

Resolution on the Rutgers Response to SARS-CoV-2 variant Omicron

Considerations

Early scientific investigation and a growing consensus of top virologists around the globe suggests that the recently emerged SARS-CoV-2 variant Omicron¹ will likely evade immune responses elicited by currently available vaccines² and render them much less efficacious against infection;

The CDC has recognized that SARS-CoV-2 variant Omicron may also be more transmissible^{3,4};

In response to both of the above, the CDC has already strengthened its recommendation on booster shots to “Everyone ages 18 and older should get a booster shot either when they are 6 months after their initial Pfizer or Moderna series or 2 months after their initial J&J vaccine.”³;

Widespread rapid turn-around testing can reduce chains of SARS-CoV-2 transmission⁵ and the CDC has also emphasized the importance of testing³;

Maintaining Rutgers as an in-person University requires reducing the spread of all variants of SARS-CoV2; and

A main lesson of the pandemic is that urgent, rapid, and preemptive action is critical;

Now, therefore, be it

Resolved, that the Rutgers University Senate:

1. urges President Holloway and the administration act with extreme urgency to provide a plan for responding to SARS-CoV-2 variant Omicron rather than adopting a wait-and-see approach.⁶
2. urges the administration to do all in its power, including organizing frequent visible on-campus vaccination clinics, to provide 3rd shot boosters^{2,7} to all members of the Rutgers community including all faculty, staff, and students and the family members that live with them.
3. urges the administration to immediately request records of third shot boosters now in anticipation that a mandate for 3rd shot boosters⁸ will be warranted by scientific findings that will emerge in the next few weeks.
4. urges the administration to make available, on-demand and free of charge, rapid antigen tests to all members of the Rutgers community beginning on the first day of class for the Spring 2022 semester including in all student housing.

Endnotes with links

1. Katelyn Jetelina, PhD, MPH (Department of Epidemiology, University of Texas Health Science Center at Houston) provides a good ongoing updating review of what is known about the Omicron variant that begins on November 26 (<https://yourlocalepidemiologist.substack.com/p/new-concerning-variant-b11529>). This link leads (<https://yourlocalepidemiologist.substack.com/p/omicron-update-dec-4>) to her update as of December 4 (one day after this resolution was submitted to the Chair of the University Senate). The most recent update is on December 7 and is here: <https://yourlocalepidemiologist.substack.com/p/omicron-were-getting-some-answers>.
2. On August 8, [Schmidt et al. \(2021\)](#) published a preprint showing “*20 naturally occurring mutations in SARS-CoV-2 spike are sufficient to confer near-complete resistance to the polyclonal neutralizing antibodies generated by convalescents and mRNA vaccine recipients.*” This spike protein was dubbed PMS20 for polymutant spike protein 20. The paper was peer-reviewed and published in *Nature* on September 20 ([Schmidt et al, 2021](#)). A key finding in the paper was that PMS20 was neutralized by antibodies from infected-and-then-vaccinated individuals. On November 26, Theodora Hatzioannou, PhD (The Rockefeller University), a co-author of Schmidt et al (2021), noted that the the Omicron variant looks very much like PMS20 and predicted likely immune-escape by Omicron – characterizing the situation as “*Nature performed the same experiment as we did with a lot more samples.*” https://twitter.com/theodora_nyc/status/1464267896025190427?s=20). Michael Worobey, PhD (Louise Foucar Marshall Science Research Professor, The University of Arizona) suggested (<https://twitter.com/MichaelWorobey/status/1464325665688227843?s=20>) on November 26 that third shot boosters might lead to better protection against Omicron based on the finding of Schmidt et al.(2021) that antibodies from infected-then-vaccinated individuals neutralized PMS20. On November 25, Jeffrey Barrett offered further support for the hypothesis that Omicron would evade immunity with an annotation of mutations found on the Omicron variant (<https://twitter.com/jcbarret/status/1463975708770897923?s=20>). The Jesse Bloom, PhD (Fred Hutchinson Cancer Research Center) lab published a preprint on December 7 ([Greaney et al, 2021](#)) that modeled likely immune escape of Omicron and predicted a ~25 to 60-fold reduction in neutralizing antibodies for Omicron with immune-escape like that of PMS20. The first experimental study using neutralization assays was reported by Alex Sigall, PhD (Africa Health Research Institute) and colleagues on December 7. They found a 41-fold reduction in neutralizing antibodies for the Pfizer vaccine, a result fully consistent with the predictions of Schmidt et al (2021) and Greaney et al. (2021). Critically, they also found that **prior infection and vaccination still neutralized Omicron**. This was also in line with predictions and offered evidence that third shot boosters will offer protection from infection by Omicron. Indeed, the next day, on December 8, Pfizer reported a 25-fold increase in neutralization of Omicron after a 3rd dose of the Pfizer vaccine. This is comparable to neutralization against original SARS-CoV-2 and is compelling evidence that 3rd shot boosters will provide protection against infection at the same level as the 2-dose regimen has.

