

Background

- The COVID-19 pandemic has caused a major public health crisis and is now a leading cause of death.
- At the start of the COVID-19 pandemic, treatment was limited to supportive care and off-label use of a variety of agents as we awaited the results of randomized controlled trials (RCTs).
- Our understanding of the disease has evolved and multiple evidence-based (EBM) treatment strategies supported by RCTs are now approved for use.
- Interpreting emerging data while responding to the pandemic can be challenging. We seek to understand the use of common medications during the COVID-19 pandemic.

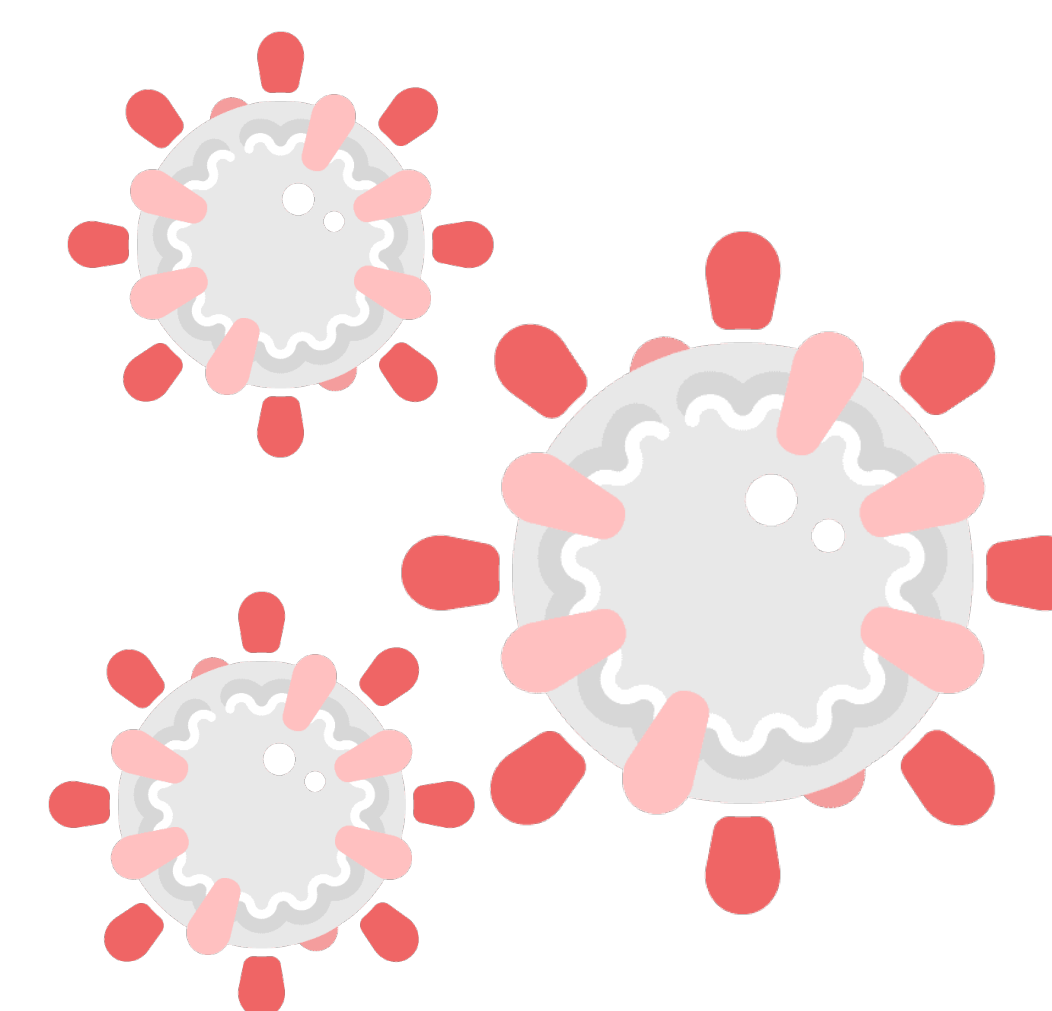
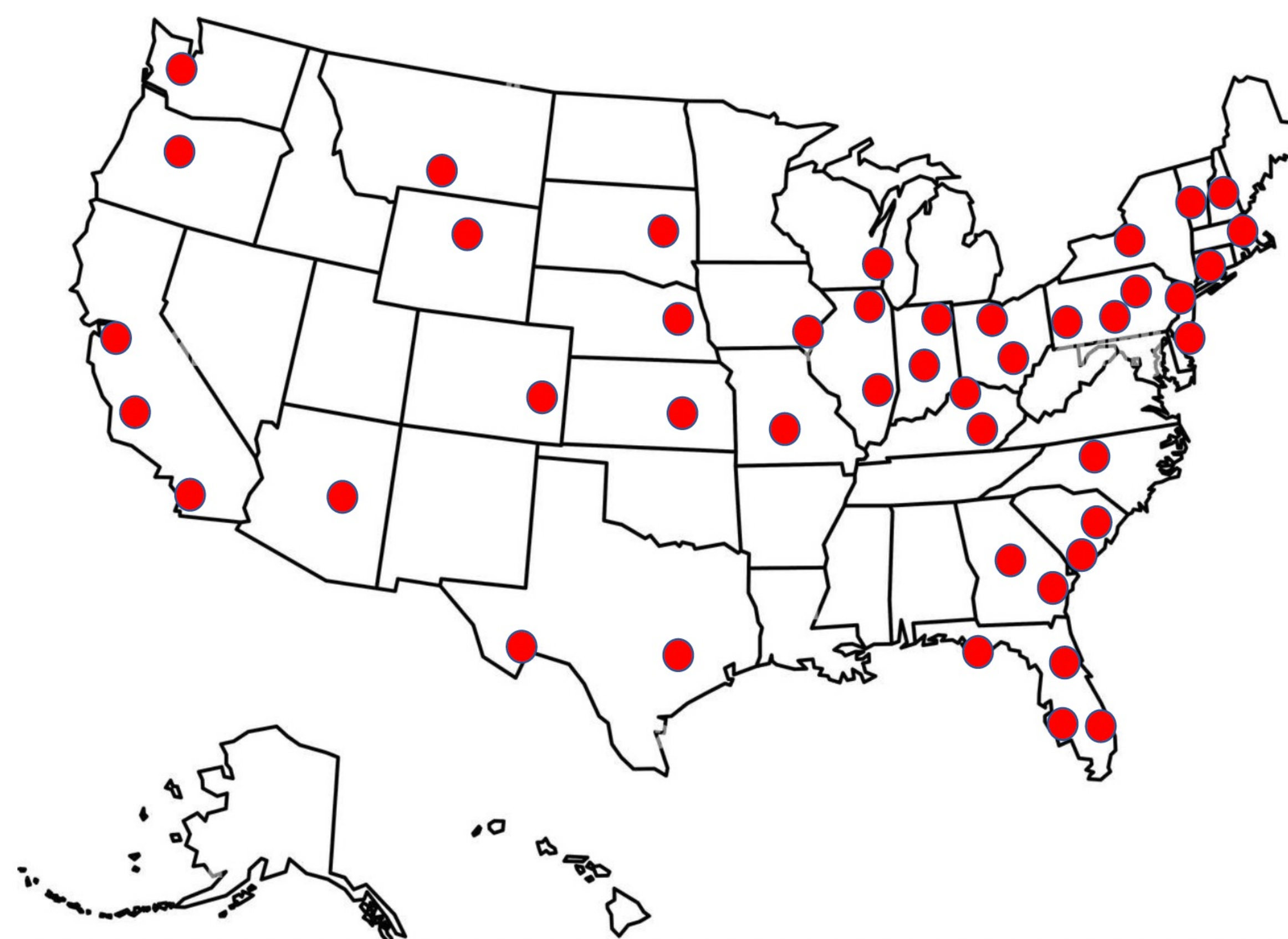
Methods

