

AI Hack Team 9

We did an analysis on data gathered from South Africa between March and 20 July 2020. Our interest was to use the current data to come up with a predictive model on the number of deaths based on the number of active cases using linear regression.

As you can see from the graph 1 below; there is a difference between confirmed cases and recovered cases which makes up the number of active cases in a particular period.

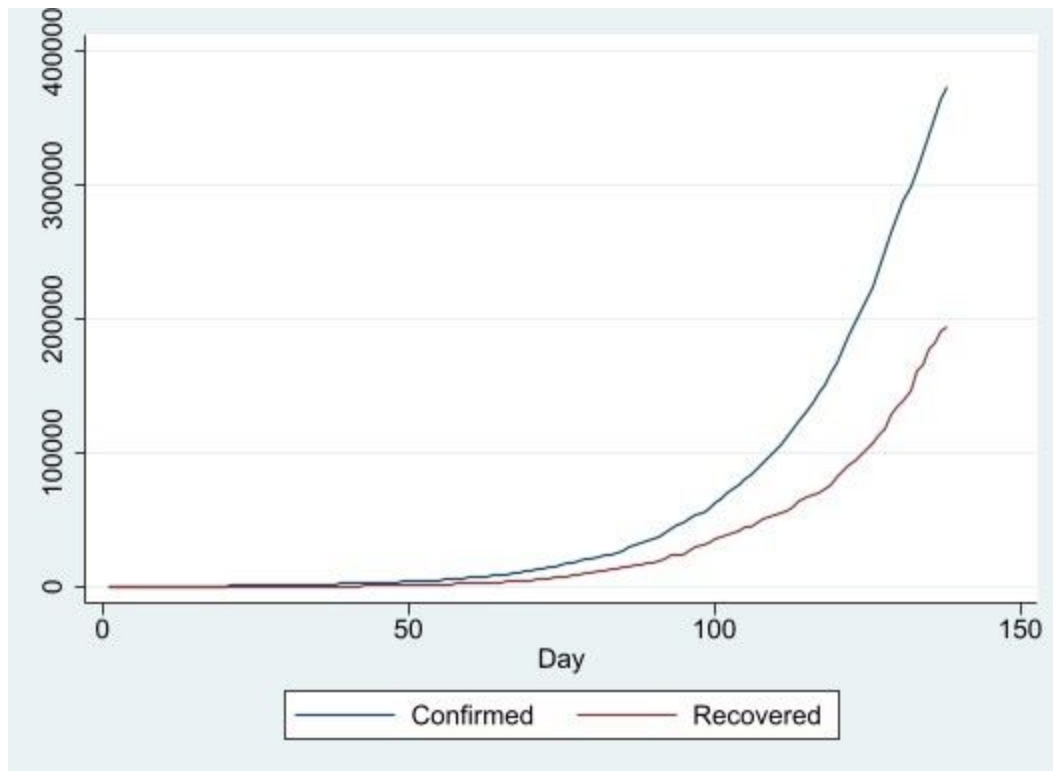


Figure 1

The second graph shows how the active cases vary over days.