3. *The following is attributable to CDC Director, Dr. Rochelle Walensky on November 29, 2021, emphases are added:*

*“Today, CDC is **strengthening its recommendation** on booster doses for individuals who are 18 years and older. Everyone ages 18 and older **should** get a booster shot either when they are 6 months after their initial Pfizer or Moderna series or 2 months after their initial J&J vaccine.*

*The recent emergence of the Omicron variant (B.1.1.529) further emphasizes the importance of vaccination, boosters, and prevention efforts needed to protect against COVID-19. **Early data from South Africa suggest increased transmissibility of the Omicron variant**, and scientists in the United States and around the world are urgently examining vaccine effectiveness related to this variant. I strongly encourage the 47 million adults who are not yet vaccinated to get vaccinated as soon as possible and to vaccinate the children and teens in their families as well because strong immunity will likely prevent serious illness. I also want to encourage people to get a COVID-19 test if they are sick. **Increased testing will help us identify Omicron quickly.***

And finally, to stop the spread of COVID-19 we need to follow the [prevention strategies](#) we know work.”

4. The evidence that Omicron is spreading rapidly and has an apparent fitness advantage over Delta is now very strong. John Burns-Murdoch (The Financial Times) has provided updating data on the rate of Omicron spread in South Africa (see <https://twitter.com/jburnmurdoch/status/1468310618226798595?s=20> for a recent update). The bottom line is that Omicron is spreading faster compared to all past waves and has a transmission advantage over Delta of something like 3.5x in South Africa. Hospitalization is now also rising. Rapid spread can be explained by increased innate transmissibility or by an increase in susceptible individuals due to immune-escape or both. Given the evidence for immune-escape presented in footnote 2 above plus widespread reports of reinfections and breakthrough cases for Omicron, rapid spread is likely driven at least in part by immune-escape. Preliminary modeling by Tom Wenseleers, PhD (KU Leuven, Belgium) (<https://twitter.com/TWenseleers/status/1466502064721252355?s=20>) suggests that explaining the rapid spread of Omicron with no increase in innate transmissibility would require complete immune-escape by Omicron and he argues for some increase in innate transmissibility compared to Delta. Trevor Bedford, PhD (Fred Hutchinson Cancer Research Center) suggests that R_t for Omicron is likely 3 or 3.5 (<https://twitter.com/trvrb/status/1467245921536659456?s=20>). This can be explained by different combinations of immune-escape and R_0 where at high levels of immune-escape R_0 for Omicron is less than for Delta. Added evidence for rapid spread of Omicron and its advantage over Delta is now available from the UK and Denmark (see <https://www.reuters.com/world/europe/denmark-sees-society-wide-infection-with-omicron-variant-2021-12-07/> and Alastair Grant, PhD (University of East Anglia) notes that the frequency of positive tests with S-gene dropout (a proxy for Omicron) in the UK suggests R_t of 3.47

(<https://twitter.com/AlastairGrant4/status/1468151959957950466?s=20>). An apparent local outbreak of Omicron in South Northamptonshire, UK shows the likely advantage Omicron has over Delta

(<https://twitter.com/jcbarret/status/1468545458125656064?s=20>).

5. The Biden Plan to protect Americans from both the Delta and Omicron variants released on December 2 includes rapid testing and notes *“Today’s actions will help Americans access the tests they need to help them stop the spread of COVID-19 to others.”* Rapid tests performed at home have a quick enough turn-around time to make them an effective tool to break transmission chains in a way that PCR tests cannot. The logic of using rapid tests was outlined a year ago here: <https://time.com/5912705/covid-19-stop-spread-christmas/> by Michael Mina, PhD, MD (then T.H. Chan School of Public Health, Harvard University, and now CSO of eMed).
6. The wait-and-see approach is epitomized in a December 3 *Daily Targum* interview of President Holloway. *The Daily Targum* reported that

“Holloway said the scientific community has not yet reached a consensus on the type and level of vaccine booster dose that is most effective against COVID-19, so the University cannot mandate them at this time.

