

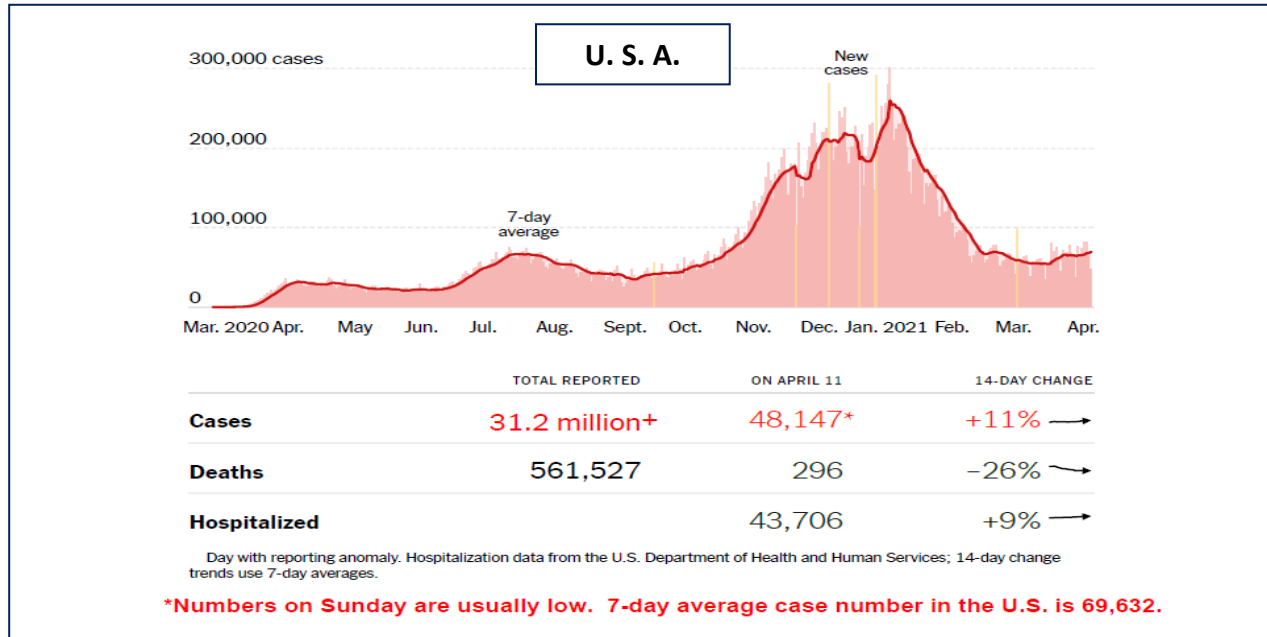
COVID-19 UPDATE – MONDAY, APRIL 12, 2021

Dear Members of the DoM Community,

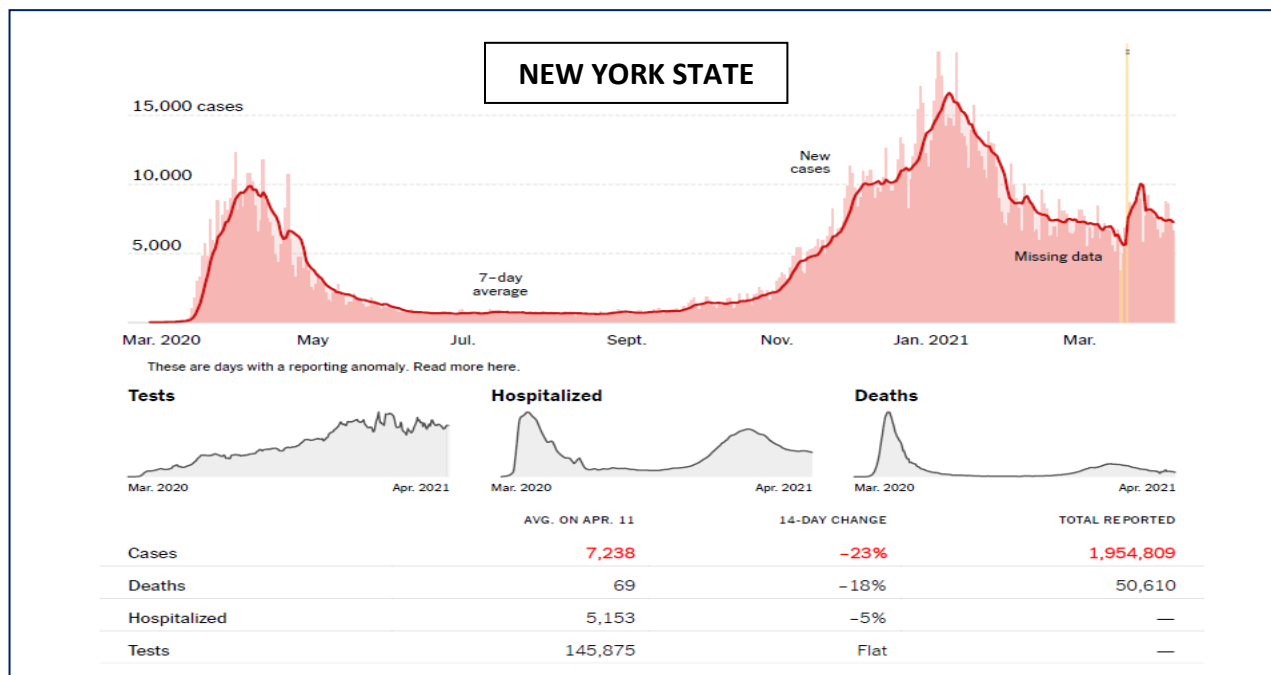
Good morning to you on this Monday as we celebrate the beginning of Ramadan this evening. Here are this week's updates on the COVID-19 pandemic. I hope they keep you informed on the pandemic's status.

