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The War of United States of America with COVID-19

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ABSTRACT

Aim: The objective of this research is to explore the current state of COVID-19 pandemic at the United States of America and understand how the COVID-19 spread across various states in the country and the possible influencers to the highest number of positive cases and mortality rates. The secondary aim of the research is to predict the confirmed cases and death rates for the forthcoming days for the USA. **Sample, Technique and Methods:** For this research, we have used the data from 20 January 2020 to 17 July 2020. For forecasting the number of COVID-19 cases for the United States America, we have used FORECAST.ETS function in Microsoft Excel. The prediction calculated till 31 August 2020.

Results: From the forecasting analysis for the United States of America, by the end of August, as on 31 August 2020, the number of cumulative confirmed cases may reach up to 6419049 (64.2 lakhs). If the situation is good, it can be controlled at 5888853 (58.8 lakhs), and it may go up to 6949245 (69.4 lakhs) if the scenario goes bad. By 31 August 2020, the number of cumulative death cases may go up to 166945 in the typical scenario, and however, it may reach up to 202566 if the COVID-19 situation goes wrong due to various reasons.

Conclusion: There are numerous combined initiatives from the government authorities to control, treat and prevent COVID-19 at the United States of America. But still, the number of confirmed and death rates are increasing in an uncontrolled manner since it is identified in the USA. Various countries have managed the COVID-19 situation better. The USA needs to interact and learn the best practices from the nations who were able to control better. Forecasting is a powerful tool in the pandemic management which needs to be formulated strategically.

Key Words: COVID-19, Coronavirus, Positive cases, Forecasting, Mortality rate.

FACTS AND FIGURES: THE USA

“The United States of America is a federal constitutional republic with 50 states and one central district (figure 1). It is almost located on the North American continent with Washington D.C. as the capital. Because of its global influence, let it be political, economic, military and cultural, the USA is often labelled the world's superpower since the break of the Soviet Union. The USA has a total population of about 325 million people and at the third most populous country in the world next to India and China. The continuous immigration has resulted in an ethnically diverse population. Though there are multi-ethnic societies, racial discrimination is a frequent problem in the USA. Though Barack Obama selected as the first black president of the

USA, which is a historical milestone, however, race and ethnicity remain an issue. The USA economy is the largest in the world. In 2017, the GDP of the USA was amounted to about 19.49 trillion USD. GDP of the USA is equalled to the combined GDPs of the second to fourth largest economies China, Japan, and Germany. The USA is the second-largest exporter of goods in the world according to a World Trading Organization. The total volume of USA¹ exports has massively expanded in the last two decades, and it amounted to 1.55 trillion U.S. dollars in 2017. The most significant export associates of the USA are Canada, Mexico and China accounted for more than 40 per cent of USA exports in 2016. The products from the USA has a good brand reputation as the products are well designed with the advanced technology with good quality”.¹

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Figure 1: The geographical map of the United States of America²

It is well known that the economic crisis hit the USA, and still, there are few consequences due to that. Due to the U.S. housing or mortgage market, the crisis leads to a severe shortage of liquidity in financial markets, which resulted in various financial institutions to get into bankruptcy and poorly affected. As a result, the crisis was affected economies worldwide and resulted in a global recession. In 2010, the economy of the USA bounced back with a GDP growth rate of about 2.2 per cent. The Current Population of the United States of America is 331,092,264. “The USA population is equivalent to 4.25% of the total world population and ranks number 3 by Population. The population density in the USA is 36 per Km². The overall land size of the USA is 9,147,420 Km² (3,531,837 sq. miles). The median age in the USA is 38.3 years. The average life expectancy (figure 2) in the USA is 79.11 years (Females 81.7 years and Males 76.6 years), Infant mortality is 5.5 per 1000 births and deaths under age five is 7.0 per 1000 live births. New York City, Los Angeles, Chicago, Brooklyn, Houston, Queens, Philadelphia, Phoenix, Manhattan and San Antonio are the top 10 cities in the USA by Population. Around 17.2 % of the population is in rural, and 82.8 % of the population is urban(figure 3)”³