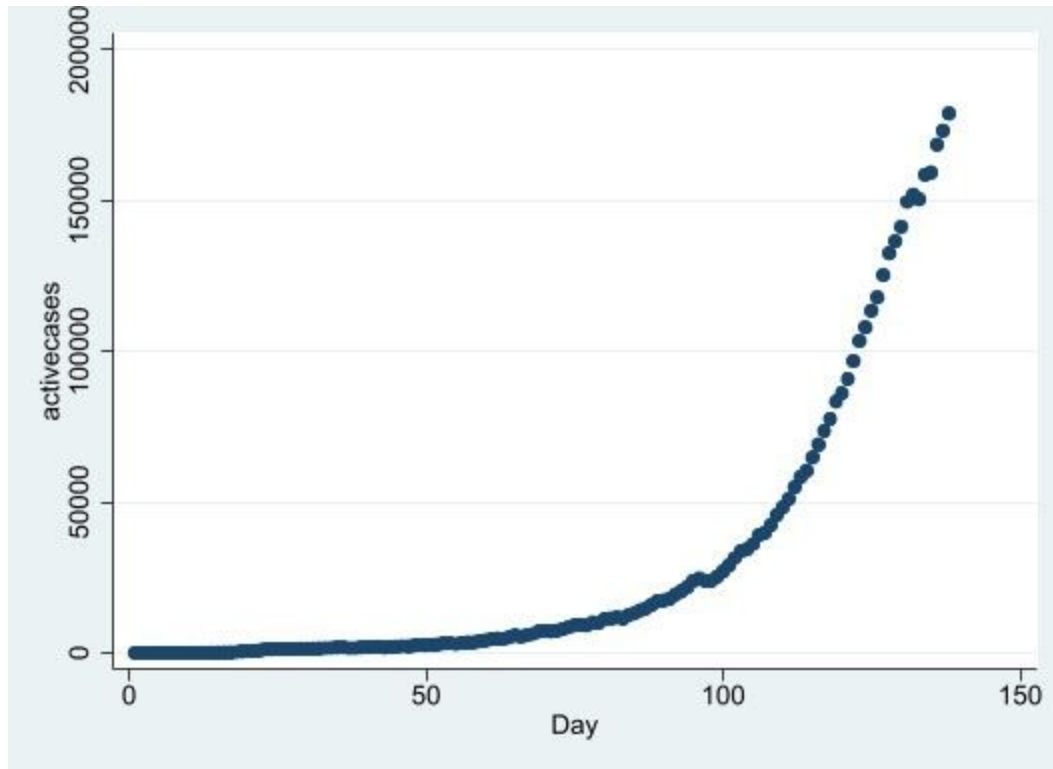


Figure 2.

The third graph, figure 3, shows a scatter plot of the distribution of deaths per number of active cases. The distribution follows a linear distribution and we have put a line of best fit in red. The simple regression model, in figure 4 which is a STATA image, shows that for every increase of active cases by 100 there are three (3) new deaths.

$$\text{Number of Deaths} = 0.03 \text{Active Cases} + 102$$

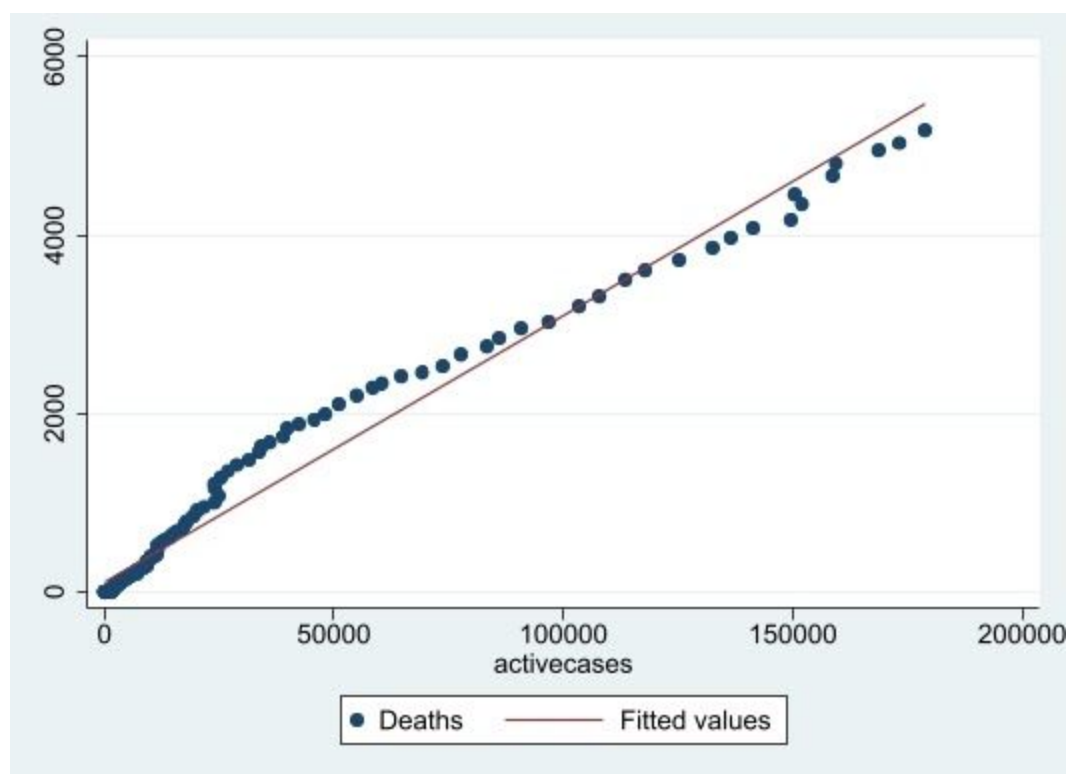


Figure 3.