1. Nationwide COVID-19 Data

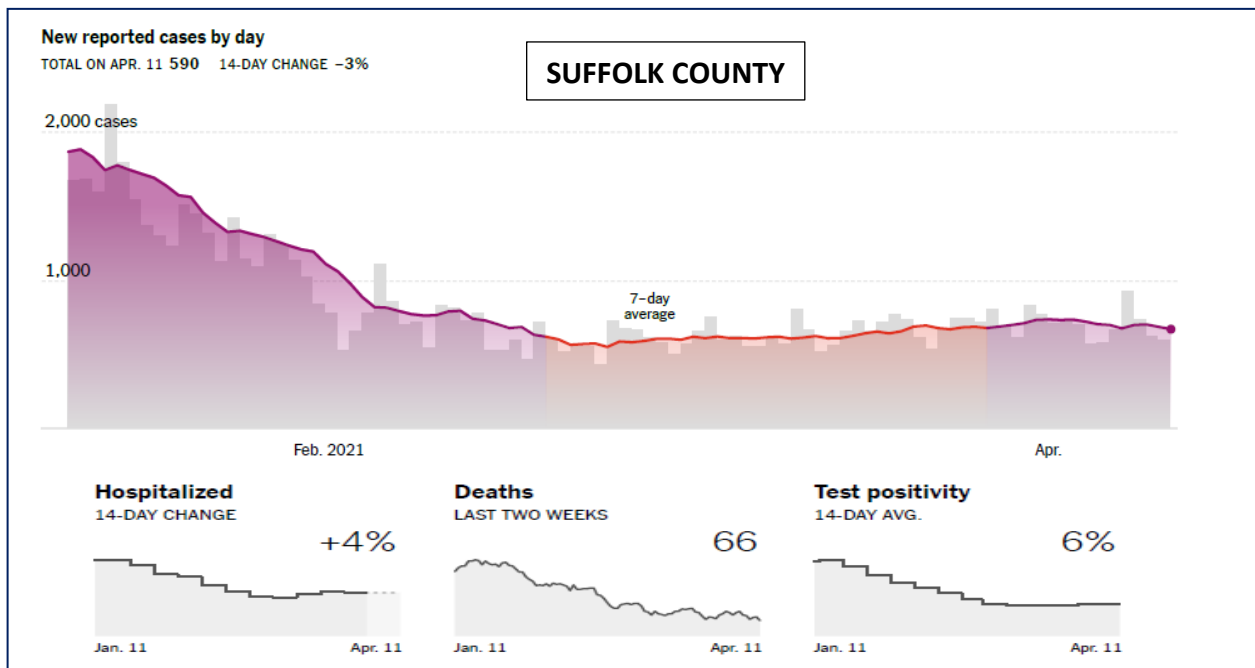
New cases in the U.S. continue to rise (slowly).



2. New case numbers in New York State are slowly declining (the relatively large fall in 14-day average (-23%) is in part due to a data reporting anomaly in late March when several days' worth of data was combined).

