

# **DIGITAL MEDICINE PROJECT**

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## **REPORT:**

This was a fun project to do. Approximately took over a month to learn python and ML coding from scratch. I have used scikit-learn to code and these are the steps I took to undertake the following

- Initially I took the data from multiple sources and cleaned it up(normalize) to obtain data for various states and the country
- Then I choose and coded a simple linear regression model for which I set up using scikit-learn and various inbuilt models.
- I then trained the model and then obtained the results given in the Jupyter notebook with reasonable degree or error (compared with economic survey)

All the required graphs and data has been given in the Jupyter notebook.

## **Closing inference:**

This was an extremely eye opening project. According to the model generated, I have found out that India's Population is on a rise and so is the life span of people. This poses a very alarming problem in our country. As seen as a side effect of the current pandemic, we have noticed how India's healthcare system has been stretched to its fullest. Seeing data from the model, it's easy to conclude the current resources what our country has is totally inadequate for the size of our population.

WHO recommends 5 hospital beds per 1000, and right now our country has less than 1. There is a severe lack of important biological equipment's such as MRI scanners and Ventilators and these shortcomings will be further exposed in the future. Longevity is on the rise in our country which is extremely positive but not having adequate resources means this will pose to be an incredible problem. Longer people live more beds are they likely to take up for a longer time, which further the target of 5 beds per 1000. Another alarming fact is that number of doctors per 1000 is also extremely low in India compared to the norm, and trends show the rate of increase in doctors per 1000 is inadequate at the moment

The basic area to be tackled at the minute would be increasing the number of beds and doctors per 1000. But merely increasing these two wouldn't suffice. Furthermore, number of hospitals per districts should be increased to tackle India's inadequacies in health sector. Furthermore, India today had a million intensive care unit (ICU) beds, with as many ventilators, instead of less than 100,000, and the talent to run these, India could have probably avoided a prolonged lockdown and merely relied on testing, quarantine and treatment of those who required hospitalization. The disease could have spread and produced herd immunity. And the extensive, possibly tragic, loss of livelihoods that we are today struggling to overcome could have been avoided.

India needs to develop an efficient system of pooling and pre-paying the cost of healthcare for the entire population. The coronavirus has performed one useful service. It has demolished the myth that the elite in their penthouses can stay insulated from the ugliness that is life for the bottom 40% of society. We have seen the only insulation against germs is sanitation.

Hence we can conclude from all the evidence provided and the output taken from the model that smart investment in India's healthcare sector is a pressing need for our ever growing and ageing population.