8-27-2020

Covid-19 Clinical Update 8/27/2020

George Washington University

1. EPIDEMIOLOGY
2. TESTING
3. PATHOPHYSIOLOGY
4. TREATMENT
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COVID-19 UPDATE

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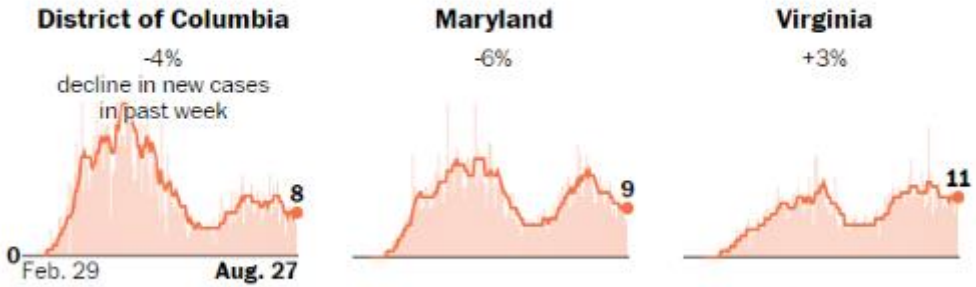
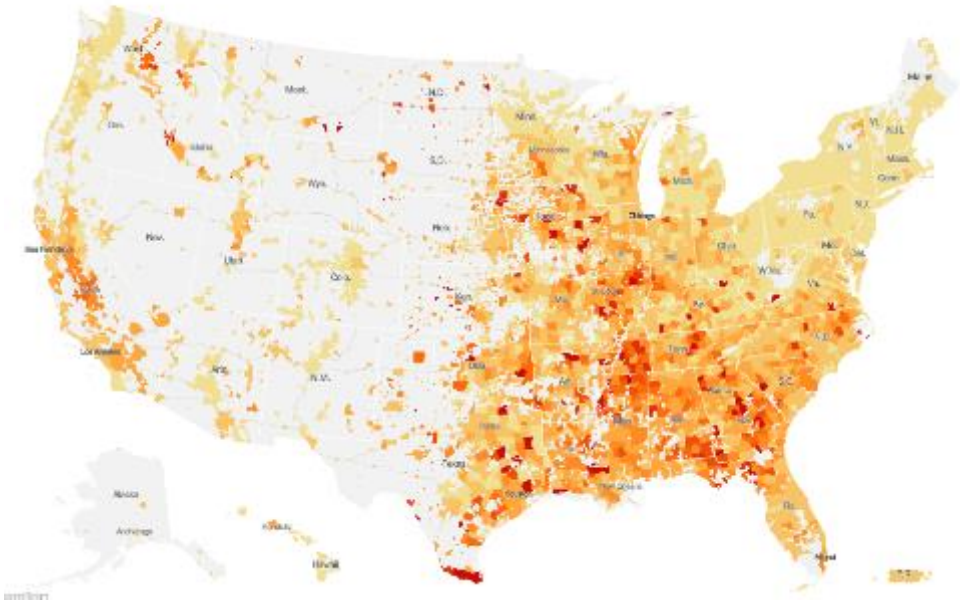
8/27/2020

DISCLOSURES: NO FINANCIAL COI. PRE-PRINT FINDINGS AND INVESTIGATIONAL USE MAY BE DISCUSSED.

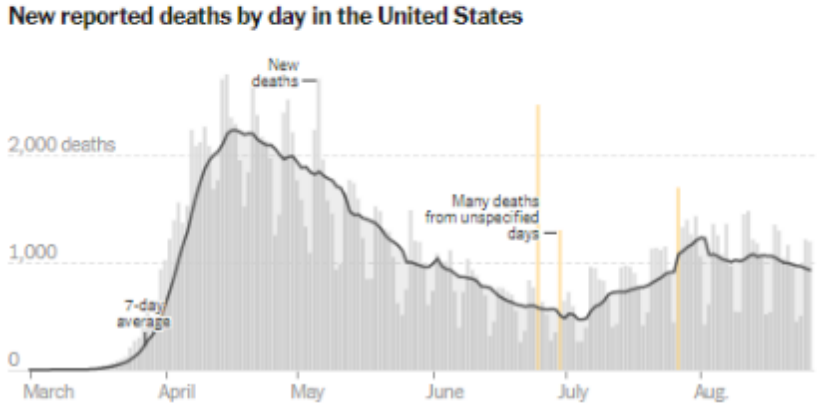
Data as of August 27 at 9:15 a.m.