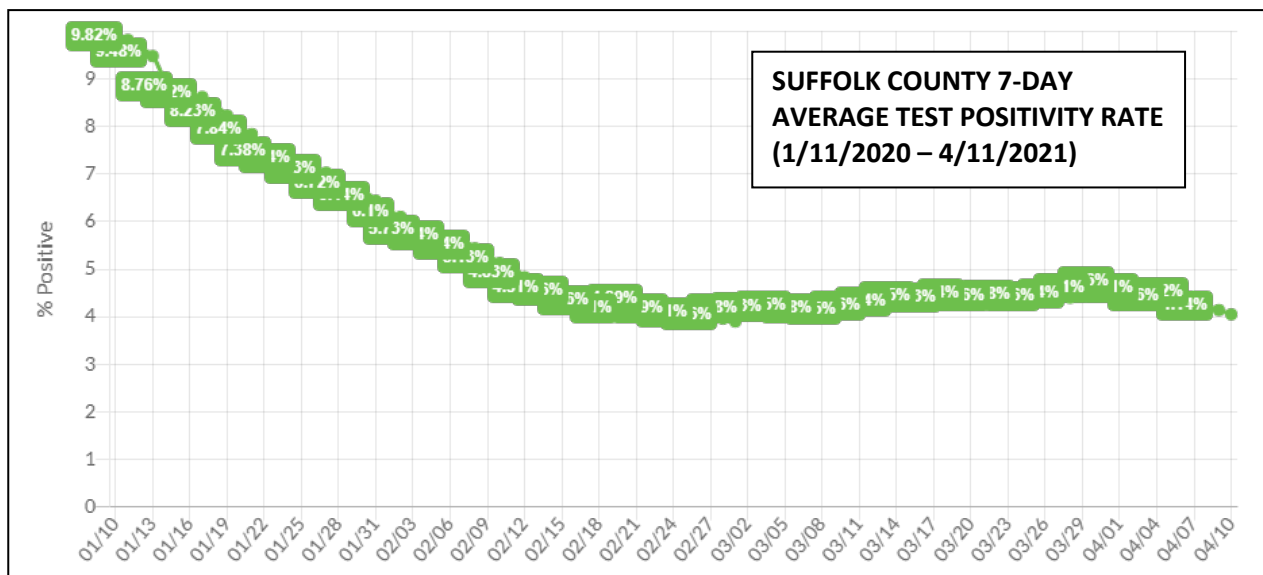


3. Cases in Suffolk County are also slowly declining, although they are still at an **extremely high-risk level** (defined as at or above 45 per 100,000) at a 14-day average of **45 per 100,000** population.



COVID-19 Testing in Suffolk County on April 11:

- 580 new cases were reported.; 7-day average = 667, a **decrease of 51** from one week ago.
- 190,014 total cases have been reported since March of 2020.
- 7-day average test positive rate = 4.05%, a **decrease of 0.45%** from a week before (3-month trend below).



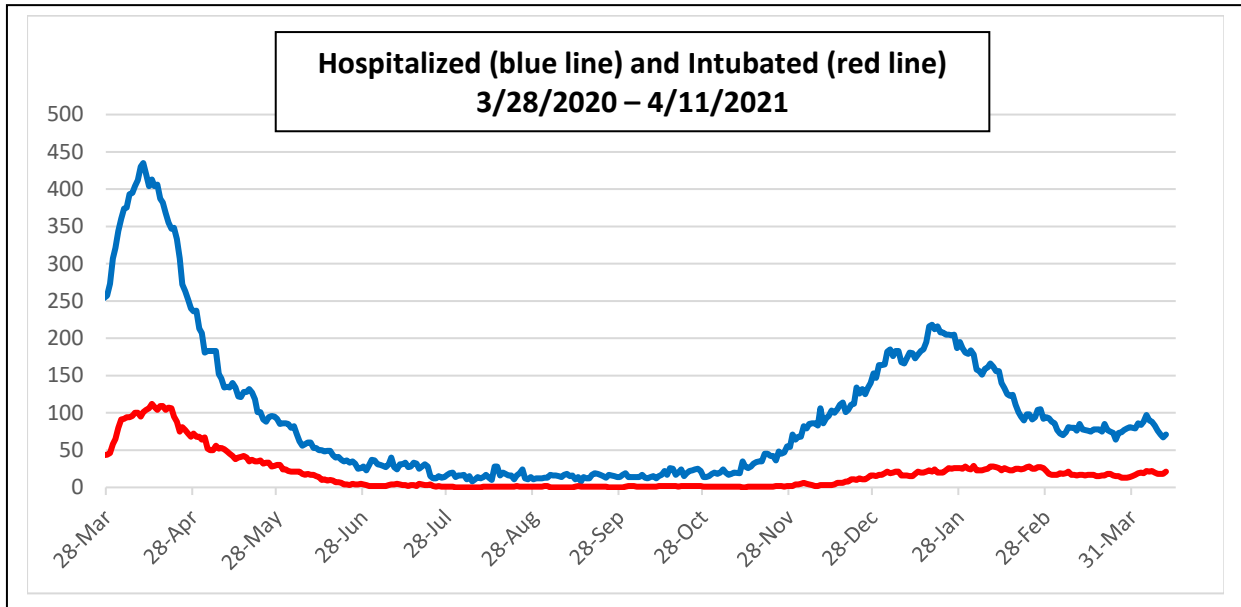
Fatalities:

- 3,295 total fatalities, an **increase of 25** from one week before.

