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Tracking COVID 19 Total Deaths Cases and Vaccination Worldwide (up to June 2023) - A Case study

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Abstract

Ever since COVID-19 pandemic outbreak, post period of 2 years and 6 months has crushed several countries, affecting more than 8 billion people of global population (June 2023) as civic menace. The connotation of this case study is to get cognizance about top most countries with maximum total COVID 19 death cases worldwide, countries that has fully vaccinated with specific percent and acquainted with the latest COVID confirmed cases in China (1,776), India (298), France (2,525), Germany (489), nil confirmed cases United States of America, Brazil, Japan, Italy, United Kingdom and Turkey, Very high reinfection in Republic of Korea (34,837), Europe (17,456), Russian federation (13,309), Very low confirmed cases less than 10 were recorded in Africa, all relative to population and chances of number of known cases doubling in the month of June, 2023 as per the Data published in CDC and WHO authentic websites. With the primary data, Death rate percent was calculated per 100,000 population with top most COVID 19 (death cases rated) affected countries like USA, Brazil and India after vaccination, the death rate percent has been reduced to (*0.87%*), (*0.32%*), (*0.037%*) respectively and realise the impact of fully vaccination which has controlled the mortality rate being the mass immunized as crucial with the addition to the standard precautions instigated during the control of post pandemic outbreak that has been raised up in this case study.

Keywords

COVID 19, WHO (World Health Organization), CDC (Centres for Disease Prevention and Control)

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INTRODUCTION:

The worldwide quest of convalescent from prolonged Pandemic of Covid 19 became a challenging one. Ensuing vaccination worldwide, mortality rate has been controlled hugely. More than 5.55 billion people of global population worldwide in leastways more than 13 billion doses of a Covid-19 vaccine had been administered which equals to about 72.3 percent of the world population covering 218 countries and territories[5]as the earliest Covid-19 case was reported in China in late 2019. The First COVID dose was administered in United Kingdom manufactured by Pfizer/BioNTech in Dec 2020. Regardless of unbelievable spread of COVID 19 infection of 768,187,096 confirmed cases including 6,945,714 deaths, reported to WHO. As of 17 June 2023, a total of 13,398,054,518 vaccine doses have been administered with diversified vaccines which was developed consequently and distributed during 2021&2022 in huge billions of dollar investment [1].

The topmost countries with maximum total Covid death cases hierarchically were reported in USA (2,956,210), Brazil (703,399), India (531,896), Russia (399,436), Mexico (334,276), UK (227,272), Peru (220,793), Italy (190,706), Germany (174,691) and France (163,855) was between 1,000,000 to 100,000 death cases [2] on 21st June,2023 as shown in Figure 1.

Hysterically **USA** being the top most Covid death cases rated country with **68.87%** fully vaccination* reports, where after 538 million doses (as 183 doses per 100 people) has be administered in 2022 had been reduced to with ***0.87% death rate*** per 100,000 population(as of Jun, 2023), from high death rates registered in January 2021 reaching 40,000 – 50,000 individual death rates per day**[2]**.As per the Covid cases growth rate, in USA the number of known cases is doubling about every eight years [3] .The second highest death rated Covid cases was in **Brazil** after **83%**of fully vaccinated individuals (as 230 per 100 people) had been reduced to ***0.32% death rate*** per 100,000 population(as of Jun, 2023)from more death rates recorded in March and April, 2021 with 20,000-22,000 individual death rates per day and the Covid 19 cases growth rate now, in the number of known cases is doubling about every day [3] .The third highest death rated Covid cases was in **India** after 70% fully vaccinated individuals(as 161 per 100 people)[2] reduced to ***0.037%*** **death rate** per 100,000 population (as of Jun, 2023) from high death rates were recorded in May, 2021 between 25,000- 29,000 individuals per day were recorded and the Covid cases growth rate, in the number of known cases is doubling about every 253 days [3].

