



COVID-19: KEEPING UP WITH A MOVING TARGET

July 8, 2020 UPDATE

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Postgraduate Institute
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Jointly provided by Postgraduate Institute for Medicine, DKBmed, and the Institute for Johns Hopkins Nursing.

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Name of Faculty or Presenter	Reported Financial Relationship
Paul G. Auwaerter, MD, MBA, FIDSA	Scientific Advisor: DiaSorin, Shionogi Inc. JNJ: Ownership equity

Dr. Auwaerter has indicated that he will be referencing the unlabeled or unapproved use of agents currently being investigated in on-going studies and trials. These include hydroxychloroquine/chloroquine, hydroxychloroquine/chloroquine in combination with azithromycin, lopinavir plus ritonavir, tocilizumab, corticosteroids, and COVID-19 convalescent plasma.

All activity, content, and materials have been developed solely by the activity directors, planning committee members, and faculty presenters, and are free of influence from a commercial entity.





CME Information

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Learning Objectives

- Discuss the current trends in new cases and deaths of COVID-19
- Describe data from the recently published report of HCQ
- Discuss the current status of vaccine development





Thank You

This activity is supported by an educational grant from Pfizer, Inc.
and in-kind support by DKBmed, LLC.

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Please see **COVID19.DKBmed.com** for additional resources and
educational activities

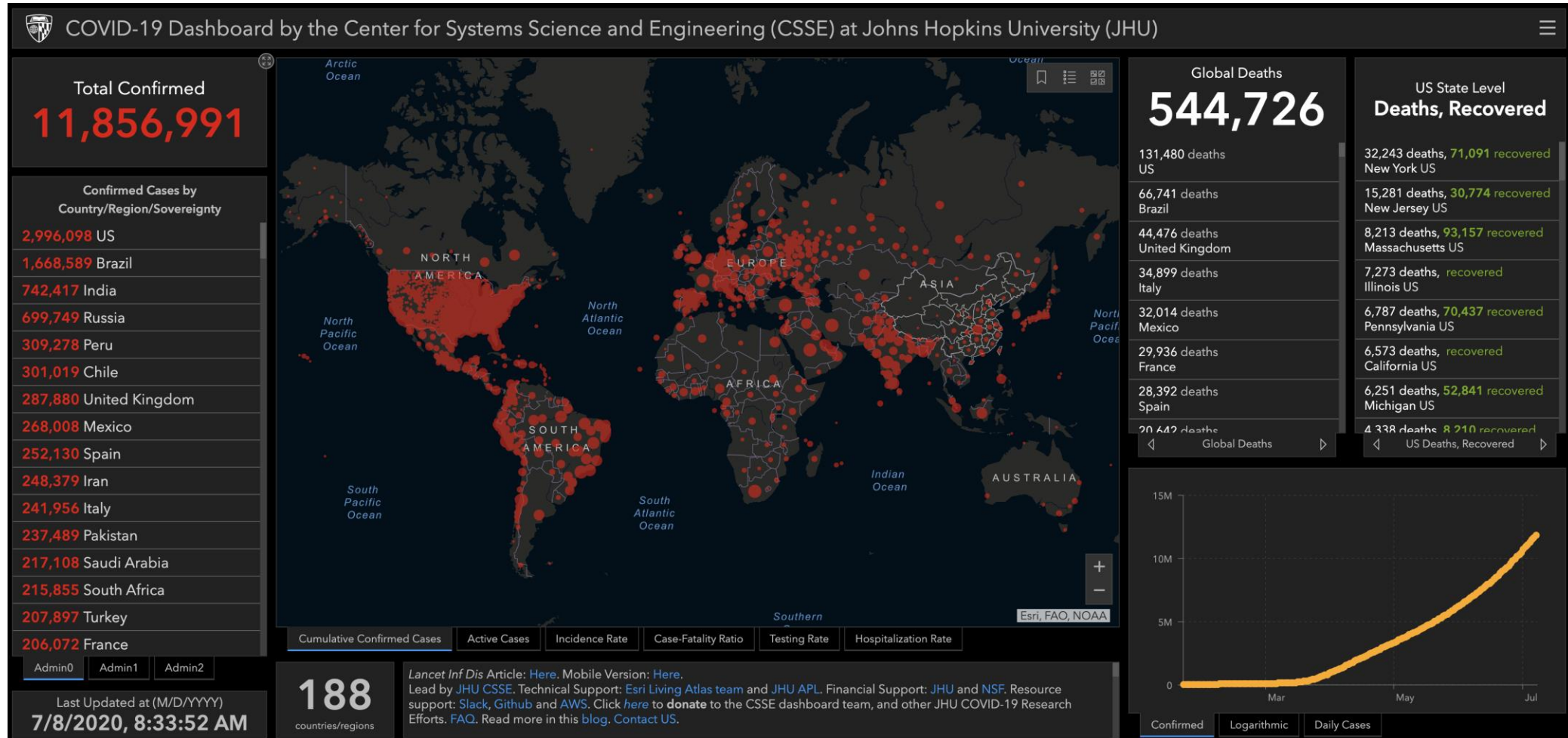




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Total Global Cases (7/8/20)