COVID-19 Hospitalizations:

- 316 individuals were hospitalized, a **decrease of 29** from one week before.
- 75 patients were in the Intensive Care Unit (ICU), a **decrease of 3** from a week ago.

4. Daily COVID-19 Hospitalization Data in SBUH

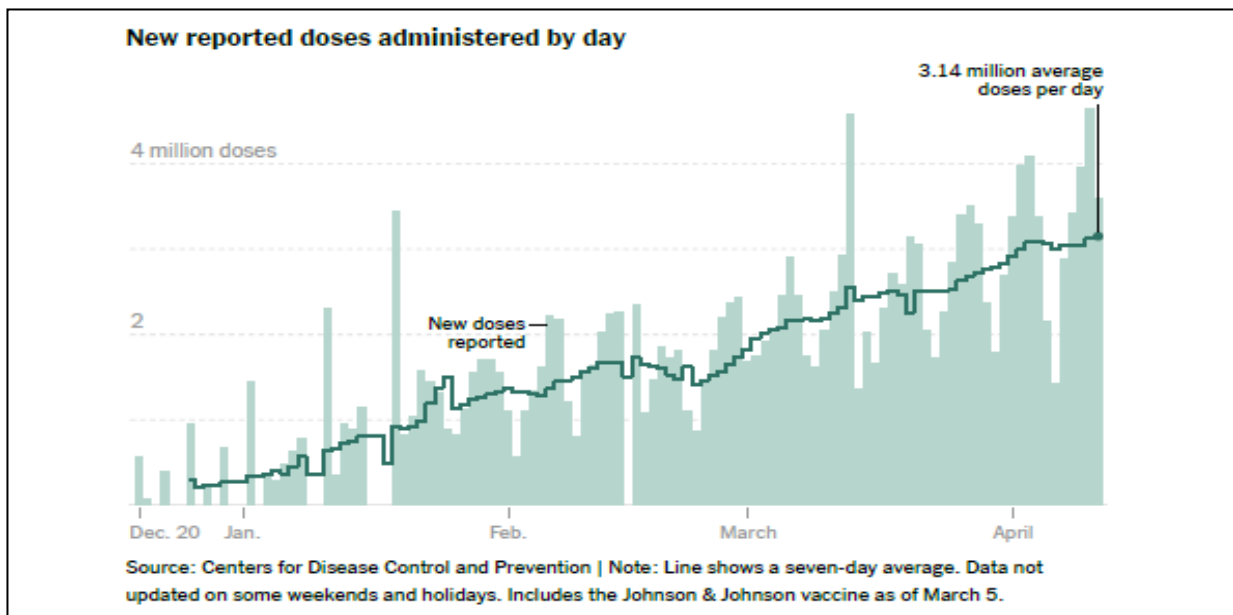


At midnight Sunday, April 11, SBUH census is as follows (see figure above for all-time trend of hospitalization).