While analysing the next hierarchically Top death rated Covid cases countries are Russia (every three years), Mexico (every four years), UK (every 10 years), Peru (every 58 years), Italy (stopped growing), Germany (Every 11years), and France (Every 16 years) has respective given chances of number of known cases doubling [3].

In spite of vaccination the Covid cases are still prevailing due to lack of memory cells in immune system in case of Coronavirus. Reinfection with Mild or likely less severe illness can happen as the virus evolves and results in new variants [4]. The latest Covid confirmed cases in the **month of June 2023** in China (1,776), India (298), France (2,525), Germany (489) and found to be nil confirmed cases United States of America, Brazil, Japan, Italy, United Kingdom, and Turkey. Very high reinfection was recorded in Republic of Korea (34,837) followed by Europe (17,456) and Russian federation (13,309). Very low confirmed cases less than 10 were recorded in Africa. (Data is generated for per Million and will be changing day wise). The total world-wide **new deaths** were about 170.29 for (relative to population) 7.98 billion populations in which France (15.71 for 67.81 million population), Canada (10.14 for 38.45 million population), India (2 for 1.42 billion population), Germany (0.57 for 83.37 million population) relative to population respectively [5,6].

***Death rate percent calculated as- The estimated total number of deaths in a population of a given sex and/or age, divided by the total number of this population, expressed per 100,000 population, for a given year, in each country, territory, or geographic area[6].**

The maximum Covid vaccine doses were administered worldwide in June 2023 covering about 668,882,018 million doses. The **WHO region** such as Europe (276,585,359), Western Pacific (204,088,022), America (192,989,462), South-east Asia (61,173,909), East Mediterranean (23,379,220) and Africa (9,534,117) had respective total Covid confirmed cases at the present time [6]. Each region had its high peak of total confirmed cases in specific month and year like **Europe, America and East Mediterranean** had reached the top total cases in January 2022, whereas **Western Pacific** and **Africa** had maximum cases in December 2022.The southeast region had a tremendous increased cases in April & May 2021 and in January 2022. The various ranges of fully immunization countries wise are as follows. Countries such as Tokelau, Qatar, United Arab Emirates, Pitcairn Island has reached **above 100% fully vaccinated**. Brunei, Macao, Singapore, Hong Kong, and Chile were with **90-99%fully vaccinated** countries[1].Moreover the stated countries may line up in richest country or have small population rate [6].

Mainland China, Nauru, Cuba , Malta, Cayman Islands, Vietnam, Cambodia, Taiwan, Bhutan, Portugal, Cook Islands, South Korea, Spain, Uruguay, Peru, Mauritius, Niue, Japan, Bahrain, Costa Rica, Guernsey, Australia, Canada, Tuvalu, **Brazil**, Italy, Malaysia, Ireland, Denmark, Bangladesh, Samoa of 31 countries were **fully vaccinated with 80-89%.**Countries like New Zealand, Isle of Man, Nepal, Ecuador, Aruba, Belgium, France, Kuwait, Iceland, Faroe Islands, Argentina, Seychelles, Germany, United Kingdom,

Austria, Norway, Thailand, Bermuda, Jersey, Greece, Maldives, Sweden, Cyprus, Tonga, Panama, Rwanda, Colombia and Latvia, Liberia, Monaco, and San Marino **were fully vaccinated with 70-79% [6].**

Nations with fully vaccination* with 60-69% are Saudi Arabia, Laos, **United States**, Fiji, Switzerland, El Salvador, Lithuania, Greenland, Netherlands, Sri Lanka, Liechtenstein Belarus, **India,** Turks and Caicos Islands, Andorra, Oman, Antigua and Barbuda, Iran, Czech Republic, Saint Helena, Ascension and Tristan da Cunha, Israel, Mexico, Philippines, Estonia, New Caledonia, Morocco, Indonesia, Turkey, Hungary, Kiribati, Botswana, Bonaire, Sint Eustatius and Saba, French Polynesia, Sint Maarten.