Figure 2: Life expectancy in the USA from 1955 to 2020.³

Figure 3: Urban vs rural Population in the USA.³

Like its topography, the climate of the USA is mostly temperate but tropical in Hawaii and Florida, arctic in Alaska, semi-arid in the high plains west of the Mississippi River, and arid in the Great Basin of the southwest. Foehn winds from the eastern Rocky Mountains lead to a lower temperature in winter in the northwest area in January and February. The USA has the prime and most technically growing economy in the world. It primarily consists of the industrial and service sectors. The principal industries comprise of, steel, automotive industry, aerospace, telecommunications sector, chemicals, electronics, petroleum, food processing, FMCG, lumber, and mining. Agricultural production contributes to a small part of the economy in the USA which includes wheat, cotton, pork, corn, fruits, vegetables, beef, poultry, dairy products,

Table 1: COVID-19 number of cases in the USA (Day-Wise)⁵, from 20 January to 16 April 2020.⁵

Date	Confirmed cases	Cumulative cases	Death	Cumulative Deaths	Date	Confirmed cases	Cumulative cases	Death	Cumulative Deaths
20-01-2020	1	1	0	0	04-03-2020	21	129	3	5
21-01-2020	0	1	0	0	05-03-2020	19	148	5	10
22-01-2020	0	1	0	0	06-03-2020	65	213	1	11
23-01-2020	0	1	0	0	07-03-2020	0	213	0	11
24-01-2020	1	2	0	0	08-03-2020	0	213	0	11
25-01-2020	0	2	0	0	09-03-2020	259	472	8	19
26-01-2020	3	5	0	0	10-03-2020	224	696	6	25
27-01-2020	0	5	0	0	11-03-2020	0	696	0	25
28-01-2020	0	5	0	0	12-03-2020	291	987	4	29
29-01-2020	0	5	0	0	13-03-2020	277	1264	7	36
30-01-2020	1	6	0	0	14-03-2020	414	1678	5	41
31-01-2020	1	7	0	0	15-03-2020	36	1714	0	41
01-02-2020	1	8	0	0	16-03-2020	0	1714	0	41

Table 1: (Continued)

Date	Confirmed cases	Cumulative cases	Death	Cumulative Deaths	Date	Confirmed cases	Cumulative cases	Death	Cumulative Deaths
02-02-2020	0	8	0	0	17-03-2020	1822	3536	17	58
03-02-2020	3	11	0	0	18-03-2020	3551	7087	42	100
04-02-2020	0	11	0	0	19-03-2020	3355	10442	50	150
05-02-2020	0	11	0	0	20-03-2020	4777	15219	51	201
06-02-2020	1	12	0	0	21-03-2020	0	15219	0	201
07-02-2020	0	12	0	0	22-03-2020	0	15219	0	201
08-02-2020	0	12	0	0	23-03-2020	16354	31573	201	402
09-02-2020	0	12	0	0	24-03-2020	20341	51914	271	673
10-02-2020	0	12	0	0	25-03-2020	0	51914	0	673
11-02-2020	1	13	0	0	26-03-2020	16420	68334	318	991
12-02-2020	0	13	0	0	27-03-2020	0	68334	0	991
13-02-2020	2	15	0	0	28-03-2020	16894	85228	252	1243
14-02-2020	0	15	0	0	29-03-2020	18093	103321	425	1668
15-02-2020	0	15	0	0	30-03-2020	19332	122653	444	2112
16-02-2020	0	15	0	0	31-03-2020	17987	140640	286	2398
17-02-2020	0	15	0	0	01-04-2020	22559	163199	452	2850
18-02-2020	0	15	0	0	02-04-2020	24103	187302	996	3846
19-02-2020	0	15	0	0	03-04-2020	26298	213600	947	4793
20-02-2020	0	15	0	0	04-04-2020	28103	241703	1061	5854
21-02-2020	19	34	0	0	05-04-2020	32105	273808	1166	7020
22-02-2020	1	35	0	0	06-04-2020	33510	307318	1338	8358
23-02-2020	0	35	0	0	07-04-2020	26493	333811	1201	9559
24-02-2020	18	53	0	0	08-04-2020	29510	363321	1286	10845
25-02-2020	0	53	0	0	09-04-2020	31709	395030	1895	12740
26-02-2020	6	59	0	0	10-04-2020	30859	425889	1925	14665
27-02-2020	0	59	0	0	11-04-2020	35386	461275	1931	16596
28-02-2020	3	62	0	0	12-04-2020	31606	492881	1920	18516
29-02-2020	0	62	0	0	13-04-2020	31633	524514	1928	20444
01-03-2020	0	62	0	0	14-04-2020	29308	553822	1528	21972
02-03-2020	2	64	0	0	15-04-2020	24446	578268	1504	23476
03-03-2020	44	108	2	2	16-04-2020	25802	604070	2395	25871