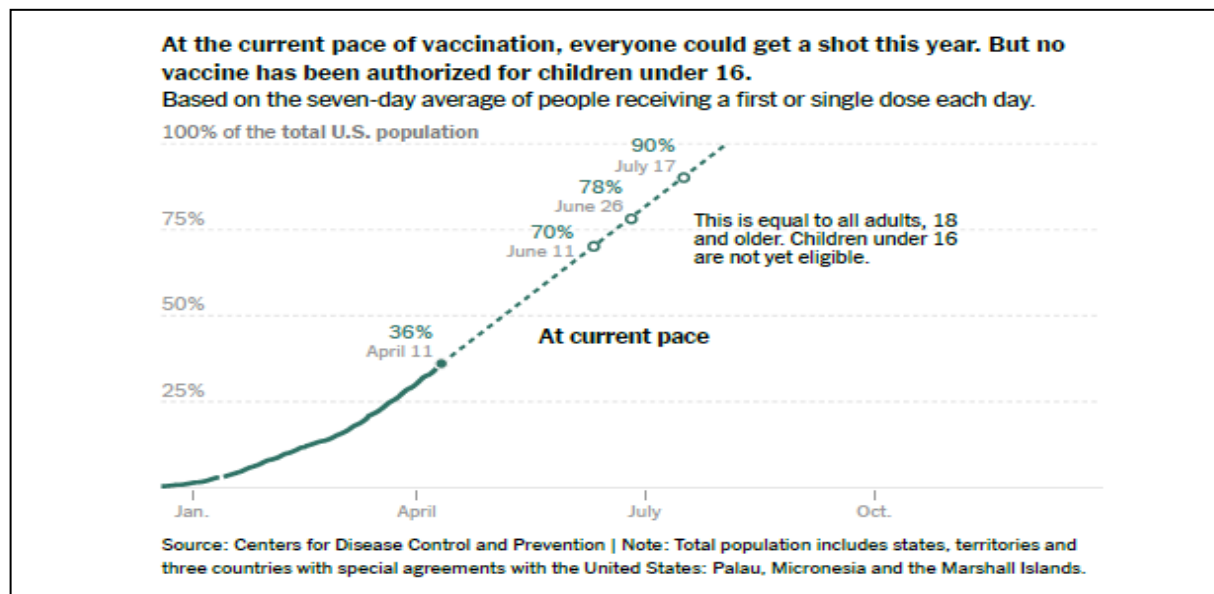
- 71 COVID + inpatients, a **decrease of 26** compared to one week before.
 - 24 patients were in ICU level of care; 21 on ventilators; 16 in ICR.
 - COVID admissions on Sunday = 8.
 - COVID live discharges = 4.
 - COVID-related deaths = 0.
- Total hospital census = 583; Med/Surg = 480 (109%).

5. Vaccination Program Update (sources = CDC, NYS DOH, and NYT)

On April 11, the 7-day average of COVID vaccine administered in the U.S. was 3.14 million, for a total of 187 million+ doses administered since the beginning of the rollout.



36% of the U.S. population have received at least one dose (NY state is at 39% and Suffolk County is 37%). At the current rate of administration, all adults 18 and older will receive at least one shot by July (see graph below).



6. SARS-CoV-2 Viral Variants Update (source = CDC)

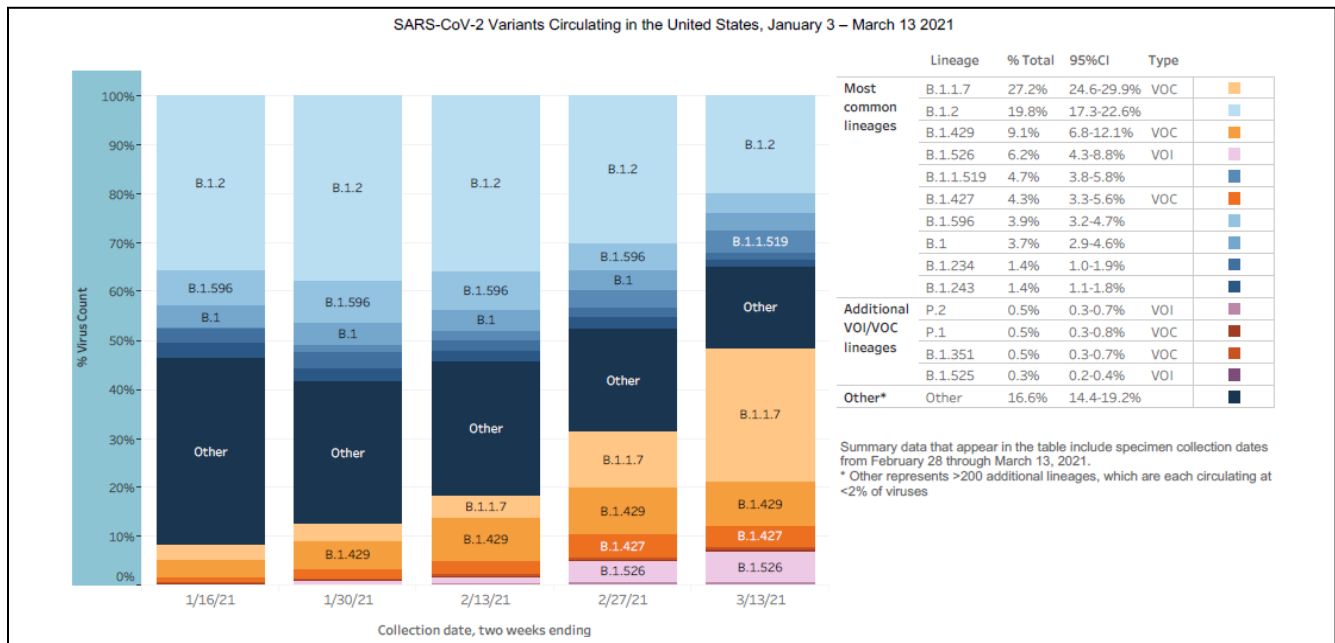
- Genetic variants of SARS-CoV-2 have been emerging and circulating around the world throughout the COVID-19 pandemic.
- Viral mutations and variants in the United States are routinely monitored through sequence-based surveillance, laboratory studies, and epidemiological investigations.
- A US government interagency group developed a Variant Classification scheme that defines three classes of SARS-CoV-2 variants:
 - Variant of Interest - A variant with specific genetic markers that have been associated with changes to receptor binding, reduced neutralization by antibodies generated against previous infection or vaccination, reduced efficacy of treatments, potential diagnostic impact, or predicted increase in transmissibility or disease severity.
 - Variant of Concern – defined as a variant for which there is evidence of an increase in transmissibility, more severe disease (increased hospitalizations or deaths), significant reduction in neutralization by antibodies generated during previous infection or vaccination, reduced effectiveness of treatments or vaccines, or diagnostic detection failures.
 - Variant of High Consequence - A variant of high consequence has clear evidence that prevention measures or medical countermeasures (MCMs) have significantly reduced effectiveness relative to previously circulating variants. **Currently there are no SARS-CoV-2 variants that rise to the level of high consequence.**
- The B.1.1.7 (“UK variant”), B.1.351 (“South African variant”), P.1 (“Brazilian variant”), B.1.427 (California), and B.1.429 (California) variants circulating in the United States are classified as **variants of concern**. Both B.1.1.7 and B.1.351 variants are circulating in New York with B.1.1.7 being the predominant variant among the variants of concern. In addition, cases of P.1 variants were recently identified in New York City.
- The B.1.526 and B.1.525 variants are both discovered in New York City and are classified as **variants of interest**.