7-DAY AVERAGE OF DAILY NEW REPORTED CASES PER 100K

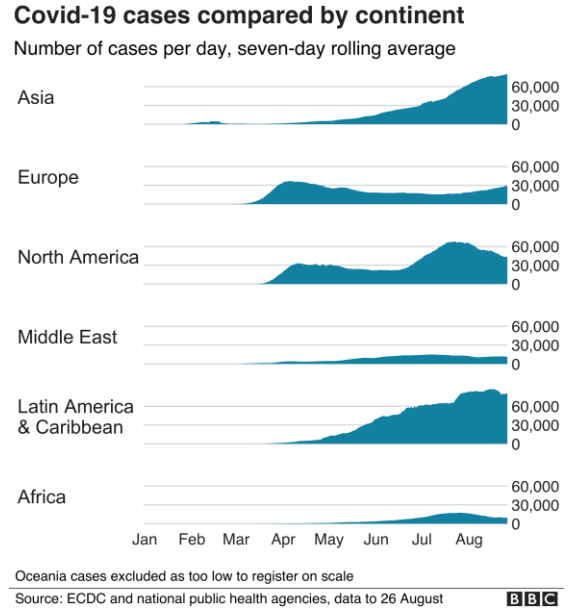




Note: The seven-day average is the average of a day and the previous six days of data.



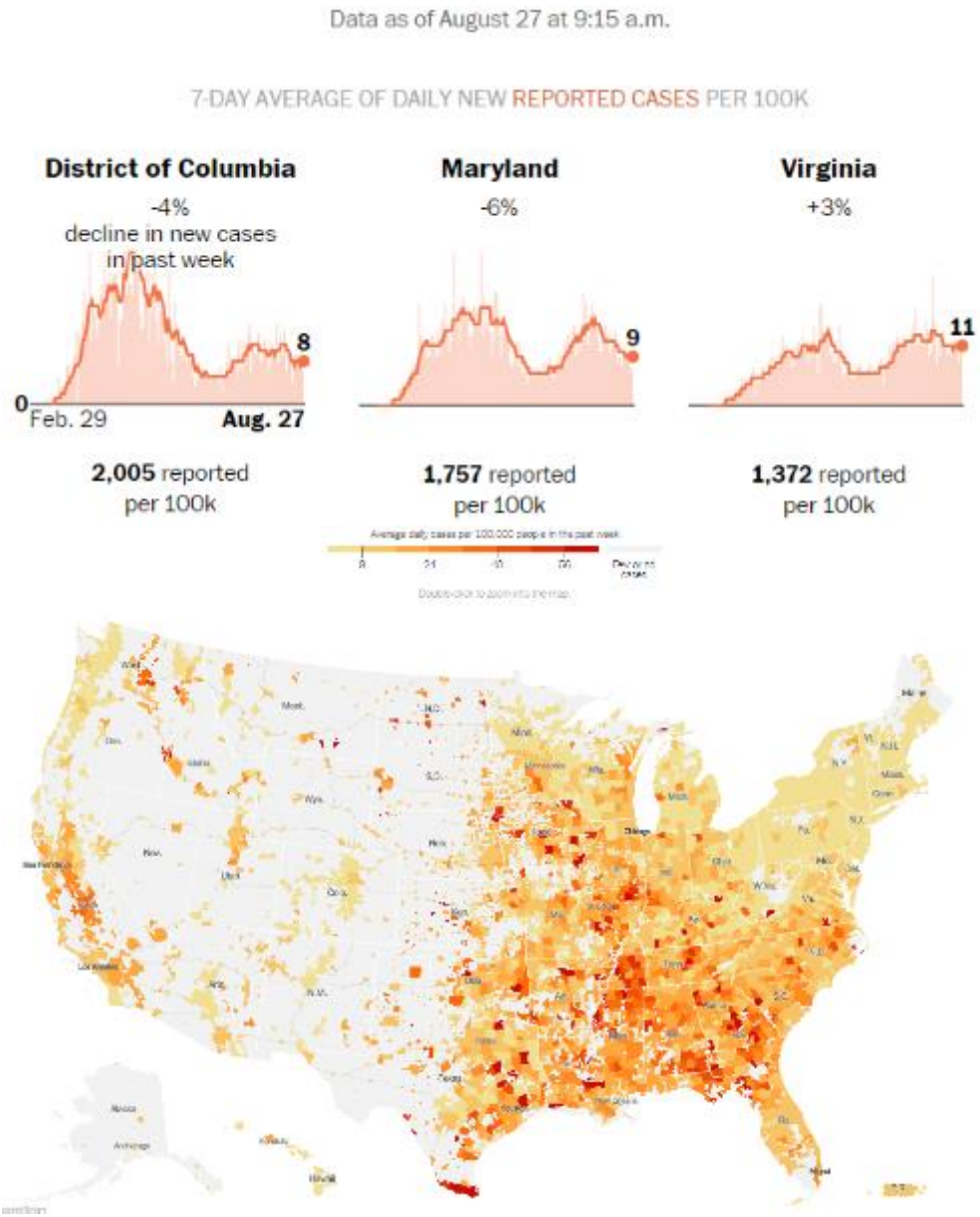
These are days with a data reporting anomaly. Read more here.

