High Level Design Document (HLD)

Healthcare Data Analysis

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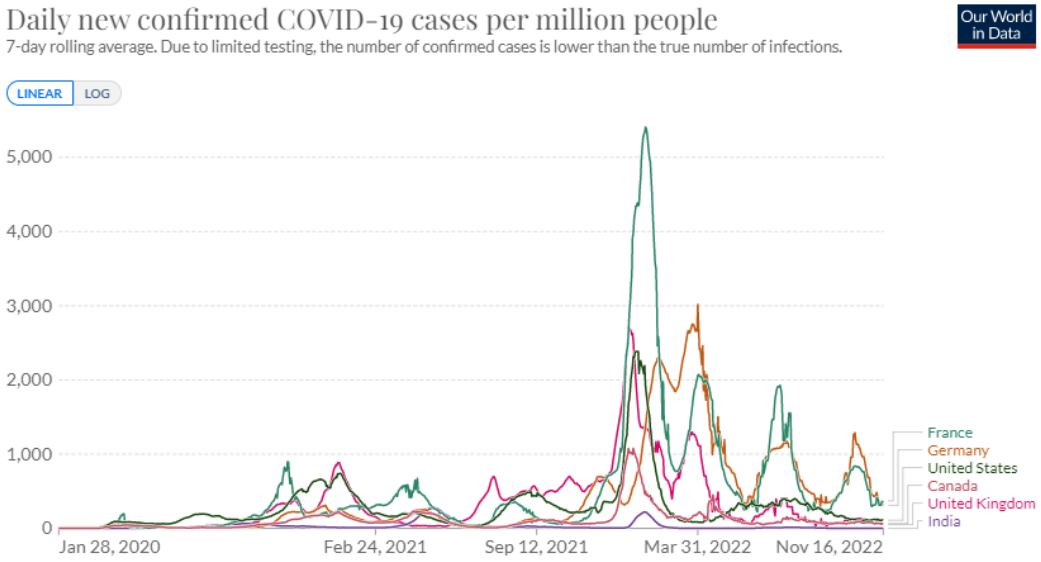
Contents:

Abstract

At the end of 2019, a novel coronavirus was identified as the cause of a cluster of pneumonia cases in Wuhan, a city in the Hubei Province of China. It rapidly spread, prompting the World Health Organization (WHO) to declare a public health emergency in late January 2020 and to characterize it as a pandemic in March 2020. The virus that causes coronavirus disease 2019 (COVID-19) is designated severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

Infection prevention interventions to reduce transmission of SARS-CoV-2 include universal source control (e.g., covering the nose and mouth to contain respiratory secretions), early identification and isolation of patients with suspected disease, vaccination, quarantine after exposure, the use of appropriate personal protective equipment (PPE), and environmental disinfection.

This topic will review general infection prevention principles when caring for patients in areas with community transmission of SARS-CoV-2. Detailed information on prevention in the community and infection prevention policies and procedures when caring for patients with suspected or confirmed COVID-19 in the health care and home settings is presented elsewhere. (See "COVID-19: Infection prevention for persons with SARS-CoV-2 infection".)



During the COVID-19 pandemic has put some health systems under immense pressure and stretched others beyond their capacity. As such, responding to this public health emergency and successfully minimizing its impact requires every health resource to be leveraged. Failure to protect health care in this rapidly changing context exposes health systems to critical gaps in services when they are most needed, and can have a long-lasting impact on the health and wellbeing of populations.

In other countries where attacks on health care have been noticed, the COVID-19 pandemic has sometimes created hostile environments for health care providers who have reported incidents of violence, discrimination and harassment. Stigmatized as vectors of contagion in many countries, some have been assaulted, others were denied transport while commuting to work, and entire families were evicted from their homes. Furthermore, reports of attacks on medical vehicles carrying COVID-19 samples, on-duty COVID-19 drivers as well as patients are accumulating and raising concerns worldwide.

However, attacks on health care not only have a direct impact on the ability of health systems to deliver services to those most in need, but also take a heavy toll on the psychosocial health of patients, critical health care providers on the frontline and their families. As those continue to be targeted by acts of violence during this public health emergency, health systems must – among other things – prepare for shortages of health care workers unwilling or unable to report to work due to unsafe environments or obstruction in their personal lives.

In this scenario Data Analysis can help us to understand the how many people are dead; how many people are recovered and how many people are affected and the gap or the failure of the health care system and also helps to improve the better health care system worldwide.

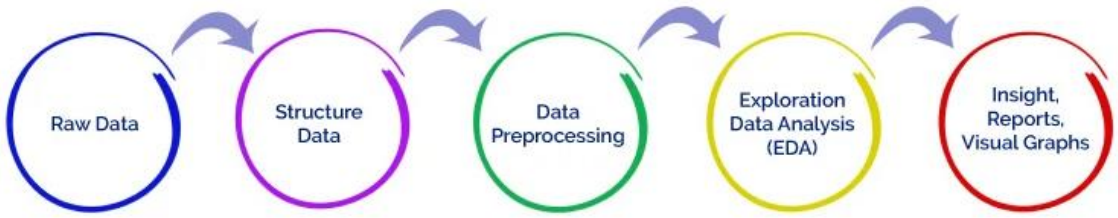
Scope

The HLD documentation present the structure of the system, such as the database architecture, application architecture (layers), application flow (navigations), and technology architecture. The HLD uses non-technical to mildly-technical terms which should be understandable to the administrators of the system.

Problem Statement

- Health is real wealth in the pandemic time we all realized the brute effects of covid-19 on all irrespective of any status. You are required to analyse this health and medical data for better future preparation.
- Find key metrics and factors and show the meaningful relationships between attributes.
- Do your own research and come up with your findings.

Architecture



Tools Used

- I have used Business Intelligence tool i.e., MS Excel and Jupyter Notebook.
- MS Excel is used for data.
- Jupyter Notebook helps to create the various plots, graphs and helps to analyse the data.

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