- COVID cases caused by variants in New York City – 78% of viruses sequenced from Mar 22 to 28 are variants. <https://www1.nyc.gov/assets/doh/downloads/pdf/covid/covid-19-data-variants-040621.pdf>

Trends based on a sample of specimens submitted to Pandemic Response Lab, as of 4/4

Specimen collection date, week	Total specimens sequenced by PRL	B.1.1.7 (N, %)	B.1.351 (N, %)	B.1.429 (N, %)	B.1.427 (N, %)	P.1 (N, %)	B.1.526 (N, %)+		B.1.525 (N, %)	P.2 (N, %)
							S:E484K+ (N, %)	S:E484K- (N, %)		
Feb 8 - 14	734	52 (7.1%)	0 (0%)	9 (1.2%)	4 (0.5%)	0 (0%)	111 (15.1%)	103 (14%)	1 (0.1%)	3 (0.4%)
Feb 15 - 21	826	69 (8.4%)	2 (0.2%)	5 (0.6%)	8 (1.0%)	0 (0%)	133 (16.1%)	121 (14.6%)	1 (0.1%)	0 (0%)
Feb 22 - 28	990	118 (11.9%)	0 (0%)	12 (1.2%)	4 (0.4%)	0 (0%)	207 (20.9%)	178 (18%)	4 (0.4%)	2 (0.2%)
March 1 - 7	715	125 (17.5%)	0 (0%)	14 (2.0%)	3 (0.4%)	0 (0%)	168 (23.5%)	153 (21.4%)	1 (0.1%)	0 (0%)
March 8 - 14	1481	141 (9.5%)	0 (0%)	13 (0.9%)	2 (0.1%)	1 (0.1%)	227 (15.3%)	254 (17.2%)	0 (0%)	0 (0%)
March 15 - 21	698	183 (26.2%)	2 (0.3%)	8 (1.1%)	5 (0.7%)	4 (0.6%)	195 (27.9%)	105 (15.0%)	2 (0.3%)	0 (0%)
March 22 - 28	1496	441 (29.5%)	4 (0.3%)	17 (1.1%)	5 (0.3%)	19 (1.3%)	381 (25.5%)	295 (19.7%)	3 (0.2%)	0 (0%)

- Here is the national trend of the variants (based on CDC report; <https://covid.cdc.gov/covid-data-tracker/#variant-proportions>)



- Attached is a recent article in Science magazine that examined the transmissibility of the B.1.1.7 variant in the UK – that it has a 43 to 90% (range of 95% credible intervals, 38 to 130%) higher transmissibility than pre-existing variants.