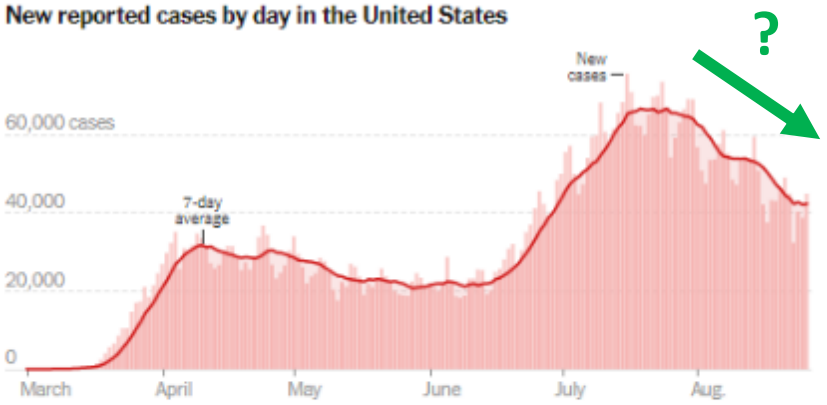


Oceania cases excluded as too low to register on scale

Source: ECDC and national public health agencies, data to 26 August BBC

https://www.washingtonpost.com/graphics/local/dc-maryland-virginia-coronavirus-cases/
https://www.nytimes.com/interactive/2020/us/coronavirus-us-cases.html
https://globalepidemics.org/july-6-2020-state-testing-targets/





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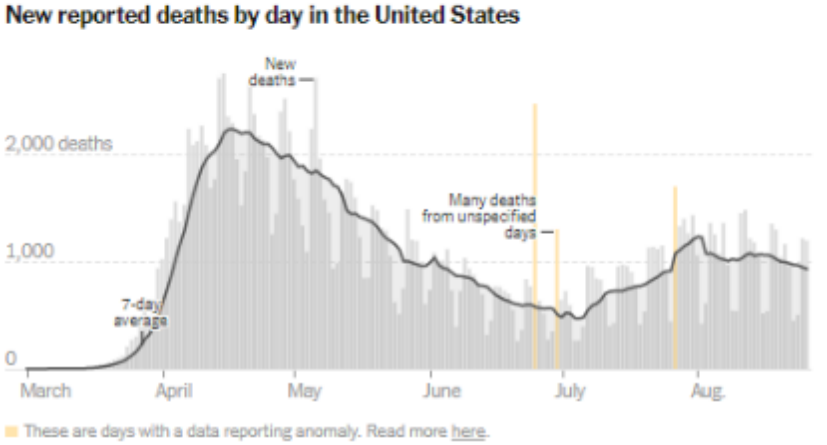