Table 2: COVID-19 number of cases in the USA (Day-Wise)⁵, from 17 April to 17 July 2020.⁵

Date	Confirmed cases	Cumulative cases	Death	Cumulative Deaths	Date	Confirmed cases	Cumulative cases	Death	Cumulative Deaths
17-04-2020	28711	632781	6409	32280	02-06-2020	26116	1783638	693	104247
18-04-2020	32549	665330	2018	34298	03-06-2020	14692	1798330	761	105008
19-04-2020	30023	695353	2438	36736	04-06-2020	24890	1823220	1043	106051
20-04-2020	28252	723605	1776	38512	05-06-2020	14583	1837803	825	106876
21-04-2020	27668	751273	1801	40313	06-06-2020	20069	1857872	1035	107911
22-04-2020	25634	776907	2154	42467	07-06-2020	28922	1886794	1127	109038
23-04-2020	24019	800926	2575	45042	08-06-2020	28918	1915712	708	109746
24-04-2020	29127	830053	2390	47432	09-06-2020	17848	1933560	474	110220
25-04-2020	30719	860772	1742	49174	10-06-2020	17536	1951096	550	110770
26-04-2020	38509	899281	2151	51325	11-06-2020	17235	1968331	1208	111978
27-04-2020	32417	931698	1964	53289	12-06-2020	20315	1988646	832	112810
28-04-2020	29218	960916	1109	54398	13-06-2020	21745	2010391	947	113757

Table 2: (Continued)

