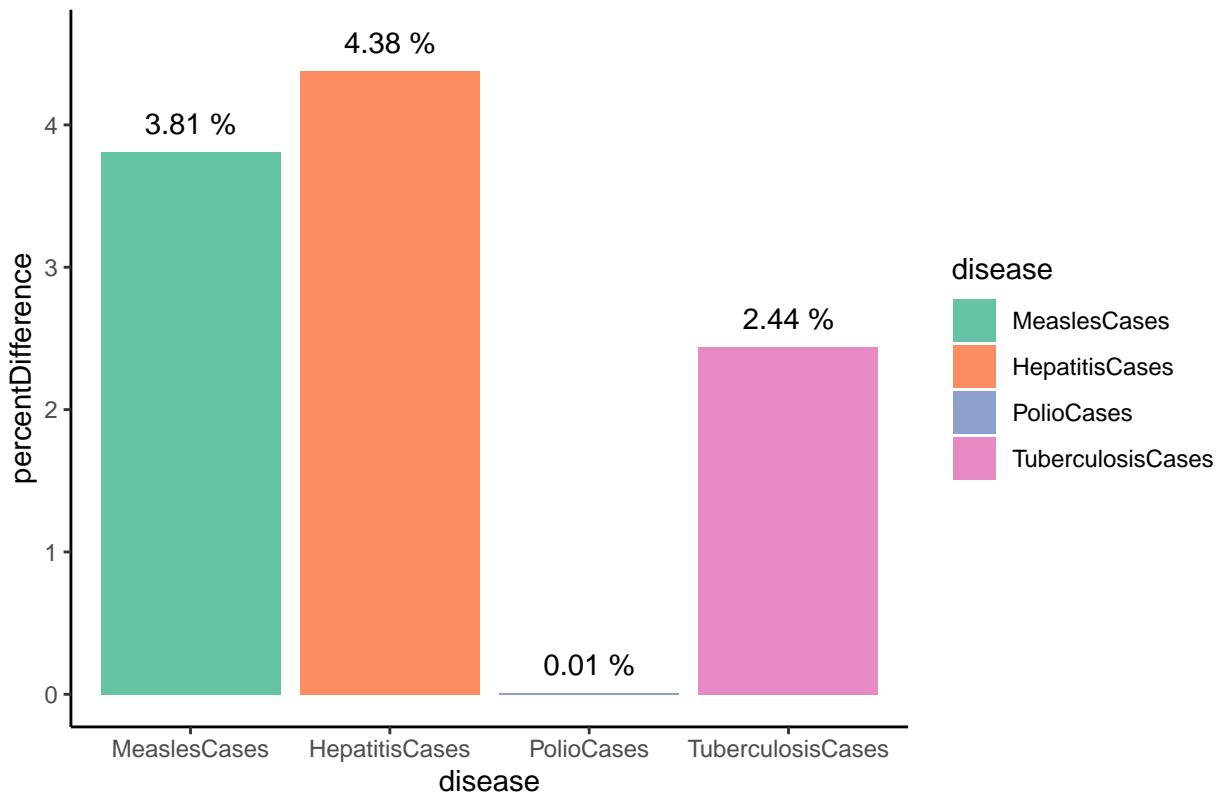
- The data is composed of 17% developed countries and 83% developing
- When filter the data with country disease that is 0 it changes 2%. It changes 15% developed and 85% developing
- All countries in the data had Tuberculosis
- **Out of the Developed countries 97% of the developed countries had Measles cases**
- **Out of the Developing countries 88% of the developing countries had Measles cases**
- **Out of the Developed countries 3% of the developed countries had Polio cases**
- **Out of the Developing countries 43% of the developing countries had Polio cases**