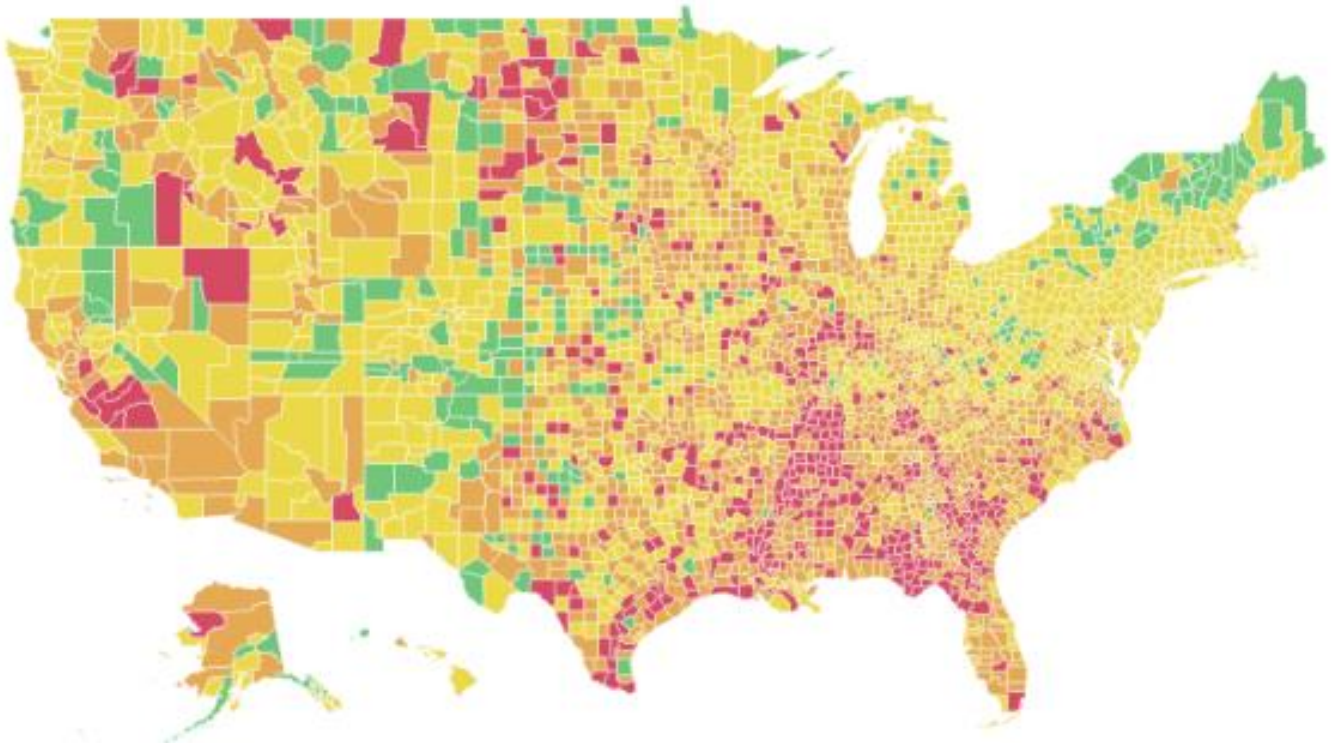
These are days with a data reporting anomaly. Read more here.