Date	Confirmed cases	Cumulative cases	Death	Cumulative Deaths	Date	Confirmed cases	Cumulative cases	Death	Cumulative Deaths
29-04-2020	22541	983457	1322	55720	14-06-2020	22133	2032524	709	114466
30-04-2020	20517	1003974	2010	57730	15-06-2020	25314	2057838	646	115112
01-05-2020	31379	1035353	2902	60632	16-06-2020	21754	2079592	372	115484
02-05-2020	31774	1067127	2005	62637	17-06-2020	18514	2098106	496	115980
03-05-2020	26753	1093880	5000	67637	18-06-2020	27921	2126027	722	116702
04-05-2020	31839	1125719	156	67793	19-06-2020	23139	2149166	770	117472
05-05-2020	29266	1154985	-514	67279	20-06-2020	23046	2172212	733	118205
06-05-2020	16200	1171185	802	68081	21-06-2020	36617	2208829	690	118895
07-05-2020	22267	1193452	2475	70556	22-06-2020	32349	2241178	558	119453
08-05-2020	22119	1215571	1968	72524	23-06-2020	27575	2268753	308	119761
09-05-2020	30204	1245775	2840	75364	24-06-2020	26519	2295272	410	120171
10-05-2020	25870	1271645	1552	76916	25-06-2020	34191	2329463	784	120955
11-05-2020	26642	1298287	1736	78652	26-06-2020	37601	2367064	690	121645
12-05-2020	23767	1322054	982	79634	27-06-2020	40526	2407590	2516	124161
13-05-2020	18044	1340098	1061	80695	28-06-2020	44458	2452048	650	124811
14-05-2020	21424	1361522	1424	82119	29-06-2020	44580	2496628	507	125318
15-05-2020	20840	1382362	1700	83819	30-06-2020	41008	2537636	885	126203
16-05-2020	27090	1409452	2041	85860	01-07-2020	35757	2573393	370	126573
17-05-2020	22813	1432265	1320	87180	02-07-2020	43556	2616949	560	127133
18-05-2020	31967	1464232	1394	88574	03-07-2020	54271	2671220	725	127858
19-05-2020	13227	1477459	697	89271	04-07-2020	53213	2724433	623	128481
20-05-2020	24417	1501876	932	90203	05-07-2020	51933	2776366	745	129226
21-05-2020	23310	1525186	1324	91527	06-07-2020	57186	2833552	182	129408
22-05-2020	22787	1547973	1396	92923	07-07-2020	43686	2877238	235	129643
23-05-2020	20475	1568448	1088	94011	08-07-2020	46194	2923432	320	129963
24-05-2020	24151	1592599	1852	95863	09-07-2020	50263	2973695	930	130893
25-05-2020	26158	1618757	1046	96909	10-07-2020	64630	3038325	991	131884
26-05-2020	15253	1634010	620	97529	11-07-2020	58975	3097300	799	132683
27-05-2020	24886	1658896	590	98119	12-07-2020	66281	3163581	803	133486
28-05-2020	16362	1675258	770	98889	13-07-2020	62369	3225950	906	134392
29-05-2020	19606	1694864	1415	100304	14-07-2020	60113	3286063	312	134704
30-05-2020	21214	1716078	1263	101567	15-07-2020	58720	3344783	349	135053
31-05-2020	17962	1734040	1073	102640	16-07-2020	60711	3405494	754	135807
01-06-2020	23482	1757522	914	103554	17-07-2020	67165	3472659	946	136753

fish, and forest products. Canada and Mexico surround the USA boundaries both the North Atlantic and North Pacific Oceans, and it has a diverse topography. The eastern regions contain hills and low mountains, while the central interior is a vast plain. The west region has a high rugged ridge. Alaska too contains rugged mountains and river valleys as well. Hawaii's landscape parameters vary however most of the parts are volcanic geography.

The USA⁴ has 3771101 confirmed cases and 142080 death cases as on 17 July 2020. The USA, Brazil, India, Russia, Peru, South Africa, Mexico, Chile, Spain and the UK are the top most affected countries as per WHO. The USA is ranking in 1st place among the countries affected by COVID-19 (table 3).

Table 3: Top 10 countries affected by COVID-19 and the number of cases.⁴

Rank	Country	Population	Confirmed	Deaths
1	USA	331099826	37,71,101	1,42,080
2	Brazil	212635249	20,49,140	77,964
3	India	1380687775	10,44,963	26,347
4	Russia	145937575	7,65,437	12,247
5	Peru	32971854	3,45,537	12,799
6	South Africa	59346494	3,37,594	4,804
7	Mexico	129001050	3,31,298	38,310
8	Chile	19124454	3,26,539	8,347
9	Spain	46755679	3,07,335	28,420
10	UK	67903868	2,93,239	45,233

Table 4: Top ten countries affected by COVID-19 based on confirmed cases to the population.⁶

Rank	Country	Population	Confirmed	Confirmed cases to the population %
1	Chile	19124454	3,26,539	1.71
2	USA	331099826	37,71,101	1.14
3	Peru	32971854	3,45,537	1.05
4	Brazil	212635249	20,49,140	0.96
5	Spain	46755679	3,07,335	0.66
6	South Africa	59346494	3,37,594	0.57
7	Russia	145937575	7,65,437	0.52
8	UK	67903868	2,93,239	0.43
9	Mexico	129001050	3,31,298	0.26
10	India	1380687775	10,44,963	0.08

The USA has a Population of 331099826 and 37,71,101 confirmed cases. The ratio of confirmed cases to the Population is 1.14%, where Chile is at 1.71. Based on the WHO reports, the USA is at 1st place in the affected countries. However, when we calculate the impact based on the Confirmed cases Vs Population, it is at 2nd place (table 4). WHO and other health organisations may think that the USA is the most affected country; it may be right with the total confirmed cases. Still, it is a big question of whether it is an appropriate methodology to calculate the impact in that way and it may not reveal the fact.

