**Prediction of New Confirmed COVID-19 Cases Using a Multiple Linear Regression Model**

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Source Code: [github.com/JackOfSpade/COVID\_Regression\_Analysis](https://github.com/JackOfSpade/COVID_Regression_Analysis) (rename repo to better name later)

## Abstract

aa**Introduction and Aims**

The COVID-19 pandemic originated from the city of Wuhan of China has highly affected the health, socio-economic and financial matters of the different countries of the world. India is one of the countries which is affected by the disease and thousands of people on daily basis are getting infected. In this paper, an analysis of daily statistics of people affected by the disease are taken into account to predict the next days trend in the active cases in Odisha as well as India.

**Material and methods**

A valid global data set is collected from the WHO daily statistics and correlation among the total confirmed, active, deceased, positive cases are stated in this paper. Regression model such as Linear and Multiple Linear Regression techniques are applied to the data set to visualize the trend of the affected cases.

**Results**

**1. Introduction**

[Go to:](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7395225/)

The aim of this research is to determine the cumulative amount of vaccine doses needed to be administered such that the daily new confirmed COVID-19 cases is no more than of the population. According to University of Missouri Health Care, “herd immunity would require around 90% of the population to have COVID-19 immunity, either through prior infection or vaccination.”2 As such, we cannot have more than 10% of the population with active COVID-19 cases at any given time. According to Centers for Disease Control and Prevention, the average COVID-19 case lasts about 2 weeks (14 days).3 Thus, we arrive at our daily new confirmed COVID-19 cases target of of the total population.

**2. Materials and methods used**

[Go to:](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7395225/)

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We standardize to per million to make future comparisons with other countries with different populations easier

**Differences in the population size between different countries are often large – it is insightful to compare the number of confirmed cases per million people.**

**Introduction and Aims**

**3. Results**

[Go to:](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7395225/)

a**Introduction and Aims**

**4. Discussion**

[Go to:](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7395225/)

Flaws:

* Vaccine does not protect 100%, the different cultural norms may influence the effectiveness of the model.

Derivations:

The average vaccine investment per person in USD to achieve a

**5. Conclusion**

[Go to:](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7395225/)

aa**Introduction and Aims**

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**Declaration of competing interest**

None to declare.

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