As an institution of higher education, the University follows a specific protocol that gives it legal authority to mandate vaccinations for its students, he said.” (see <https://dailytargum.com/article/2021/12/exclusive-interview-holloway-conway-talk-pandemic-student-aid-spring>)

But, this was already 5 days after the CDC had changed its recommendation on booster shots amid widespread commentary among experts and the reporting of initial evidence.

Chancellor Conway signaled that policy on booster shots was being made by lawyers with the *Targum* reporting

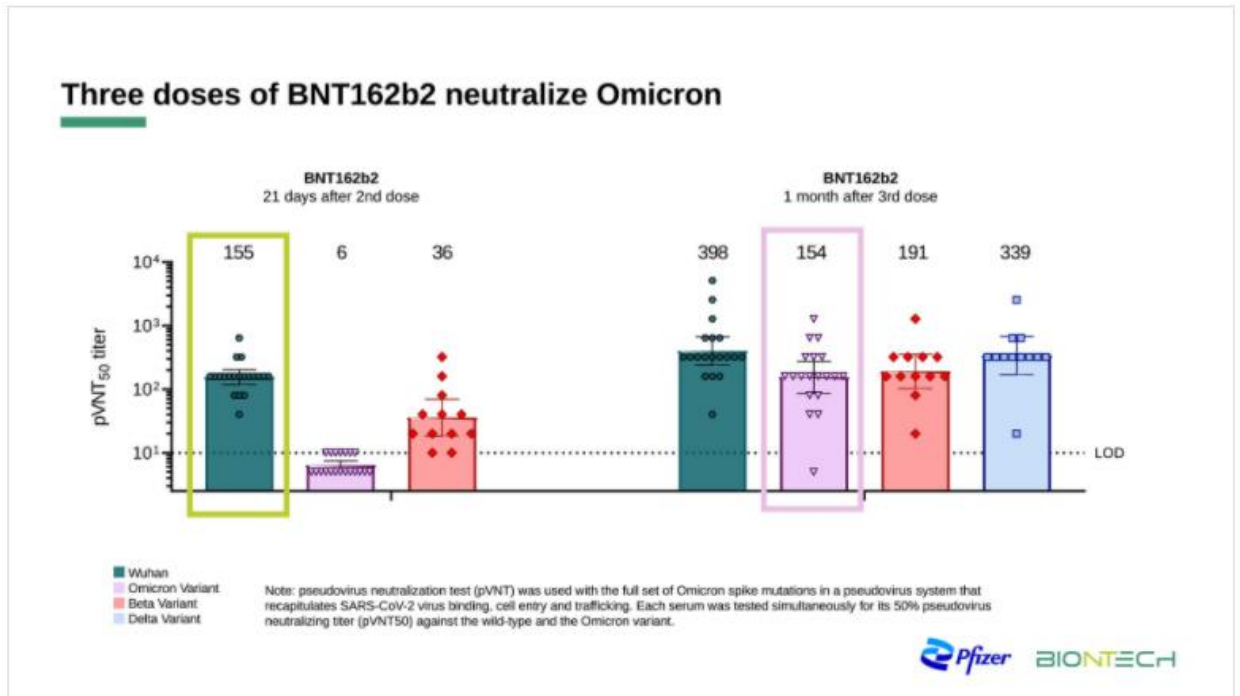
“As an institution of higher education, the University follows a specific protocol that gives it legal authority to mandate vaccinations for its students, he said. Conway said that legal agencies are still discussing whether this applies to booster vaccinations as well.”

While *The Daily Targum* article did note that boosters are available on Busch campus after online registration, this action is far short of the frequent and visible booster walk-up clinics urged in this resolution.

President Holloway’s position on testing was baffling and defeatist:

“In terms of COVID-19 testing at Rutgers, Holloway said that when the delta variant emerged, its high infection rate made testing fairly ineffective at curbing community spread. He said testing may be even less effective with the omicron variant.”

7.



8. Other universities have already announced booster mandates including, for example, UMass Amherst (<https://www.umass.edu/coronavirus/news/all-eligible-faculty-and-staff-required-get-vaccine-booster>). These rapid announcements may presage more general adoptions of booster mandates and active preparation for the possibility is warranted.