

Spread of COVID-19 in Mumbai

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1 Introduction

1.1 Context

Mumbai, formerly known as Bombay, is the capital of the state of Maharashtra in South Western India. It is known as the financial capital of India. Mumbai is one of the densely populated cities in the World with a population of approximately 12 million as per the 2011 census. Mumbai's population is approximately 20 million as per the estimate of United Nations in 2018. Mumbai has a tropical climate with the monsoon season spanning between June and September. It is a vibrant city with several places of interest ranging from Beaches to places of worship to famous monuments. It has thousands of restaurants serving a variety of food across the city. Mumbai has an excellent public transportation system with a successful Bus and Suburban railway network covering the width and breadth of the city.

Maharashtra has the highest number of COVID-19 Positive cases among all the states in India as of September 2020 and Mumbai is one of the top cities in India in terms of number of Positive cases.

1.2 Problem

Mumbai is a densely populated, well connected city from within and outside of the state and the country with an agile and active life style and is one of the cities that has seen a consistent growth in COVID-19 cases over the last many months. The objective behind this exercise is to understand how the COVID-19 Positive cases have spread across Mumbai and the relationship the same has with various elements like venues of interest to people, geographical and population related parameters with the goal of arriving at few observations and high level insights that may be of help in fine tuning the actions being taken by the Government in combating this disease.

While there may not be a direct business outcome, this exercise would be of interest to the Government including the Municipal Corporation of Greater Mumbai and will relate to health and socio-economic welfare of the residents.

2 Literature Review

Studied some material available on COVID-19 and its impact on Mumbai and referred below are few articles and papers in this regard :

1. [The COVID-19, Migration and Livelihood in India A Background Paper for Policy Makers International Institute for Population Sciences, Mumbai The COVID-19, Migration and Livelihood in India](#) by R. B. Bhagat, Harihar Sahoo, Sahoo Archana and K Roy
studies the impact of COVID-19 on migrant workers in large Indian cities including Mumbai.
2. [Why Mumbai Was & Is India's Worst Covid Hotspot](#) by Kunal Purohit

covers how Mumbai has been impacted by COVID-19 and cites some of the challenges faced by few individuals.

3. [COVID-19 Awareness Among Healthcare Students and Professionals in Mumbai Metropolitan Region: A Questionnaire-Based Survey](#) by by Pranav D. Modi , Girija Nair, Abhay Uppe, Janhavi Modi, Balaji Tuppekar, Amit S. Gharpure, Deepak Langade

This study assesses the awareness of COVID-19 disease and related infection control practices among healthcare professionals and students in the Mumbai Metropolitan Region.

4. [India coronavirus: 'More than half of Mumbai slum-dwellers had Covid-19'](#)

A survey found that more than half the residents of slums in three areas in Mumbai tested positive for antibodies to the coronavirus.

The material referred to above covers COVID-19 in detail and the impact on people and practices being followed. This submission is a complementary work and focuses more on understanding how the COVID-19 Positive cases have spread across Mumbai and the relationship the same has with various elements like venues of interest to people, geographical and population related parameters. We conclude by arriving at few observations and high level insights on clusters created by pooling wards that exhibit similar characteristics.