7. New York State Department of Health update on guidance for health care personnel regarding travel and COVID surveillance testing

- **Asymptomatic Individuals and Domestic Travel**

As of April 1, individuals, including healthcare personnel, who are asymptomatic when arriving in New York State from other U.S. states and territories **are not required** to test or quarantine and may return to work accordingly. However, quarantine is still recommended unless the individual is fully vaccinated or has recovered from laboratory-confirmed COVID-19 within the previous three months. Individuals are considered to be fully vaccinated two weeks after the second dose of either the Pfizer or Moderna vaccine or two weeks after the one dose of the Johnson & Johnson (aka Janssen) vaccine. For more information, please visit the Department of Health's [Travel Advisory website](#).

- **Asymptomatic Individuals and International Travel**

When returning from travel to another country, asymptomatic individuals, including healthcare personnel, must follow the [CDC's international travel requirements](#), which include showing proof of a negative diagnostic test result no more than three days before flight departure or documentation of recovery from COVID-19 prior to boarding, and either quarantining for seven days with a test three to five days after travel or quarantining for 10 days with no test.

- **COVID-19 Surveillance Testing**

The DOH has also updated its guidance on when healthcare personnel should be tested through COVID surveillance testing. HCPs who have tested positive for COVID-19 **within the past three months** should not report for testing.

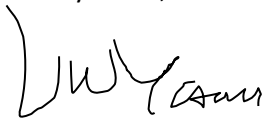
As a reminder, all Stony Brook University Hospital staff, FSA hospital colleagues and School of Medicine clinical faculty are required to participate in weekly anterior nasal swab (ANS) COVID surveillance testing in the HealthSciences Galleria on Level 3. Testing hours are Mondays and Wednesdays, 5:45 am to 3:15 pm, and Tuesdays and Thursdays, 7:45 am to 5 pm.

You are still required to participate in the surveillance testing even if you are fully vaccinated for COVID-19. Infact, with the COVID variants, surveillance testing is more important than ever. And in keeping with the above revised DOH guidance, employees who tested positive for COVID-19 are required to resume ANS testing after three months.

Appointments and pre-registration are not needed. Employees who are working remotely on a full-time basis are not required to participate in this testing. Employees who work in off-site locations should participate in testing if it is practical for them to do so.

Once again, I hope the information provided here is useful to you in keeping track of the progression of the pandemic. While the increasing rollout of COVID vaccines is an encouraging trend, we are not out of the woods. It is important for everyone to remain vigilant until the storm passes. Please keep safe and healthy.

Sincerely Yours,



Vincent W. Yang, MD, PhD
Simons Chair of Medicine
Professor of Medicine, Biomedical Informatics, and Physiology and Biophysics
Renaissance School of Medicine at Stony Brook University

RESEARCH ARTICLE SUMMARY

CORONAVIRUS

Estimated transmissibility and impact of SARS-CoV-2 lineage B.1.1.7 in England

Nicholas G. Davies*, Sam Abbott†, Rosanna C. Barnard†, Christopher I. Jarvis†, Adam J. Kucharski†, James D. Munday†, Carl A. B. Pearson†, Timothy W. Russell†, Damien C. Tully†, Alex D. Washburne†, Tom Wenseleers†, Amy Gimma, William Waites, Kerry L. M. Wong, Kevin van Zandvoort, Justin D. Silverman, CMMID COVID-19 Working Group†, COVID-19 Genomics UK (COG-UK) Consortium†, Karla Diaz-Ordaz, Ruth Keogh, Rosalind M. Eggo, Sebastian Funk, Mark Jit, Katherine E. Atkins, W. John Edmunds

INTRODUCTION: Several novel variants of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus that causes COVID-19, emerged in late 2020. One of these, Variant of Concern (VOC) 202012/01 (lineage B.1.1.7), was first detected in southeast England in September 2020 and spread to become the dominant lineage in the United Kingdom in just a few months. B.1.1.7 has since spread to at least 114 countries worldwide.

RATIONALE: The rapid spread of VOC 202012/01 suggests that it transmits more efficiently from person to person than preexisting variants of SARS-CoV-2. This could lead to global surges in COVID-19 hospitalizations and deaths, so there is an urgent need to estimate how much more

quickly VOC 202012/01 spreads, whether it is associated with greater or lesser severity of disease, and what control measures might be effective in mitigating its impact. We used social contact and mobility data, as well as demographic indicators linked to SARS-CoV-2 community testing data in England, to assess whether the spread of the new variant may be an artifact of higher baseline transmission rates in certain geographical areas or among specific demographic subpopulations. We then used a series of complementary statistical analyses and mathematical models to estimate the transmissibility of VOC 202012/01 across multiple datasets from the UK, Denmark, Switzerland, and the United States. Finally, we extended a mathematical model that has been extensively used to forecast COVID-19 dynam-

ics in the UK to consider two competing SARS-CoV-2 lineages: VOC 202012/01 and preexisting variants. By fitting this model to a variety of data sources on infections, hospitalizations, and deaths across seven regions of England, we assessed different hypotheses for why the new variant appears to be spreading more quickly, estimated the severity of disease associated with the new variant, and evaluated control measures including vaccination and nonpharmaceutical interventions. Combining multiple lines of evidence allowed us to draw robust inferences.