COVID-19 impact and ranking can be calculated in different ways. The mortality rate is the critical one which talks about the actual effect of the countries. When we calculate the ratio of death cases to the confirmed cases, the UK comes at the 1st place with 15.43%, which is four times higher than the USA. The ratio of the USA is at 3.77% and in 5th place (table 5), next to Mexico (11.56%), Spain (9.25%) and Brazil (3.80%). As per WHO, India is at 3rd place; however, when we calculate the death and confirmed cases, India comes at 8th place with 2.52%.

Table 5: World top 10 COVID-19 countries, based on the death to the confirmed rate.⁶

Rank	Country	Confirmed	Deaths	Death cases to the confirmed cases %
1	UK	2,93,239	45,233	15.43
2	Mexico	3,31,298	38,310	11.56
3	Spain	3,07,335	28,420	9.25
4	Brazil	20,49,140	77,964	3.80
5	USA	37,71,101	1,42,080	3.77

Table 5: (Continued)

Rank	Country	Confirmed	Deaths	Death cases to the confirmed cases %
6	Peru	3,45,537	12,799	3.70
7	Chile	3,26,539	8,347	2.56
8	India	10,44,963	26,347	2.52
9	Russia	7,65,437	12,247	1.60
10	South Africa	3,37,594	4,804	1.42

We can calculate the COVID-19 impact of the country in another way. The ratio of the total population of the country and the deaths due to COVID-19 is the critical factor. When we evaluate from that aspects, the UK leading in the first place with 0.067%, Spain is in 2nd place with 0.061%, and Chile is in 3rd place with 0.044 and USA is in 4th place with

0.043(table 6) which is closure to Chile. Though the number of confirmed cases may be high in the USA, death cases may be more compare than other countries. Still, the number of people lost life is critical than anything else. Hence, this method of calculation plays a vital role in evaluating the actual impact of COVID-19 pandemic.

Table 6: World top 10 COVID-19 countries, based on the death to the population.⁶

Rank	Country	Population	Deaths	Death cases to the population %
1	UK	67903868	45,233	0.067
2	Spain	46755679	28,420	0.061
3	Chile	19124454	8,347	0.044
4	USA	331099826	1,42,080	0.043
5	Peru	32971854	12,799	0.039
6	Brazil	212635249	77,964	0.037
7	Mexico	129001050	38,310	0.030
8	Russia	145937575	12,247	0.008
9	South Africa	59346494	4,804	0.008
10	India	1380687775	26,347	0.002

On 20 January 2020, the first known case of COVID-19 was confirmed in the Pacific Northwest state of Washington in a man who had returned from Wuhan on 15 January. There were 1822 cases on 17 March 2020. Twenty thousand three hundred forty-one confirmed cases on 24 March 2020. On 27 April 2020, there were 38509. There were 57186 cases on 6 July 2020 and as on 17 July 2020, 67165 COVID-19 confirmed cases. In many countries, per day confirmed cases went up to 20-30k and came down after a certain period. In the USA, the trend is on the higher side, the situation was worst, and even the current situation in terms of the number of cases is very worst. The number of cases is increasing exponentially (figure 4). On 3 March 2020, the number of cumulative cases touched three digits (104 cases). Within ten days, as on 13 March 2020, the number of cases increased to four digits (1024 cases). On 19 March 2020, the number of cases reached to five-digit (10442), which is enormous in a short period. In the next ten days, i.e. on 29 March 2020, the number of cases reached to six digits (103321). By 13 April 2020, the number of confirmed cases in the USA is 5.2 lakhs.

