

# Using Real World Evidence on Repurposed Drugs to Inform Future Clinical Trials to Treat COVID-19

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## Introduction

CURE ID is an internet-based data repository developed collaboratively by FDA and NCATS/NIH, with the support of WHO and IDSA. It is a mobile application and website, designed to capture real-world clinical outcome data to advance drug repurposing and inform future clinical trials for diseases of high unmet medical need. It also serves as a rapid communication platform for healthcare providers during an outbreak, providing for case-sharing and discussion. This descriptive analysis portrays the drugs reported in the treatment of patients with COVID-19 thus far on the CURE ID platform.

## Materials and Methods

We extracted individual case reports of treatments and outcomes from published peer-reviewed literature, user submitted case reports, and from the University of Pennsylvania's CORONA database to further populate the CURE ID database. Case reports were uploaded in the app by using Standard Operating Procedures (SOPs) that ensured data uniformity and standardization.

## Results

As of April 2021, a total of 1109 COVID-19 case reports, treated with 239 different drugs have been included in the CURE ID platform. Majority (58%) of the reported cases were in males. Hypertension and diabetes mellitus were the most frequently reported comorbidities. Hydroxychloroquine (n=526), Lopinavir-Ritonavir (n=350), Azithromycin (n=289), Tocilizumab (n=161) and Methylprednisolone (n=153) were the most frequently reported drugs.

## Results and Discussion (continued)

Only 34% of the cases reported severity of patient's illness, out of which 226 were inpatients, 142 ICU/critical care and 11 were outpatients. Deaths ranged from 3% – 20% across all drugs, with a total mortality rate of 16% in the sample.

Reported therapeutic categories (based on proposed mechanism of action) included antivirals, antibiotics, immune modulators, corticosteroids, anticoagulants and others (Figure 3).