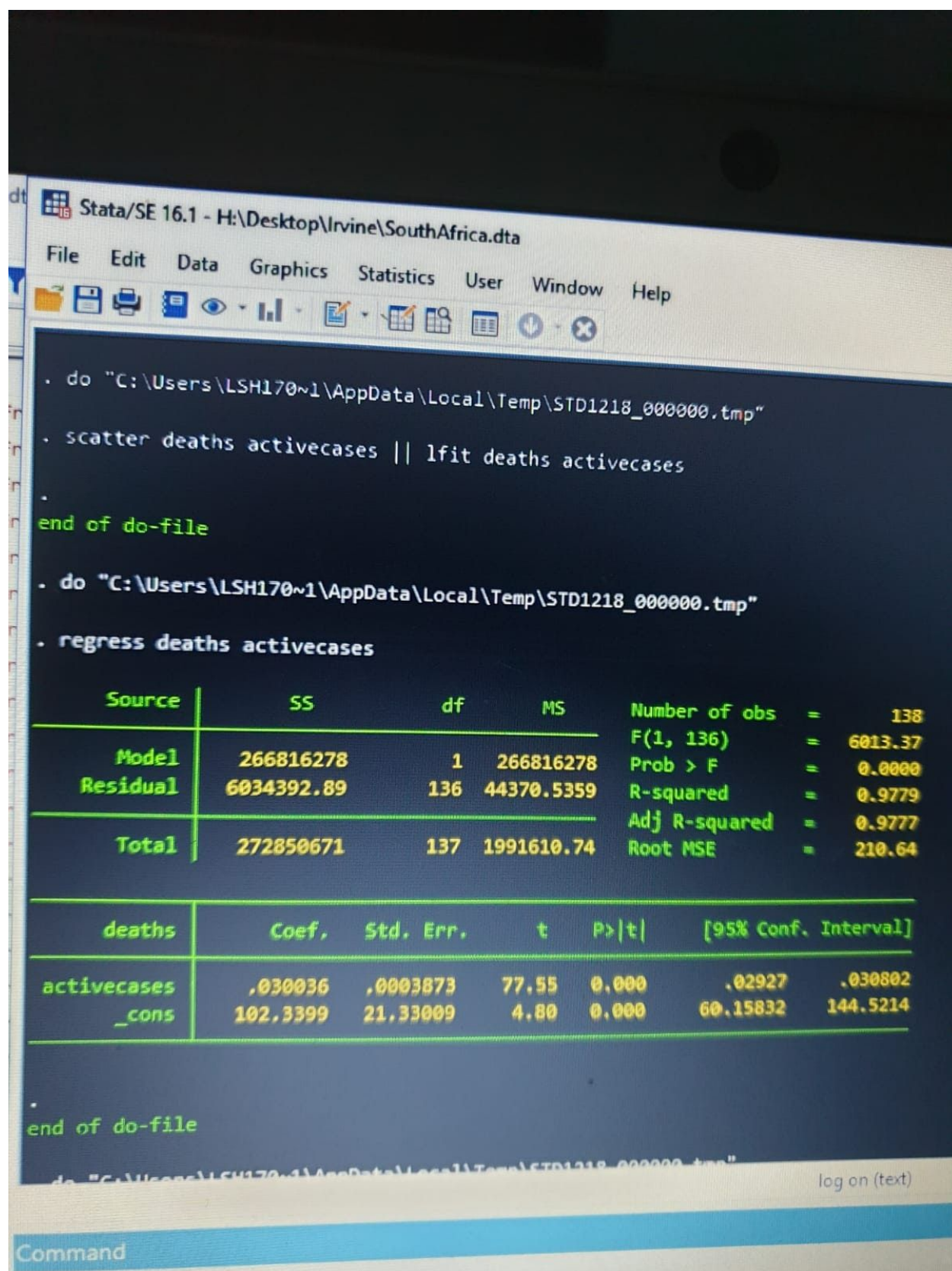


Figure 4

The prediction of the number of deaths expected per increase in the number of active cases is important for policy makers to estimate mortality deaths and the number of critical patients that may need intensive care in hospitals.