Within 17 days, i.e. on 30 April 2020, the number of cases isten lakhs. There were 25.3 lakhs cases on 30 June 2020. As on 17 July 2020, the cumulative confirmed cases are 34.7 lakhs (figure 5).

Figure 4: Confirmed cases in the USA (Day-Wise).⁴

As per WHO's report, the first COVID-19 death reported on 3 March 2020. Double-digit death reported (17 deaths) on 17 March 2020. on 23 April 2020, the number of deaths report-

ed is 201. Nine hundred ninety-six deaths reported on 2 April 2020, and on 16 April 2395 deaths reported. Six thousand four hundred nine deaths notified on 17 April 2020, which is the highest deaths reported in the USA till today. From 18 April to 17 July 2020, on an average 1160 deaths reported per day. 630 is the average for the last 20 days (figure 6). Though the first death reported on 3 March 2020, the number of deaths reported to triple-digit within 15 days, i.e. on 18 March 2020. On 28 March 2020, the number of cumulative deaths is 1243, as per WHO report. Surprisingly within three days, i.e. on 28 March 2020, it was double, i.e. 2398 deaths reported. Five-digit cumulative deaths reported on 8 April 2020, i.e. 10845 deaths. There were 51325 cumulative deaths reported on 26 April 2020. From that day, approximately, within a month, on 29 May 2020, the number of cumulative deaths reported were 100304. By the end of June, it was around 126203, and as on 17 July 2020, the cumulative deaths reported are 136753, which is the highest deaths reported in the world (figure 7). Figure 8 indicates the impact of the USA in the dark red and light red colour on the world map.

Figure 6: Death cases in the USA (Day-Wise).⁵

Figure 7: Cumulative death cases in the USA (Day-Wise).⁵

Figure 5: Cumulative confirmed cases pattern in the USA.⁴

Figure 8: COVID-19 impacted countries. USA indicated in RED.⁴

Table 7: Confirmed and death cases of the states in the USA.⁶

State	Confirmed cases	Deaths	State	Confirmed cases	Deaths
New York	4,31,380	32,518	Arkansas	31,114	626
California	3,64,834	15,736	US Military	27,088	574
Florida	3,15,775	8,380	Oklahoma	23,441	562
Texas	3,13,060	7,490	Nebraska	22,134	521
New Jersey	1,82,532	7,452	Kansas	21,263	438
Illinois	1,59,082	7,051	Kentucky	21,083	395
Arizona	1,34,613	6,348	Rhode Island	17,711	341
Georgia	1,31,275	4,677	New Mexico	16,138	305
Massachusetts	1,12,581	4,389	Oregon	13,510	299
Pennsylvania	1,03,169	3,770	Idaho	13,133	249
North Carolina	93,561	3,487	Delaware	13,114	234
Louisiana	86,411	3,347	Puerto Rico	11,120	177

Table 7: (Continued)

State	Confirmed cases	Deaths	State	Confirmed cases	Deaths
Michigan	79,839	3,104	District of Columbia	11,076	115
Maryland	75,664	3,103	South Dakota	7,694	115
Virginia	75,433	2,795	New Hampshire	6,139	114
Tennessee	71,540	2,492	North Dakota	4,668	99
Ohio	70,601	2,013	West Virginia	4,657	89
South Carolina	64,083	1,745	Maine	3,636	56
Alabama	61,088	1,622	Montana	2,231	44
Indiana	54,080	1,566	Wyoming	2,026	35
Connecticut	47,750	1,432	Alaska	1,693	24
Washington	45,559	1,308	Vermont	1,325	22
Minnesota	44,347	1,230	Hawaii	1,311	17
Mississippi	39,797	1,153	Guam	314	6
Wisconsin	39,627	1,070	United States Virgin Islands	263	5
Colorado	38,726	988	Grand Princess Ship	103	3
Iowa	37,494	831	Others	59	2
Missouri	33,006	796	Diamond Princess Ship	46	2
Nevada	31,915	782	Northern Mariana Islands	37	0
Utah	31,845	650	Wuhan Repatriated	3	0