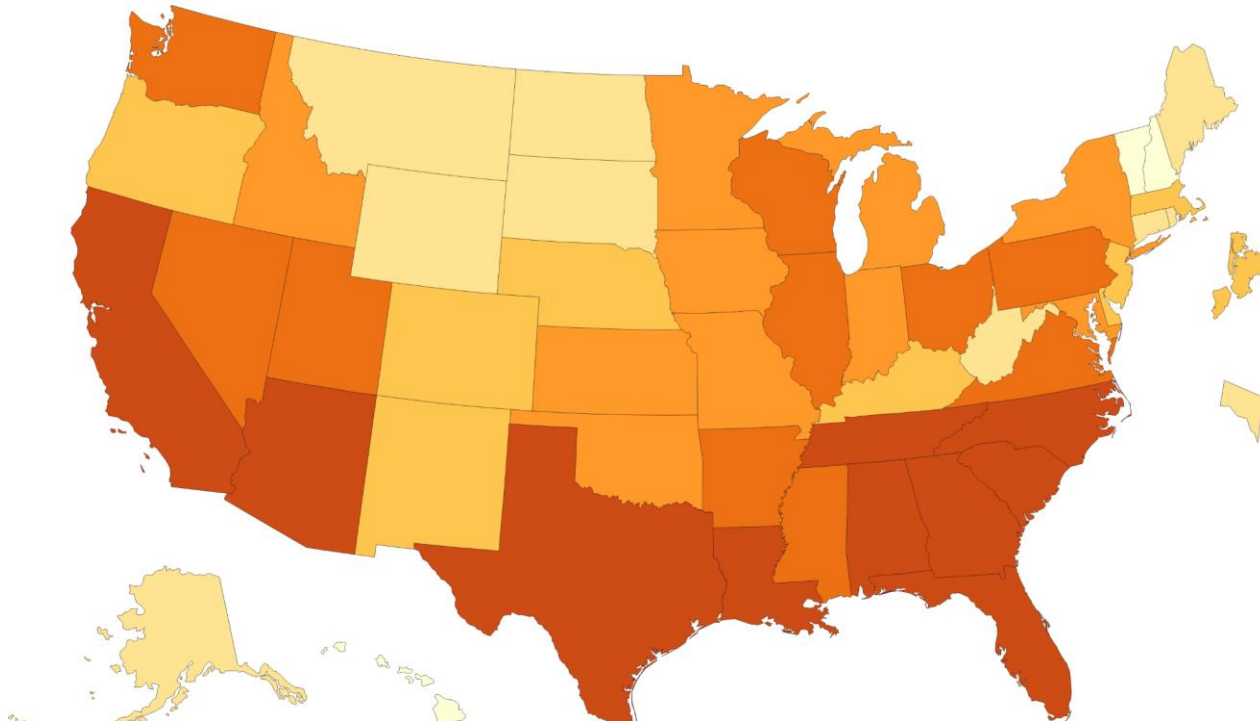


coronavirus.jhu.edu/map.html





US COVID-19 Cases Reported to the CDC in the Last 7 Days, by State/Territory



United States

2,932,596 cases

130,133 deaths

- Trends:
 - Younger
 - Declining deaths (but lag x weeks)

<https://www.cdc.gov/covid-data-tracker/#cases>





Clinical Updates





Recurring COVID-19

Elsevier Public Health Emergency Collection

Public Health Emergency COVID-19 Initiative

[J Infect.](#) 2020 Jun 30

doi: [10.1016/j.jinf.2020.06.073](https://doi.org/10.1016/j.jinf.2020.06.073) [Epub ahead of print]

PMCID: PMC7326402

PMID: [32619697](https://pubmed.ncbi.nlm.nih.gov/32619697/)

Clinical recurrences of COVID-19 symptoms after recovery: viral relapse, reinfection or inflammatory rebound?

