DATA SCIENCE REPORT: U.S. State Prioritization for Covid-19 Resource Allocation

CONTENTS

Contents	1
Glossary of terms	2
1 Introduction	3

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GLOSSARY OF TERMS

COVID-19 Corona Virus Disease of 2019

WHO World Health Organization

JHU CCSE Johns Hopkins University Center for Systems Science and Engineering

NHC National Health Commission of the People's Republic of China

CCDC China Centre for Disease Control

ECDC European Centre for Disease Prevention and Control

MOH Ministry of Health Singapore

CDC Centre for Disease Control

U.S.A. United States of America

1 Introduction

A rapidly spreading global pandemic, COVID-19, has vexed the world from December 2019. According to the World Health Organization (WHO), "Coronavirus disease (COVID-19) is an infectious disease caused by a new virus. The disease causes respiratory illness (like the flu) with symptoms such as a cough, fever, and in more severe cases, difficulty in breathing. Coronavirus disease spreads primarily through contact with an infected person when they cough or sneeze. It also spreads when a person touches a surface or object that has the virus on it, then touches their eyes, nose, or mouth."

There is currently no vaccine to prevent coronavirus disease (COVID-19). To date more than 3,600,000 people have been affected globally and more than 250,000 have died globally. This study will focus on the period 22 January 2020-30 April 2020. (data source: John Hopkins).

Each country now has the mandate to allocate available resources to mitigate effects of the pandemic at different levels which include prevention and treatment measures with the primary objective of saving lives.

When a pandemic hits the world, there are seldom enough resources to minimize the negative effects in affected locations. There is critical need to prioritize resource allocation based on effects emerging in different communities battling the pandemic.

This study aims to produce a list of top 5 US states to be prioritized for each measure of response in dealing with the Covid-19 pandemic in the United States of America. This will enable the U.S. CDC and COVID-19 response teams to focus on and fully support states which are struggling to mitigate effects of the disease and successfully slow down its spread.

Study Objectives

This study was carried out to investigate which U.S. states must be prioritized in the allocation of COVID-19 resources. Specific focus was made to establish the following:

- 1. What is the extent of COVID-19 cases globally?
- 2. What is the extent of COVID-19 cases in the U.S?
- 3. What other factors are contributing to the spreading and death from COVID-19 in the US?
- 4. What is working elsewhere in mitigating effects of the COVID-19 pandemic?
- 5. Which U.S. states must be prioritized for COVID-19 resource allocation and why?