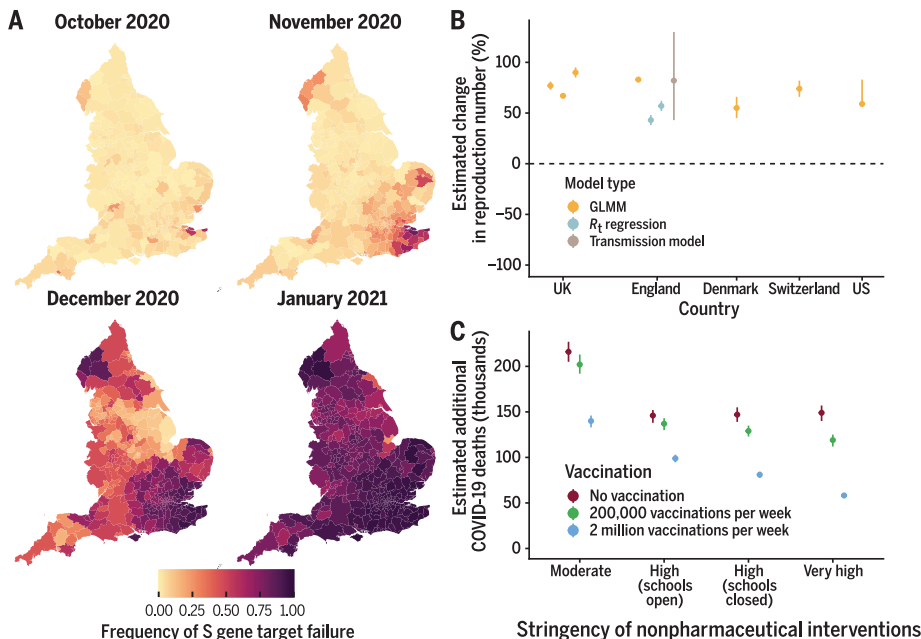
RESULTS: The rapid spread of VOC 202012/01 is not an artifact of geographical differences in contact behavior and does not substantially differ by age, sex, or socioeconomic stratum. We estimate that the new variant has a 43 to 90% higher reproduction number (range of 95% credible intervals, 38 to 130%) than preexisting variants. Similar increases are observed in Denmark, Switzerland, and the United States. The most parsimonious explanation for this increase in the reproduction number is that people infected with VOC 202012/01 are more infectious than people infected with a preexisting variant, although there is also reasonable support for a longer infectious period and multiple mechanisms may be operating. Our estimates of severity are uncertain and are consistent with anything from a moderate decrease to a moderate increase in severity (e.g., 32% lower to 20% higher odds of death given infection). Nonetheless, our mathematical model, fitted to data up to 24 December 2020, predicted a large surge in COVID-19 cases and deaths in 2021, which has been borne out so far by the observed burden in England up to the end of March 2021. In the absence of stringent nonpharmaceutical interventions and an accelerated vaccine rollout, COVID-19 deaths in the first 6 months of 2021 were projected to exceed those in 2020 in England.

CONCLUSION: More than 98% of positive SARS-CoV-2 infections in England are now due to VOC 202012/01, and the spread of this new variant has led to a surge in COVID-19 cases and deaths. Other countries should prepare for potentially similar outcomes. ■

The list of author affiliations is available in the full article online.
*Corresponding author. Email: nicholas.davies@lshtm.ac.uk
†These authors contributed equally to this work.
‡See supplementary materials for list of consortium members and affiliations.

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<https://doi.org/10.1126/science.abg3055>



Impact of SARS-CoV-2 Variant of Concern 202012/01. (A) Spread of VOC 202012/01 (lineage B.1.1.7) in England. (B) The estimated relative transmissibility of VOC 202012/01 (mean and 95% confidence interval) is similar across the United Kingdom as a whole, England, Denmark, Switzerland, and the United States. (C) Projected COVID-19 deaths (median and 95% confidence interval) in England, 15 December 2020 to 30 June 2021. Vaccine rollout and control measures help to mitigate the burden of VOC 202012/01.