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- 11 virologically confirmed patients
 - Second clinically and virologically confirmed episode > 21 d after first and symptom-free interval

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7326402/>





Recurrence v. Reactivation

- Long duration of symptoms, first episode
 - Median 18 d [13-41]
- All had chest CT scan evidence of disease (or worsening)
 - One with PE
 - No evidence of secondary infections
- Serostatus at second episode
 - 5 positive
 - 1 borderline
 - 3 negative
- One of 2 patients w/viral culture = yielded virus

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7326402/>





Recurrence v. Reactivation

- Re-infection?
 - Younger, healthier group with mild disease?
- Recurrence?
 - More vulnerable group, co-morbidities, more ill
 - 3 cases fatal
 - Insufficient control of infection?
 - Some received corticosteroids or recent chemotherapy or rituximab
 - Inflammatory rebound?
- Conclusions: limited study, may not be just one possibility

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7326402/>

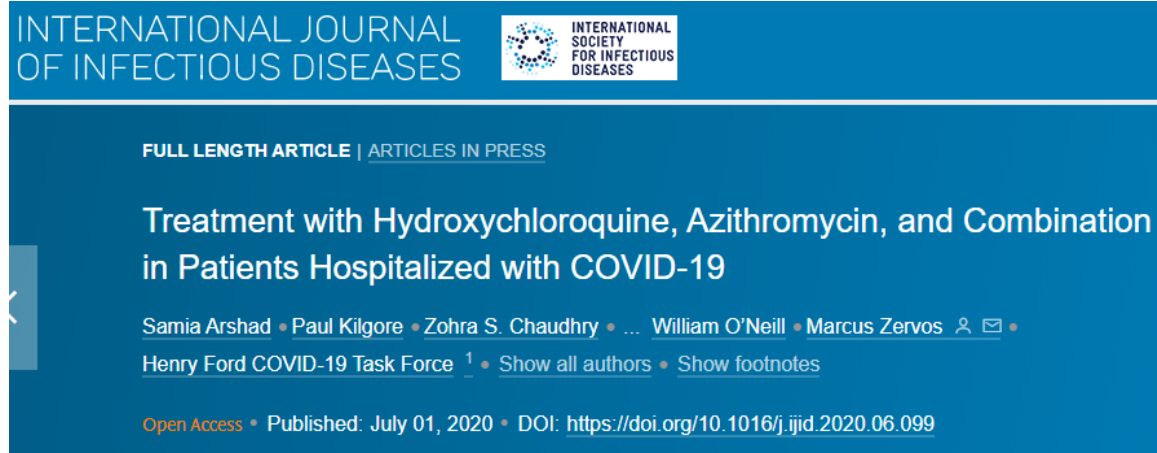




Therapeutics and Prevention



HQC + AZ



Multi-center, retrospective, observational study, 2,541 patients
Consecutive patients

	<u>Mortality</u> (overall 18%)	<u>Patients</u>
1. HCQ alone	13.5% [95% CI: 11.6-15.5%]	162/1202
2. HCQ + AZ	20.1% [95% CI: 17.3-23%]	157/783
3. AZ alone	22.4% [95% CI: 16-30.1%]	33/147
4. Neither	26.4% [95% CI: 22.2-31%]	108/409

[https://www.ijidonline.com/article/S1201-9712\(20\)30534-8/fulltext](https://www.ijidonline.com/article/S1201-9712(20)30534-8/fulltext)



HQC + AZ

INTERNATIONAL JOURNAL
OF INFECTIOUS DISEASES

INTERNATIONAL
SOCIETY
FOR INFECTIOUS
DISEASES

FULL LENGTH ARTICLE | ARTICLES IN PRESS

Treatment with Hydroxychloroquine, Azithromycin, and Combination
in Patients Hospitalized with COVID-19

Samia Arshad • Paul Kilgore • Zohra S. Chaudhry • ... William O'Neill • Marcus Zervos •
Henry Ford COVID-19 Task Force ¹ • Show all authors • Show footnotes

Open Access • Published: July 01, 2020 • DOI: <https://doi.org/10.1016/j.ijid.2020.06.099>

Authors conclude: HCQ or HCQ + AZ reduce mortality

Caveats and Confounders

1. Retrospective, observational
2. 64% in the Neither group > 65 yrs vs < 50% in other groups
3. Patients who were advanced, got neither? Died soon? Drug withheld for other reasons?
4. Many factors not adjusted in analysis (frailty, disease severity, DNR status, steroid use)

[https://www.ijidonline.com/article/S1201-9712\(20\)30534-8/fulltext](https://www.ijidonline.com/article/S1201-9712(20)30534-8/fulltext)





Sarilumab (anti-IL6) Monoclonal Antibody

- Failed phase 3 trial
 - Sarilumab for COVID-19 patients needing mechanical ventilation
 - Did not reach primary or key secondary endpoints
 - 400 mg dose and 800 mg dose
 - Serious adverse events: sarilumab (6%), placebo (5%)
 - Trial terminated
- Separate international trial remains underway with a different dosing regimen for severe and critical COVID-19.