New York, California, Florida, Texas, New Jersey, Illinois, Arizona, Georgia, Massachusetts and Pennsylvania are the top 10 affected states (table 7) in the united states of America (figure 9). Wyoming, Alaska, Vermont, Hawaii, Guam, United States Virgin Islands, Grand Princess Ship, Diamond Princess Ship, Northern Mariana Islands and Wuhan Repatriated are the states that are affected minimally by COVID-19 cases (table). New York (7.54), Arizona (4.72), Illinois (4.43), California (4.31), New Jersey (4.08), Mas-

sachusetts (3.90), Pennsylvania (3.65), Georgia (3.56), Florida (2.65) and Texas (2.39) are the top 10 states that affected mostly by deaths to confirmed cases ratio. (figure 10). The figure shows the pattern of the confirmed cases of the states in the united states of America, and the figure shows the trend of the death cases of multiple states in the united states. The figure 11 shows the rate of death cases to the confirmed cases for the top 10 affected states in the USA.

Figure 9: Confirmed cases in the stated of the USA.⁶

Figure 10: Death cases in the stated of the USA.⁶

Figure 11: Death to the confirmed ratio of the states in the USA.⁶

Forecasting Analysis

We have used forecasting⁷ analysis option in Microsoft excel for predicting the future analysis. This prediction is purely based on past data. For confirmed cases forecast, we have given the actual Forecasting, lower bound and upper bound are indicated. Other than the recent data, there are various influential factors (lockdown approaches, speed of spread, advisories from health organisations, people's attitude in following practices, etc.) that can completely change the scenario which can lead to a drastic change with the forecasted data. By 31 July 2020, the number of positive cases per day may go up to 70742. With better control, it can be at 57542, and in the worst scenario, it may reach up to 83942. By 31 August 2020, the number of positive cases per day may go up to 78662. With better control, it can be at 60687 and in the worst scenario, it may reach up to 96636 (figure 12). As on 17 July 2020, the number of cumulative confirmed cases are 3472659 (34.7 lakhs) in the USA. Based on the Forecasting, as on 31 August 2020, the number of cumulative confirmed cases may reach up to 6419049 (64.2 lakhs). If the situation is good, it can be controlled at 5888853 (58.8 lakhs), and it may go up to 6949245 (69.4 lakhs) if the scenario goes bad (figure 13).

Figure 12: Forecasting of the confirmed cases till 31 August 2020.

Figure 13: Forecasting of the cumulative confirmed cases till 31 August 2020.

As on 17 July 2020, the number of death cases reported is 946. Based on the Forecasting, the number of deaths on 31 August 2020, may vary between 250-500 (figure 14). The number of cumulative death cases may go up to 166945 in the typical scenario, and however, it may reach up to 202566 if the COVID-19 situation goes wrong due to various reasons (figure 15).

Figure 14: Forecasting of the death cases till 31 August 2020.

Confirmed cases to the total population. Similarly, when we calculate the ratio of death cases to the confirmed cases, the rate of the USA is at 3.77% and in 5th place. The UK comes at 1st place with 15.43%, which is four times higher than the USA. Further, the ratio of the deaths to the total population of the country due to COVID-19 is the critical factor. When we evaluate this aspect, the USA is in 4th place with 0.043% next to the UK with 0.067%, Spain with 0.061% and Chile with 0.044 %. The first COVID-19 identified on 20 January 2020 in a man who had returned from Wuhan on 15 January 2020. There were 1822 cases on 17 March 2020 and on 17 July 2020, and there were 67165 confirmed cases which can tell us the actual impact and how fast the COVID-19 cases are increasing. In countries like Italy, the confirmed cases went to the peak and came down after a certain period, but in the USA the trend keeps on growing exponentially. As on 13 March 2020, the number of cases is 1024 and as on 17 July 2020, the cumulative confirmed cases are 34.7 lakhs.