- A survey was developed and disseminated through Infectious Diseases Society of America (IDSA) IDea network, IDSA Antimicrobial Stewardship Centers for Excellence and the Society for Healthcare Epidemiology messaging boards.
- Data collected included city, therapeutic options including convalescent plasma (CP), hydroxychloroquine (HCQ), baricitinib and tocilizumab during each COVID-19 wave.

Results

- A total of 78 responses were collected, representing wide geographic reach in the US (Figure 1).
- Use of HCQ declined by 96% and use of CP declined by 85% (Figure 2).
- The decline in CP was gradual each wave despite RCTs showing lack of benefit.
- Tocilizumab was used in 71% and 76% of hospitals during the first wave, prior to RCT data supporting its use.
- Baricitinib was used in 42% of hospitals prior to RCT data supporting its use.
- There was a 90% increase in baricitinib use after RCT data emerged.

Figure 1. Geographic distribution of hospitals represented in the survey



Conclusions

- The use of therapies before proven benefit was common through the pandemic. Similarly, the use of therapies after benefit was in question continued.
- Hydroxychloroquine was widely used in the first wave and then halted by the majority of hospitals in subsequent COVID-19 surges.
- IL-6 and JAK-2 inhibitors were commonly used prior to evidence of benefit and were more widely adopted once evidence emerged.
- Convalescent plasma use was common despite lack of evidence and its use continued despite multiple negative RCTs.
- Overall, our survey shows a gap between evidence and practice.
- Communicating evidence-based treatment strategies is a vital priority for major professional societies.
- Translating evidence into practice remains challenging during public health emergencies like the COVID-19 pandemic.

Figure 2. Use of Hydroxychloroquine, Convalescent Plasma, Tocilizumab and Baricitinib Throughout Different COVID-19 Waves

