

Outbreak Breakdown

May 8, 2020

This weekly report is provided as an informal information resource for certain AdvaMed member work groups. Content is provided by staff and is not to be construed as conveying AdvaMed viewpoints or endorsement. AdvaMed's COVID-19 response is led by [Chris White](#), AdvaMed COVID Action Team Leader, COO & General Counsel. Newsletter contacts: [Andy Fish](#), Chief Strategy Officer and [Kristina Shultz](#), Manager, Strategy & Policy.

AdvaMed Update

Code of Ethics Compliance Guidance Related to COVID-19: Earlier this week, AdvaMed released a new [guidance](#) intended to help AdvaMed members and other medtech companies develop and implement processes that support rapid decision-making in the context of the pandemic. AdvaMed's press release can be read [here](#).

VentConnect Launch: On Thursday, AdvaMed announced a new online [platform](#) to connect ventilator companies with component suppliers to help quickly scale production and distribution of these vital devices. This platform was developed with the Aerospace Industries Association (AIA), Google, and other partners. AdvaMed's press release can be read [here](#).

AdvaMed CEO Scott Whitaker on PBS News Hour and DeviceTalks Podcast: This week, AdvaMed CEO Scott Whitaker joined the weekly [DeviceTalks](#) podcast to discuss the medtech industry's pandemic response. Scott also was live on [PBS News Hour](#) to discuss the ongoing efforts of the medtech industry to increase production of PPE for healthcare workers.

MedTech Responds: For comprehensive information on AdvaMed's COVID-19 response and resources, please visit <https://medtechresponds.com>.

Something Completely Different

[Incoming FaceTime call from...some Japanese eels](#)

Headlines

[Tulane Outbreak Daily](#)

[Johns Hopkins Daily COVID-19 Situation Reports](#)

[When Will It Be Safe To End Coronavirus Lockdowns?](#) | New Yorker, May 8

[U.S. Coronavirus Testing Still Falls Short. How's Your State Doing?](#) | NPR, May 7

[After Recovery From the Coronavirus, Most People Carry Antibodies](#) | New York Times, May 7

[Most States That Are Reopening Fail to Meet White House Guidelines](#) | New York Times, May 7

[The Problem With Stories about Dangerous Coronavirus Mutations](#) | The Atlantic, May 6

[The Urgent Quest for a Coronavirus Treatment Involves Door-to-Door Blood Collection and a Llama Named Winter](#) | New York Times, May 6

[Where Americans Are Still Staying at Home the Most](#) | Washington Post, May 6

[Researchers Hypothesize That a Highly Contagious Strain of the Coronavirus is Spreading, but Other Experts Remain Skeptical](#) | Washington Post, May 5

[15 Children Are Hospitalized With Mysterious Illness Possibly Tied to COVID-19](#) | New York Times, May 5 (plus May 8 [update](#))

[Fauci: No Scientific Evidence the Coronavirus Was Made in a Chinese Lab](#) | National Geographic, May 4

[When 'Elective' Surgery is Necessary: Operating During the COVID-19 Pandemic](#) | Forbes, May 4

[Coronavirus Causes Damaging Blood Clots From Brain to Toes](#) | Bloomberg, May 4

[The COVID-19 Riddle: Why Does the Virus Wallop Some Places and Spare Others?](#) | New York Times, May 3

Model of the Week

We have compiled [this informal guide](#) to prominent COVID-19 pandemic modeling initiatives and are updating it from time to time. Model of the Week coverage is based on apparent media and policy relevance, as well as what we deem of interest, not on an independent assessment of the accuracy or credibility of the models discussed.

It was a big week for modeling/forecasting in the news. This week's **Model of the Week** is the elusive, yet-to-be-seen-by-the-public "FEMA Model." On Tuesday, the New York Times [broke news](#) of a leaked internal Trump administration [document](#) that included a model predicting ~200,000 new cases/day and 3000 deaths/day by the end of the month. These numbers are significant increases over our current new case (~25,000/day) and death (~1750/day) counts. After the release of the internal document, the White House and CDC disavowed the report. The creator of the model, a professor from Johns Hopkins, told the [Washington Post](#) that the numbers were from unfinished projections and that he didn't know how or why this leaked document was created, or where it originated. An official from FEMA confirmed that the data was recently presented at a FEMA meeting.

Since then, a few reports have indicated that some states/regions pivoted to making decisions based, at least in part, on this "FEMA Model." Here's an [example](#) from Arizona, though the state then reversed course and said that state-based modeling would continue. However, it may have been premature to refer to this internal document as a model, let alone as an official reference, given its apparent provenance, as well as its lack of state-by-state predictions.

Our **Runner-Up** this week is the newly-revamped [IHME/University of Washington](#) model. You may recall that this is the model oft-cited by the federal government that, as recently as mid-April, forecast that there would only be ~60,000 total deaths by early August. Public health experts and data scientists were quick to raise red flags about the methods behind this model, noting that it was a mathematical (not epidemiological) model designed to predict the peak of hospital resource demand – not deaths – and as we moved past those peaks its predictions became more and more inaccurate. Last weekend, the IHME model disappeared from [CDC's list](#) of preferred models. However, on Monday, IHME [launched](#) a new-and-improved version using different methods better suited for forecasting deaths that now estimates 135,000 deaths by August. Many outlets are reporting that the forecast was "updated," but it's important to note that it was actually an overhaul of their methods to create a new model with better forecasting.