The first COVID-19 death reported on 3 March 2020. Last 20 days average deaths reported are 630. On 28 March 2020, the number of cumulative deaths is 1243, as per WHO report. Surprisingly, as on 17 July 2020, the cumulative deaths reported are 136753 which is 110 times higher. In India, New Delhi (2,68,415), Bangalore(97,005)¹⁵, Chennai(1,96,195)¹⁴, Mumbai(2,15,624) are the major cities affected severely. Similarly, New York, California, Florida, Texas, New Jersey, Illinois, Arizona, Georgia, Massachusetts and Pennsylvania are the top 10 affected states in the United States of America. Wyoming, Alaska, Vermont, Hawaii, Guam, United States Virgin Islands, Grand Princess Ship, Diamond Princess Ship, Northern Mariana Islands and Wuhan Repatriated are the states that are affected minimally by COVID-19 cases. New York with 431380 confirmed cases, representing around 11.5% in the USA. Top 10 affected cities with 2248303 confirmed cases and representing approximately 59.6% of the cases in the USA. Overall, the USA with 38,98,694 confirmed cases, out of 1,46,69,725 confirmed cases globally, they are representing 26.5% of the COVID-19 cases globally. America's financial¹⁸ capital New York affected severely in the USA. There could be many possible reasons for such a bad situation. 1. Population density, there are about 10000 people in square kilometre which makes it difficult for social distancing. 2. New York City is the entry point for global travellers, and it receives around 60 million tourists per annum, so the opportunity for the infected people to get in. 3. Due to overcrowding, poverty is also another problem, and there are tremendous people without proper medical care and hence, NYC may be another cause for more cases in the USA, as it is well connected with another part of the USA.

There are few scientists mentioned that the countries that are not using the BCG⁹ vaccinations efficiently are affected more confirmed and death cases. However, there is no scientifically proven data that the Bacille Calmette-

Guérin vaccination protects people against infection with COVID-19 virus. Two clinical trials that are addressing this question is ongoing. WHO will evaluate the outcome when it is available for review. At this point, without proper data, WHO does not recommend BCG vaccination for the prevention of COVID-19. There could be multiple reasons¹⁰ or causes for the high number of COVID-19 cases in the USA. In some of the states, the lockdown lifted, and that might also cause improper social distancing and hence more COVID-19 cases. There was a statement¹¹ from the president of the USA that they found more COVID-19 cases as they do more sampling test. In contrary, official Anthony Fauci mentioned that the sudden surge in coronavirus cases in the US has been increased to very high and not doing great. The USA is at 30th ranking health¹² care facilities which are comparatively good, however, the COVID-19 situation is worst. Whereas, there are a few nations which are not even ranked close to the USA, but they are doing well in COVID-19. Based¹³ on last seven days data, the USA carried out 2.28 daily tests per thousand people (as of 17 July 2020). Also, the USA is one of the leading countries, which is doing more sample test per million and at 1st place.

CONCLUSION

Be it a common man or wealthy person, be it a superpower country or economically developing country, it is same for COVID-19. May be with other diseases that can be treated with huge expenses, money plays a role. When it comes to COVID-19, since there is no defined medicines or treatment, money has nothing to deal with it. The reactive approach to the COVID-19 does not help much, but the proactive approach helps better. One side, the number of countries affected by COVID-19 increasing with a considerable amount of cases. Another side, there are a few nations (Taiwan, Iceland, New Zealand, Greece and many) such who have handled the situation efficiently. To be specific, a few months back, Italy was affected profoundly with more cases, now the situation controlled well and confirmed cases vary between 100-300 and death cases vary between 10-20 per day. They were able to manage the situation with the best approaches and strong regulations. No doubts, the USA has advanced medical technologies and doctors. However, it is good to learn the best practices from the countries that are managing well.

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