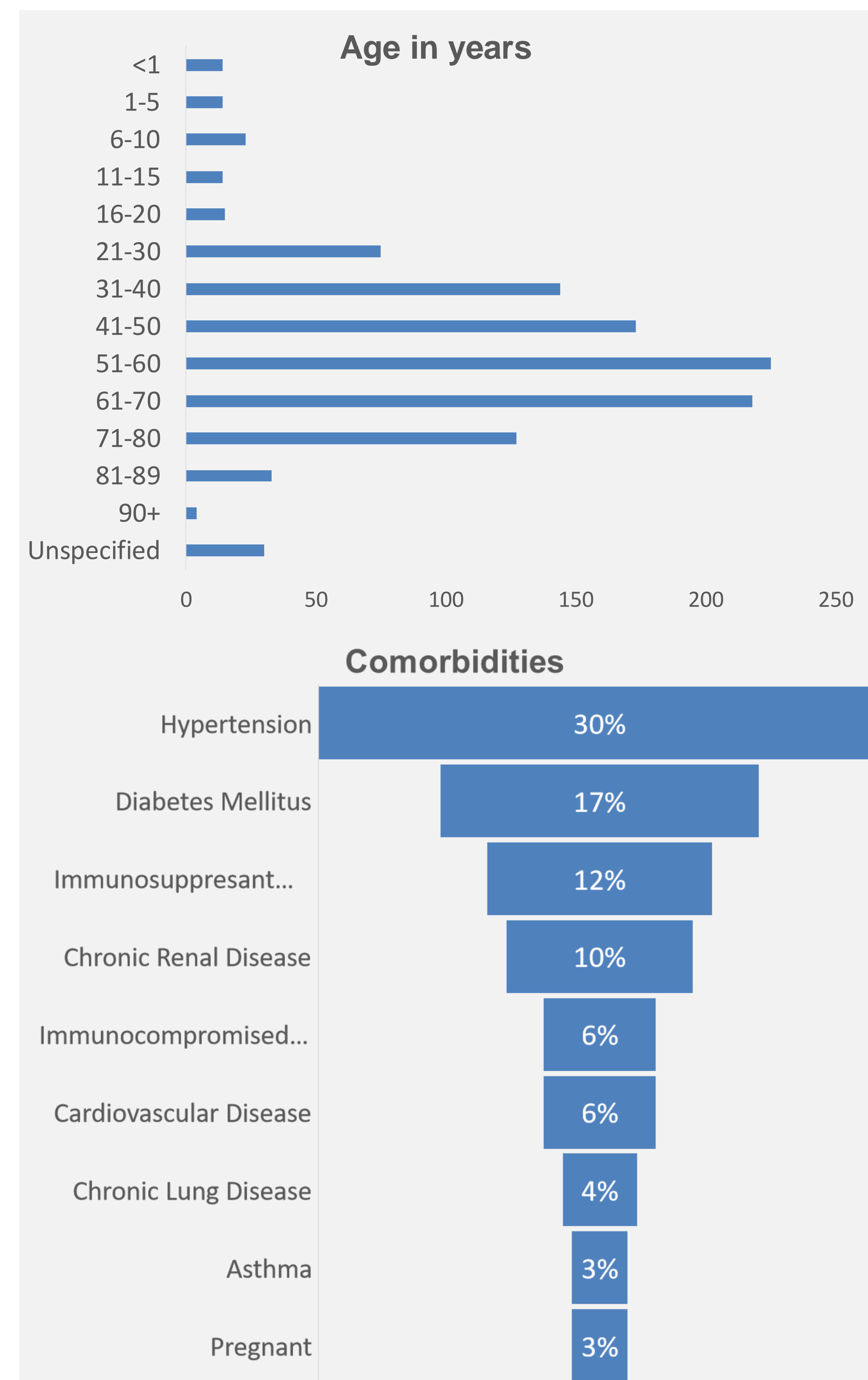


Figure 1. Distribution by Patient Characteristics

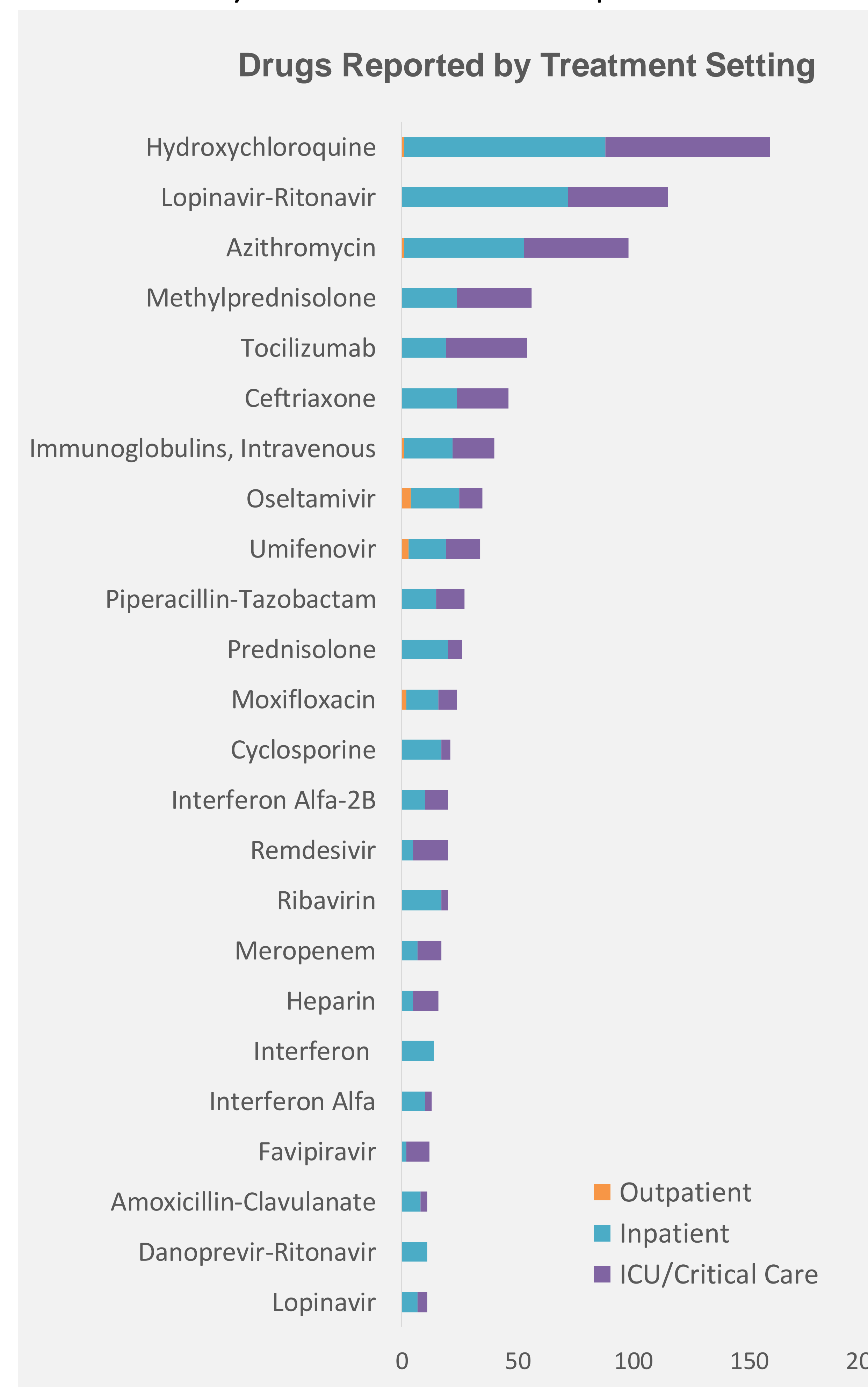


Figure 2. Distribution of Drugs Reported by Treatment Setting

Drug Category	Percentage
Antivirals	46%
Antibiotics	24%
Immune modulators	14%
Corticosteroids	7%
Anticoagulants	3%
Others	6%

Figure 3. Breakdown of Drugs Utilized by Category

## Conclusion

We extracted individual case reports of treatments and outcomes based upon severity of COVID-19 disease presentation from published peer-reviewed literature, user submitted case reports, and from the University of Pennsylvania's CORONA database to further populate the CURE ID database.

Case reports were gathered on patients from more than 40 different countries, in all regions of the world.

More than 200 drugs have been repurposed in an attempt to treat patients with COVID-19.

No conclusions about the efficacy of these drugs can be drawn based upon this data, given the high spontaneous recovery rates for this illness and the lack of adequately controlled studies.

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## Disclaimer

This poster reflects the views of the authors and should not be construed to represent NIH or FDA's views or policies.