And finally, **Honorable Mention** goes to [Covid Exit Strategy](#). While not a model or forecast, this data-driven project investigates each state's progress on a number of critical interventions needed to stop the virus' spread and presents its findings in a neat, easy-to-read dashboard.

Pandemic Containment & Contact Tracing

Fighting the SARS-CoV-2 pandemic requires implementing “test, trace and isolate” on an [unprecedented scale](#). Experts may reasonably differ on the scope of the [requisite resources and infrastructure](#) but by any measure this is a challenging initiative. Realizing that SARS-CoV-2 transmission was moving faster than the emergence of symptoms, isolation at scale was our first refuge (figuratively and [literally](#)). Production and deployment of both virus and antibody tests continues to expand (notwithstanding [FDA’s recent timeout](#) for antibody tests marketed without the agency’s review).

As [states start lifting stay at home orders](#), work is concurrently under way on [contact tracing](#), the third leg of the containment stool, on state and local levels. [California](#) aims to build a contact tracing workforce 20,000 strong; [New York](#) is aiming for at least 17,000, while New York City also is developing a “[Test and Trace Corps](#)”. To supplement or even anchor such efforts, [digital contract tracing tools](#) have been deployed in various countries around the world and are under development in the U.S, with [Google and Apple](#)’s collaboration on an exposure notification API getting significant attention. A [FAQ](#) on this API indicates that it is developed to be operated on an opt-in basis, be privacy protective, and provide data access only to public health authorities. Nonetheless, at a time when policymakers and the public already are sensitized to data privacy concerns, this API initiative has received significant scrutiny and helped prompt [new proposals](#) for COVID-19 focused privacy constraints. Various publications have examined [privacy considerations](#) of digital contact tracing, and the CDC has offered up [preliminary criteria](#) for evaluating these digital tools.

While digital contact tracing appears to have been an [effective containment tool in multiple Asian countries](#), it remains to be seen whether voluntary adoption in the U.S. would reach the levels necessary to be effective. [Recent polling](#) indicates that Americans continue to be skeptical of privacy in the digital age and may not be persuaded of the merits of relying on their phones for pandemic monitoring. Even in the absence of individual data, however, mobile phones may still play a role in monitoring social distancing, or the lack thereof. Aggregated mobile phone data, for example, indicated that residents of Georgia’s neighboring states [flocked to the state by the tens of thousands](#) as Georgia moved to reopen retail and recreation venues.

Research Roundup

[Emory University Weekly COVID-19 Literature Round-Up](#)

[Prevent Epidemics Weekly Science Review](#)

[Helio COVID-19 Resource Center](#)

ICYMI + Notes

Released This Week: On Tuesday, the Johns Hopkins Center for Health Security published a [National Action Plan for Expanding and Adapting the Healthcare System for the Duration of the COVID Pandemic](#).

SARS-CoV-2 Mutations?: There was media coverage this week of a pre-print from scientists at the Los Alamos National Laboratory reporting that SARS-CoV-2 has mutated into a more transmissible strain. Following the release of that paper, virologists and other experts pushed back on the notion that the novel coronavirus is mutating in any way that’s out of the ordinary for similar viruses (see these [Washington Post](#) and [Atlantic](#) articles on the topic for a detailed explanation). Viruses normally mutate

over time as they replicate, and so far, this virus has appeared relatively stable. The general consensus is that as of now, there's no compelling evidence that these mutations have actually created new strains that are functionally different from others. As with many aspects of this pandemic, only time (and further research) will tell.

Update on Ventilator Mortality: Two weeks ago, we linked to a [study](#) of COVID-19 patients in New York City that reported a very high percentage of deaths in patients receiving invasive mechanical ventilation. At the time, we noted that those researchers likely overestimated the true mortality for patients on ventilators (and they later issued a [correction](#) to address this). Since then another [pre-print](#) (not yet peer-reviewed) reported mortality of 29.7% for patients on invasive mechanical ventilators in a cohort of ICU patients at three Emory Healthcare hospitals. This is lower than other studies have reported so far (in the US and globally). Page 5 of their manuscript includes a brief overview (and citations for) other studies on mortality associated with mechanical ventilation.

Immunity Passports: This week, several thought-provoking reviews of COVID-19 “immunity passports” were published. In JAMA, experts in medical ethics and law contribute their thoughts on the social, legal, ethical, and technical implications of immunity-based licenses/certificates (see G. Persad & E. Emanuel piece [here](#), and M. Hall & D. Studdert piece [here](#)). Another [commentary](#) by A. Phelan in the Lancet also addresses the associated challenges and risks of immunity passports.

Cracking Down on “Bad” Pre-prints: The Economist published a great [article](#) this week examining the pros and cons of allowing researchers to publicly share study results before they are subjected to the usual rigorous process of peer-review. In response to some of those concerns, popular pre-print servers like MedRxiv and BioRxiv have announced that they will begin more closely [scrutinizing](#) submissions before posting them.