Some countries covered 50-59% of fully vaccination* done in East Timor, Pakistan, Wallis and Futuna, British Virgin Islands, Turkmenistan, Poland, Mozambique, Croatia, Honduras, Barbados, Kazakhstan, Belize, Dominican, Republic, Curacao, Uzbekistan, Paraguay, Cabo Verde, Tajikistan, Tunisia, Myanmar, Bolivia **[7].**

Fully vaccination* below 50%, few countries were recorded like Vanuatu Tanzania, Serbia, Comoros, Guyana, Azerbaijan, Trinidad and Tobago, Falkland Islands**,** Sao Tome and Principe, Slovakia, Montenegro, Albania, Sierra Leone, Montserrat, Lebanon, Ivory Coast, Dominica, Lesotho, Bahamas, Jordan, North Macedonia, Guatemala, Central African Republic, Suriname, Ukraine, Somalia, Egypt, Armenia, South Africa, Solomon Islands, Eswatini, Chad, Georgia, Guinea, West Bank + Gaza, Moldova, Mauritania, Afghanistan, Grenada, Djibouti, Saint Lucia, Nigeria, Saint Vincent and the Grenadines, Ethiopia, Ghana, Zimbabwe, South Sudan, Uganda, Jamaica, Bosnia–Herzegovina, Angola, Sudan, Namibia, Kyrgyzstan, Benin, Niger, Kenya**[8].**

Despite of the awareness of vaccination in the midst of crucial death cases, some countries are in the poverty and most fragile economic line vaccinated between **11-20%**fully vaccination*[9], and they were Malawi, Libya, Iraq, Togo, Guinea-Bissau, Gambia, Burkina Faso, Algeria, Mali, Equatorial, Guinea and Congo and realms such as Gabon, Cameroon, Syria, Dem. Rep. Congo, Senegal, Madagascar, Papua New Guinea, Yemen, Haiti were fully vaccinated **below 10% and Burundi <1%[9] .**

Note: *Fully vaccinated - (1) two weeks after receiving the second dose in a two dose COVID-19 vaccine series or (2) two weeks after receiving a single dose COVID-19 vaccine stated by Centres for Disease Prevention and Control (CDC)[4].

Consolidating the vaccine taken by people is perplexing one as few requires two doses where vaccine supply was less sufficient condition and the immunization level of people end up in unpredictable data, so countries decided to prioritise vaccination for high-risk population such as older age people, immunosuppressant and Health workers Whereby later ample vaccines were given to mass population. This approach resulted in disparities in distribution of Global vaccine at first, later the WHO expanded by targeting a global strategy to accomplish 70% in all countries by mid-2022, with a short-term target of 40% by the end of 2021**[10]**

***Vaccination data of fully administered doses has taken from Our World in Data (project at the University of Oxford), WHO website dashboard. Data is based on reports at the time of publication. Various other Data mentioned in this case study is derived from a variety of regional sources, including government websites and media reports. Global Population ranges are taken up from the WHO Website's Dashboard.**

Conclusion:

This paper acquaints the primary data of maximum COVID 19 death cases rated in various countries in certain month of year with data of fully vaccination administered worldwide countries and on case study analysis the maximum death cases in top death rated countries has found to be reduced the percentage death rate. It highlights the maximum fully vaccinated countries are streaming towards averting the COVID death cases from present to futuristic scenario. WHO and CDC always counsels the worldwide individuals to set vision of global immunization is the only way to handle the prevailing and new variant of COVID 19 mutants associated with face masks, limited travel, and social distancing, perhaps till 2024.