- Data reporting
- Testing capacity
- State/local orders
- Behavior change

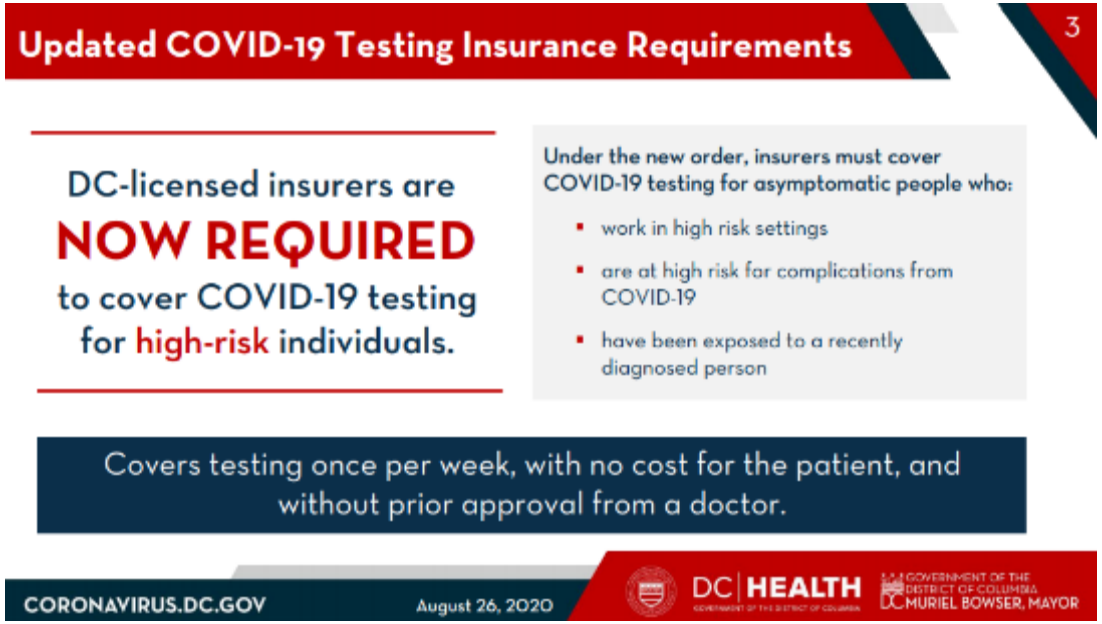
- Mortality rate ↓
- Population tested
- Population infected

https://www.washingtonpost.com/graphics/local/dc-maryland-virginia-coronavirus-cases/
https://www.nytimes.com/interactive/2020/us/coronavirus-us-cases.html
https://globalepidemics.org/july-6-2020-state-testing-targets/

Risk Map



HARVARD GLOBAL HEALTH INSTITUTE



https://globalepidemics.org/key-metrics-for-covid-suppression/
https://coronavirus.dc.gov/

Testing News

The Good

- Growing selection of antigen tests
- Most require NP or nasal turbinates
- Most require laboratory processing
- Abbott Binax Now lateral flow assay approved by FDA (Sn 97.1%, Sp 98.5% c/w gold standard PCR)
- “Lower barrier” but may miss infection with lower virus; prone to false-positives in a low-prevalence population
- May be useful for mass testing to identify and isolate those at highest risk of transmitting virus

The Bad

The Ugly

(CNN) — In a shift that perplexed some doctors, the US Centers for Disease Control and Prevention has changed its Covid-19 testing guidelines to say some people without symptoms may not need to be tested, even if they've been in close contact with someone known to have the virus.

Previously, the CDC said viral testing was appropriate for people with recent or suspected exposure, even if they were asymptomatic.

Related Article: CDC was pressured 'from the top down' to change coronavirus testing guidance, official says

Dr. Leana Wen, an emergency physician and public health professor at George Washington University who was previously Baltimore's health commissioner, said on CNN's New Day on Wednesday that the testing guideline changes make no sense.

"These are exactly the people who should be tested," Wen said, giving the example of a person exposed at work who wants a test so they can protect their family at home.

Reinfection Case Reports

ACCEPTED MANUSCRIPT

COVID-19 re-infection by a phylogenetically distinct SARS-coronavirus-2 strain confirmed by whole genome sequencing FREE

Kelvin Kai-Wang To, Ivan Fan-Ngai Hung, Jonathan Daniel Ip, Allen Wing-Ho Chu, Wan-Mui Chan, Anthony Raymond Tam, Carol Ho-Yan Fong, Shuofeng Yuan, Hoi-Wah Tsoi, Anthony Chin-Ki Ng ... Show more