- **Both Developing and Developed Countries had Tuberculosis cases and HepatitisB**
- Now when it come to actual cases in developed vs developing
- **Here is the table of tha actual difference and percentage which is actually not that much**
- polio developed vs developed almost no difference

```

## # A tibble: 4 x 4
## # Groups:   disease [4]
##   disease      Developed  Developing percentDifference
##   <fct>        <dbl>       <dbl>            <dbl>
## 1 MeaslesCases  254111     6660847           3.81
## 2 HepatitisCases 134293.    3064074.          4.38
## 3 PolioCases      2         19813             0.01
## 4 TuberculosisCases 9992.    409470.           2.44

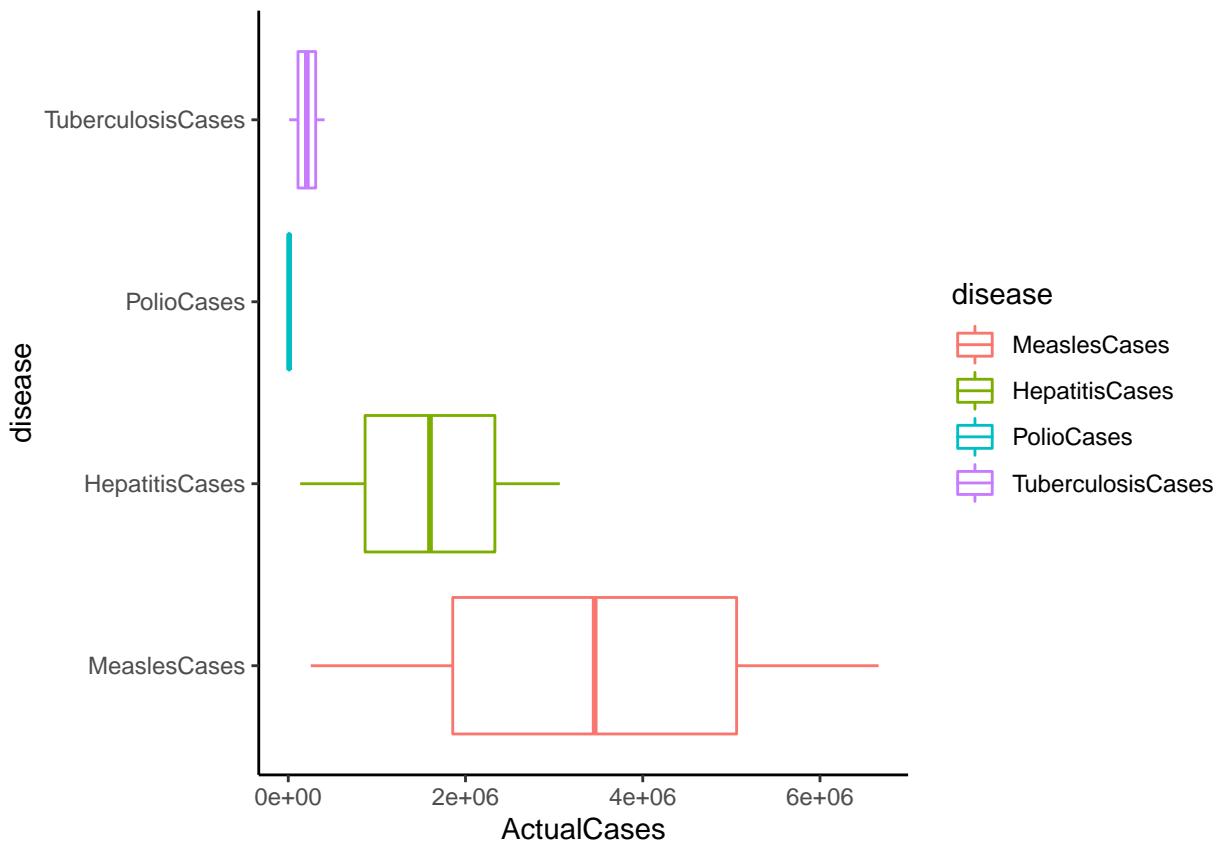
```

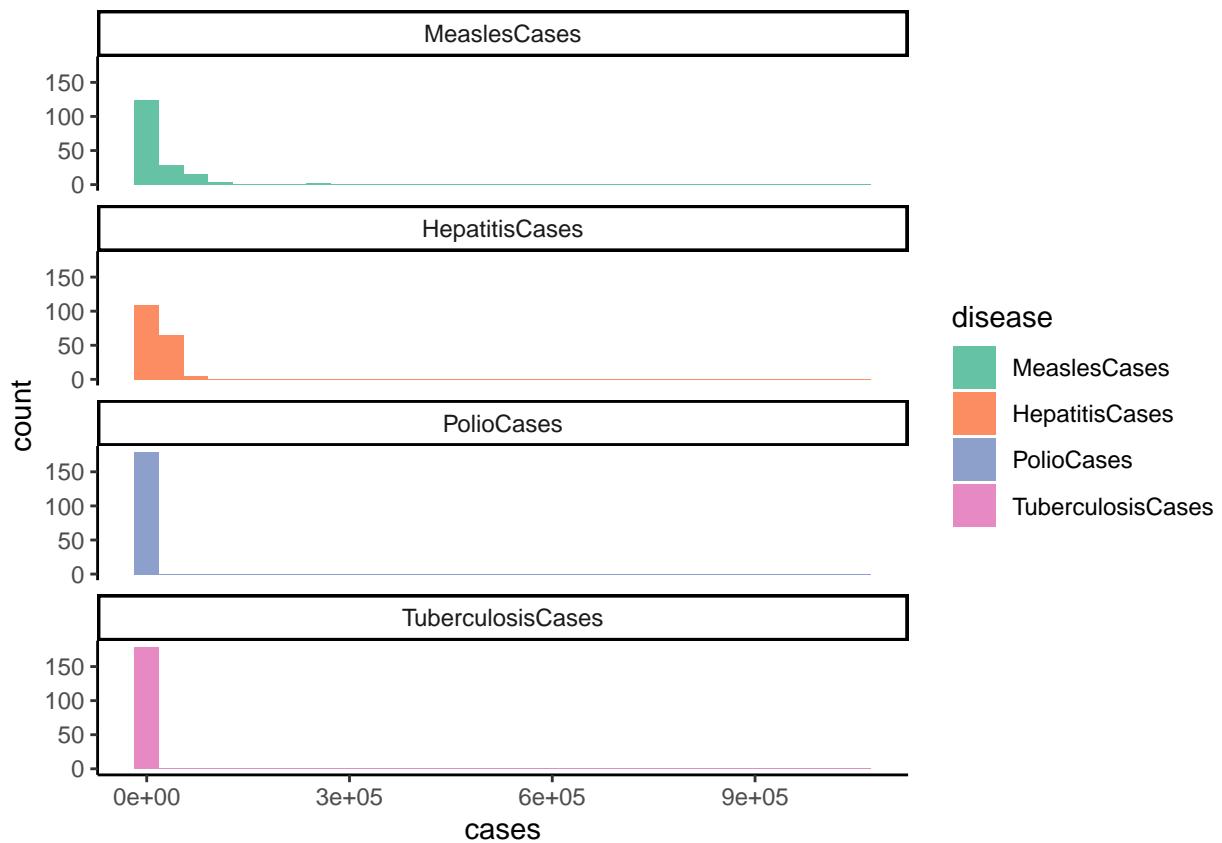
Actual % difference between Developed vs Developing per disease

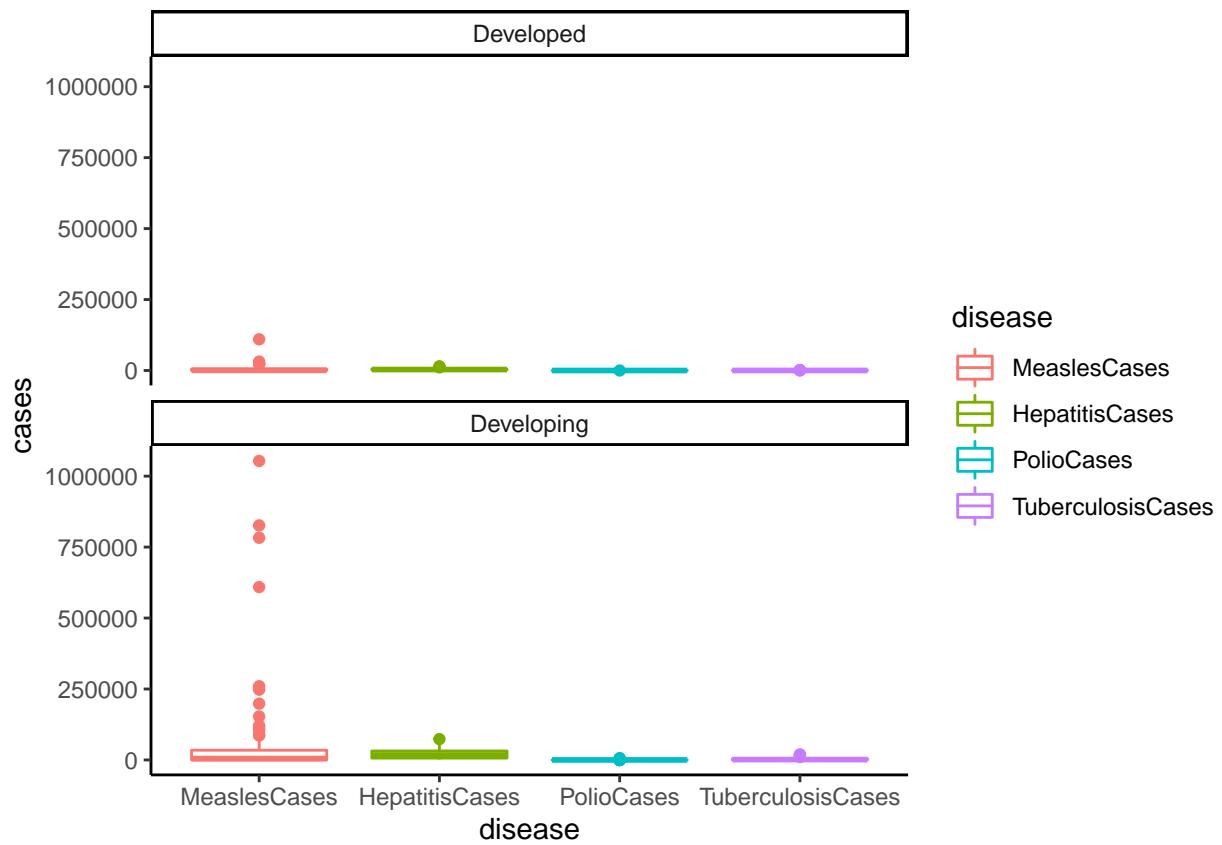


Filter data on Cases vs Status vs Disease and some graphs on it

```
## # A tibble: 8 x 7
## # Groups:   disease [4]
##   disease Status.x TotalCountries CountrieswCase ActualCases NoCases PercentDif
##   <fct>   <chr>      <int>        <int>     <dbl>    <int>     <dbl>
## 1 Measles~ Develop~       31         30     254111     1      97
## 2 Measles~ Develop~      148        130     6660847    18      88
## 3 Hepatit~ Develop~       31         31     134293.     0     100
## 4 Hepatit~ Develop~      148        148     3064074.    0     100
## 5 PolioCa~ Develop~       31          1        2       30       3
## 6 PolioCa~ Develop~      148         64     19813     84      43
## 7 Tubercu~ Develop~       31         31     9992.     0     100
## 8 Tubercu~ Develop~      148        148     409470.    0     100
```







Percent of developed and developing with diseases