Conclusion: targeted therapy (IL-6) may be less useful than broader anti-inflammatories (dexamethasone/RECOVERY trial)

<https://www.sanofi.com/en/media-room/press-releases/2020/2020-07-02-22-30-00>





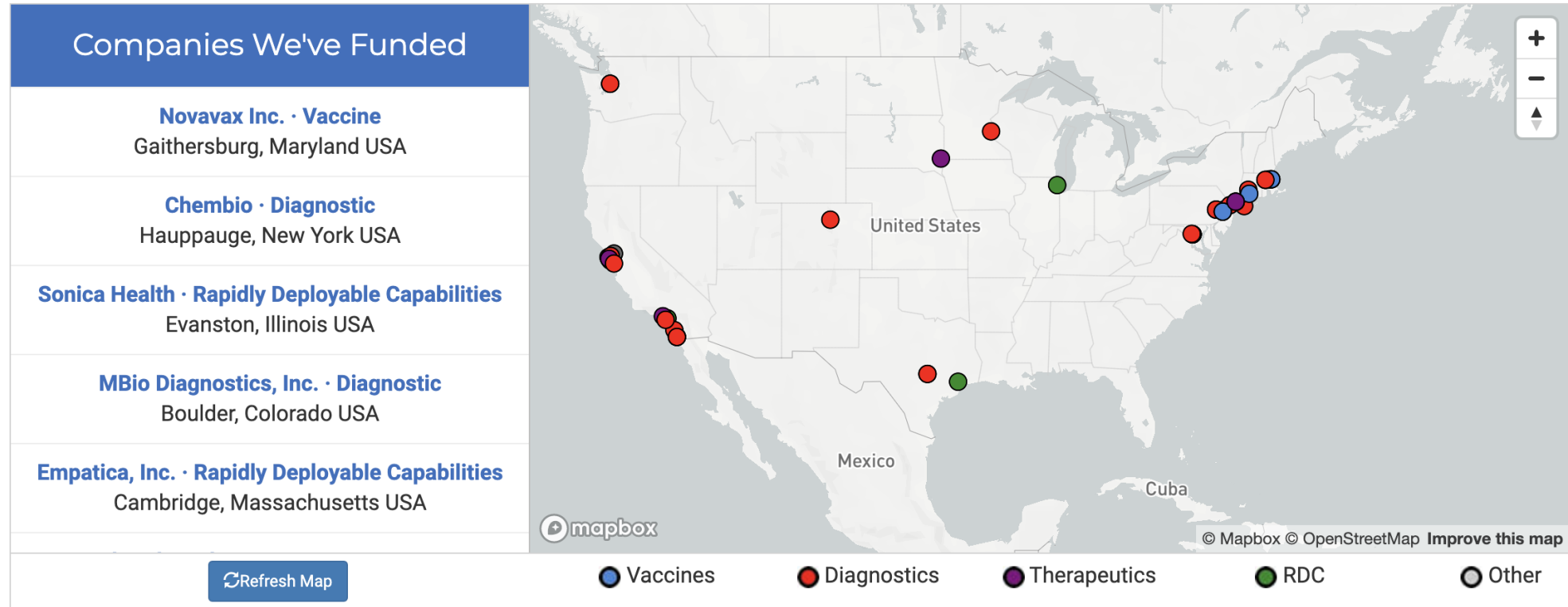
Operation Warp Speed Update

- Only partial list of companies/products known
 - BARDA-backed vaccines: Merck, JNJ, Pfizer, Astra-Zeneca, Novavax
- Concept: at-risk manufacturing → 100 Million doses
 - Five vaccines (three known)
 - Astra-Zeneca (adenovirus-based)
 - Moderna (RNA)
 - Novavax
 - ❖ Largest deal to date: \$1.6 billion
 - ❖ Prefusion protein made using its proprietary nanoparticle technology and includes Novavax' proprietary Matrix-M™ adjuvant.
 - A Phase 1/2 clinical trial of NVX-CoV2373 in 130 healthy participants began in May
 - Monoclonal antibodies
 - Regeneron REGN-COV2 (double mAb cocktail)

<https://www.sciencemag.org/news/2020/07/operation-warp-speed-s-opaque-choices-covid-19-vaccines-draw-senate-scrutiny>
<https://medicalcountermeasures.gov/app/barda/coronavirus/COVID19.aspx>



BARDA Portfolio: 35+ Products/Companies



Do you have a product for COVID-19 that should be added to the BARDA Portfolio? [Submit a request today](#) so BARDA can learn about your product.





US Government Responses

- Positive:
 - Products available for the public without lag if shown to be effective
- Uncertainty:
 - Product selection process unclear
 - Often small studies (e.g., 30-50 participants) used to back major efforts
 - Novel approaches backed more than “tried and true”





To submit your own question, please email QA@dkbmed.com





Some states, for example California, have a lower mortality rate than other states. To what can this be attributed?





**Are the saliva tests as accurate as the
nasopharyngeal tests?**





If nasal swab is not performed deep as instructed and only in the local nasal cavity, would that test be accurate? What are your thoughts on why so many tests are coming back negative and patients are showing symptoms?





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