Figure: 1 Global Death Outbreak of COVID 19 (Data till Jun 2023) [6] (With primary data – created in Online MAP Creator)

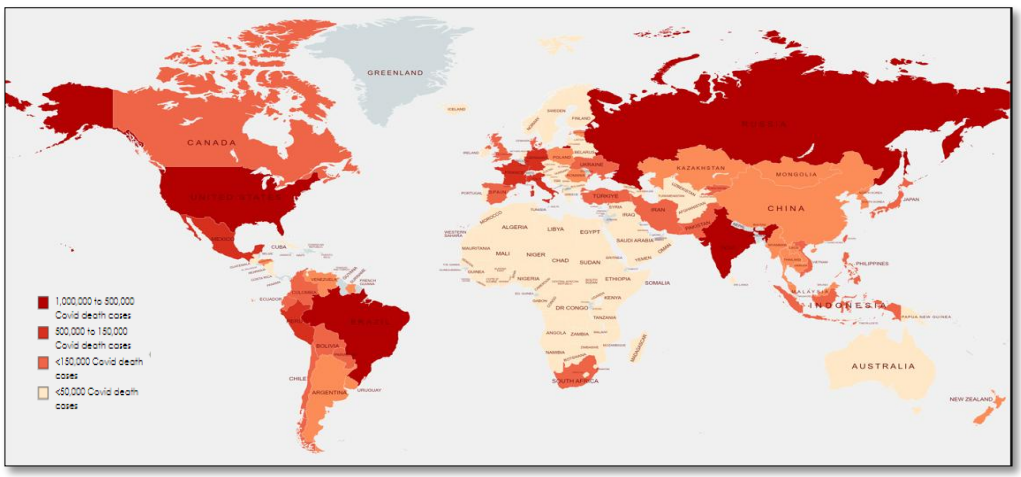
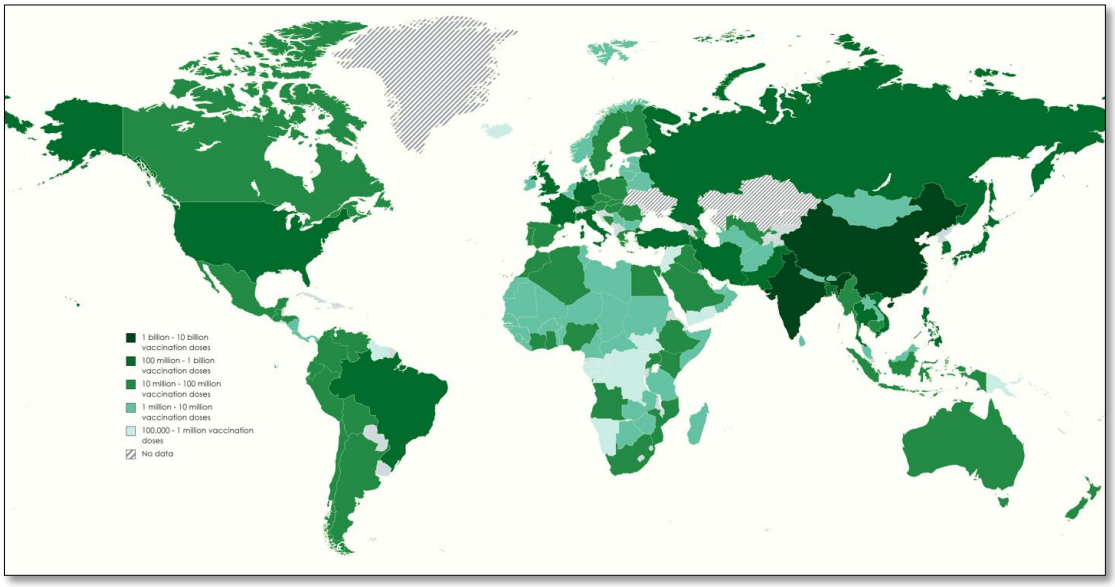


Figure: 2 Covid – 19 Vaccination doses administered till June 2023 Illustrative World Map[1] (With primary data – created in Online MAP Creator)



(In the June 2023, Vaccination doses registered as administered at high rate covering about 668,882,018 doses [6])

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