Author Notes

Clinical Infectious Diseases, ciaa1275, https://doi.org/10.1093/cid/ciaa1275

Published: 25 August 2020 **Article history** ▾

- 33 yo M with no chronic medical problems
- Diagnosis by SARS-CoV-2 RT-PCR both times
- First symptomatic episode in March 2020
  - Sore throat, cough, fever, headache; hospitalized for 2 weeks
- Second asymptomatic episode 142 days later (August 2020)
  - Diagnosed at airport screening while traveling from Spain → UK → HK
  - Elevated CRP, positive SARS-CoV-2 IgG
- Whole-genome sequencing showed two different clades/lineages of virus between episodes
- Compared to viral genomes in GISAID, the first virus genome has a stop codon at position 64 of orf8 leading to a truncation of 58 amino acids, and was phylogenetically closely related to strains collected in March/April 2020, while the second virus genome was closely related to strains collected in July/August 2020.
- Another 23 nucleotide and 13 amino acid differences located in 9 different proteins, including positions of B and T cell epitopes, were found between viruses from the first and second episodes.

JAMA Network

QUESTION Does remdesivir provide a benefit on clinical status for patients hospitalized with moderate COVID-19 pneumonia?

CONCLUSION This clinical trial found that hospitalized patients with moderate COVID-19 randomized to a 5-day course, but not a 10-day course, of remdesivir had a statistically significant better clinical status vs standard care at 11 days, but the difference was of uncertain clinical importance.

Original Investigation

Effect of Remdesivir vs Standard Care on Clinical Status at 11 Days in Patients With Moderate COVID-19

A Randomized Clinical Trial

POPULATION

357 Men
227 Women

Patients hospitalized with moderate COVID-19 pneumonia (pulmonary infiltrates plus room air oxygen >94%)

Median age: 57 years

LOCATIONS

105 Hospitals in the United States, Europe, and Asia

INTERVENTION

596 Patients randomized
584 Patients analyzed

193 **10-Day remdesivir**
IV remdesivir, 200 mg on day 1, followed by 100 mg/d

191 **5-Day remdesivir**
IV remdesivir, 200 mg on day 1, followed by 100 mg/d

200 **Standard care**

PRIMARY OUTCOME

Clinical status on day 11 rated on a categorical scale (1 = death , 7 = discharged) reported as odds ratio (OR >1 indicates difference in clinical status toward category 7 for remdesivir)

FINDINGS

Clinical status on day 11

The difference in the primary outcome indicating better clinical status at day 11 was **statistically significant** for the 5-day remdesivir group compared with the standard care group:

OR = **1.65** (95% CI, 1.09 to 2.48);
5-day remdesivir vs standard care, *P* = .02

The difference in the primary outcome indicating better clinical status at day 11 was **not statistically significant** for the 10-day remdesivir group compared with the standard care group:

10-day remdesivir vs standard care, *P* = .18

Spinner CD, Gottlieb RL, Criner GJ, et al; for the GS-US-540-5774 Investigators. Effect of remdesivir vs standard care on clinical status at 11 days in patients with moderate COVID-19: a randomized clinical trial. *JAMA*. Published online August 21, 2020. doi:10.1001/jama.2020.16349

