In light of the current COVID-19 pandemic, the operation of clinical trials has been drastically impacted due to new regulatory policies and shifts in healthcare resources. At the same time, the recent pandemic has stimulated clinical trials to help alleviate the burden of this disease. However, it is not clear as to the nature of clinical trials being conducted on COVID-19, with respect to factors like intervention types or funding sources.

Because all interventional clinical trials are legally mandated to be registered to ClinicalTrials.gov, a cross-sectional analysis of the registry data can provide an accurate view of the current clinical trial landscape. In this study, we aim to survey the clinical trial landscape and examine the impact of COVID-19 on the nature of trials being conducted.

**Objective**

- To examine the prevalence of COVID-19 pharmaceutical trials and to determine if a correlation exists with U.S. COVID-19 related deaths
- To compare COVID-19 and non-COVID-19 clinical trials by intervention type and funding source
- To analyze the funding distribution of COVID-19 pharmaceutical trials and compare with that of non-COVID-19 pharmaceutical trials

**Methodology: ClinicalTrials.gov Data Parsing**

We downloaded the most recent 10,000 interventional clinical trials in the U.S. from ClinicalTrials.gov as of July 17, 2020, using the site’s filters. Among these, the first study was posted on February 28, 2020.

Using Microsoft Excel, entries were filtered by intervention type to identify pharmaceutical studies. Pharmaceutical studies containing the keyword “coronavirus” or “COVID” were marked and counted to identify COVID-19 related pharmaceutical trials. COVID-19 related pharmaceutical trials were filtered by the posted month and compared against monthly COVID-19 deaths, provided by Johns Hopkins University.

All pharmaceutical trials were filtered by funding sources, then repeated for COVID-19 related pharmaceutical trials. These two data sets were compared and visualized.

**Results**

**Figure 1: US COVID-19 Deaths** and COVID-19 Pharmaceutical Trials

The number of COVID-19 pharmaceutical trials correlates with the number of COVID-19 related deaths in the U.S.

**Figure 2: Prevalence of COVID-19 Clinical Trials**

A significant portion of clinical trials in 2020 have been dedicated to COVID-19 research.

**Figure 3: Non-COVID-19 Clinical Trials by Intervention Type**

Pharmaceutical trials make up the largest category among interventional non-COVID-19 studies observed.

**Figure 4: COVID-19 Clinical Trials by Intervention Type**

COVID-19 trials have an even greater portion of pharmaceutical trials compared to non-COVID-19 trails.

**Figure 5: Non-COVID-19 Pharmaceutical Trials by Funding Source**

Non-COVID-19 Pharmaceutical Trials by Funding U.S. Fed, Industry, Mixed, NIH

**Figure 6: COVID-19 Pharmaceutical Trials by Funding Source**

COVID-19 pharmaceutical trials exhibit a similar distribution of funding as non-COVID-19 pharmaceutical trials.

**Conclusions**

- As treatment protocols evolve throughout the pandemic, there has been a significant effort and allocation of studies dedicated to advancing our knowledge of COVID-19.
- Most interventional clinical trials are pharmaceutical interventions. However, COVID-19 trials have a much higher representation, suggesting high interest in pharmaceutical intervention of COVID-19.
- Both COVID-19 and non-COVID-19 trials have a similar distribution of funding, with most being funded by investigators rather than industry.

**Future Research**

- Analysis of the clinical trial landscape before the COVID-19 pandemic can provide a baseline distribution for comparison of clinical trials based on intervention type and funding source.
- We plan to further characterize the types of clinical trials and specific interventions that are represented by each segment of drug intervention.
- We would like to identify the distribution of the various sources that encompass each funding category, especially the “other” group.

**References**

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