Remdesivir

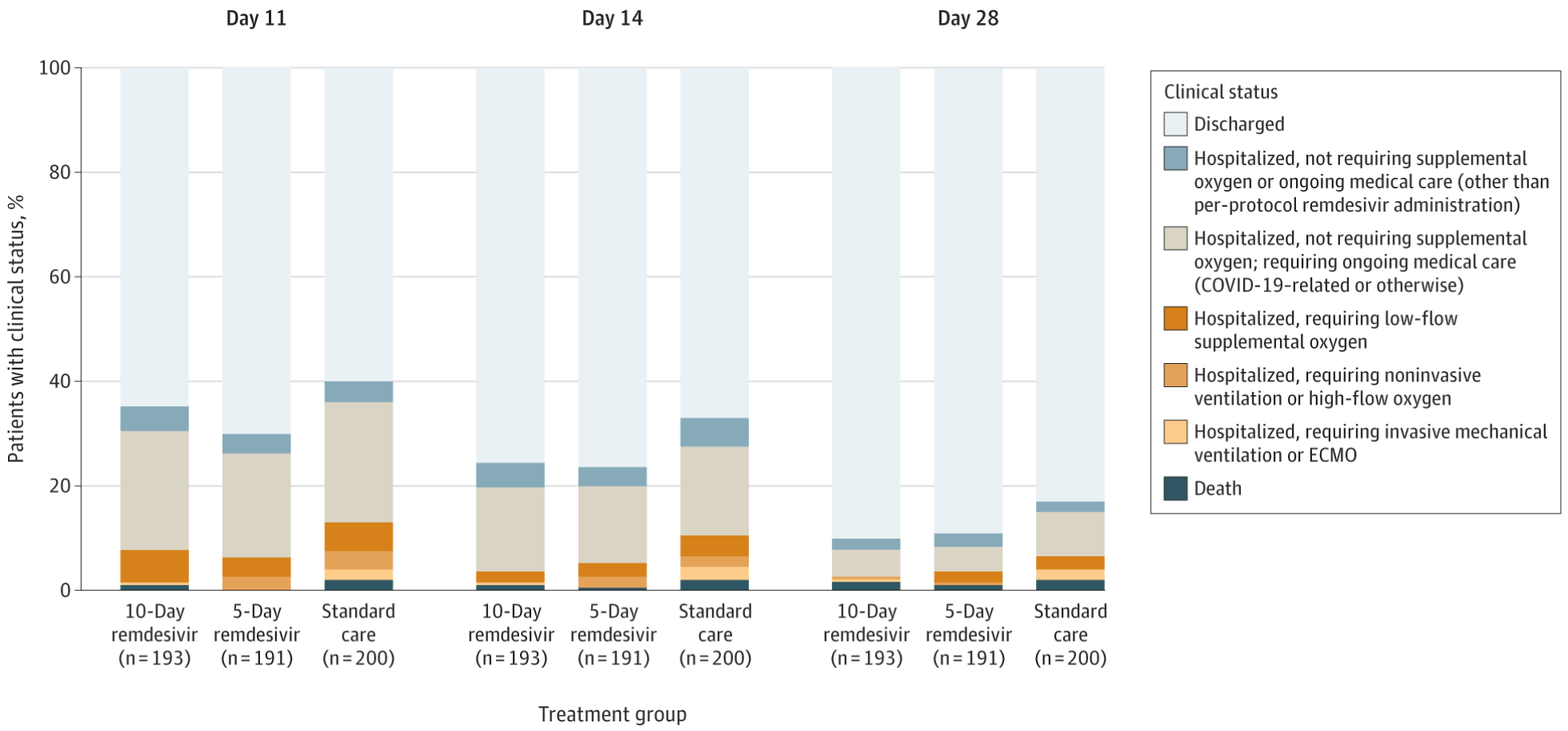
Original Investigation ONLINE FIRST FREE
August 21, 2020

Effect of Remdesivir vs Standard Care on Clinical Status at 11 Days in Patients With Moderate COVID-19

A Randomized Clinical Trial

Christoph D. Spinner, MD[1]; Robert L. Gottlieb, MD, PhD[2]; Gerard J. Criner, MD[3]; et al
Author Affiliations | Article Information

JAMA. Published online August 21, 2020. doi:10.1001/jama.2020.16349



FDA NEWS RELEASE

FDA Issues Emergency Use Authorization for Convalescent Plasma as Potential Promising COVID–19 Treatment, Another Achievement in Administration's Fight Against Pandemic

Share Tweet Linkedin Email Print

For Immediate Release: August 23, 2020

"Both the EUA press release and Secretary Azar indicated that convalescent plasma reduces mortality by 35%; however, it is unclear exactly what these statements are based on. Several experts have asserted that these statements overestimate or misrepresent the drug's effect. Rather than a groundbreaking treatment, it may be more likely that convalescent plasma provides incremental benefit to COVID-19 patients."

-- Johns Hopkins Center for Health Security

Key limitations: neutralizing antibody titers, stage of disease at which given, difficulty in attributing effects when multiple modalities of treatment given

IDSA: further research through clinical trials needed

https://www.fda.gov/news-events/press-announcements/fda-issues-emergency-use-authorization-convalescent-plasma-potential-promising-covid-19-treatment

GW Updates

- Critical Care and Emergency Medicine updates
- Moderna mRNA vaccine trial ongoing
- Convalescent plasma available from Blood Bank, note limitations discussed
- COVID Recovery Clinic in the works
- No change in our testing approach
- No change in our continued safety efforts