

December 27, 2021

The following data prompted the Concord Board of Health to adopt an indoor mask order:

Delta and Omicron Variants of SARS-Co-V2 (virus that causes COVID-19)<sup>1</sup>

1. According to CDC data posted the week of December 20<sup>th</sup>, 2021 the Omicron variant has been detected in most states and has overtaken the Delta variant in the US as the dominant form of the virus, and is rapidly increasing the proportion of COVID-19 cases it is causing;
2. The Delta variant is highly contagious, with estimates between 2-6 times as contagious as previous variants; the Omicron variant exhibits an even higher transmissibility rate than Delta;
3. The vaccines for COVID-19 are effective (~70-90%) at reducing the severity of the disease and significantly preventing death from COVID-19 <sup>2,3</sup> however;
4. People fully-vaccinated for COVID-19 can be infected with the Delta and Omicron variants and vaccinated people transmit the virus to other people <sup>4, 5</sup>;
5. Hospitalization rates are increasing, including rates in children under 5 who cannot be vaccinated;
6. In Concord, we have seen a significant increase in the number of cases since early December; during the first week of the month we had a 14 day average incidence rate of 18.3%, the second week the rate had increased to 19.1%, the third week to 25.9% and the fourth week to 30.9%. The number of new cases in November totaled 87; through December 27 the number has increased to 171. With home testing more accessible than lab tests, we are assuming that the incidence rate is about twice this number.
7. CDC has categorized the level of community transmission for each county and state – this is based on the number of cases in the last 7 days per 100,000 population and the number of tests in the last 7 days that have a positive result; categories include low, moderate, substantial, and high; Middlesex County, in which Concord is located, is now an area of “high” transmission<sup>7</sup>;
8. On July 27, 2021, CDC released updated guidance on the need for urgently increasing COVID-19 vaccination coverage and a recommendation for everyone in areas of substantial or high transmission to wear a mask in public indoor places, even if they are fully vaccinated<sup>6</sup>;
10. Masks, when worn properly - covering the mouth and the nose, are estimated to decrease the rates of transmission by up to 50-70% <sup>8</sup>.

Given what we know about the Delta and Omicron variants, vaccine effectiveness, and increasing case numbers, hospitalizations and deaths, it is imperative that layered prevention strategies be implemented. These include vaccination, booster shots, increasing ventilation indoors, and wearing masks – all needed to reduce the transmission of the Delta and Omicron variants.

Thus, given the evidence of increased risk of transmission even among vaccinated individuals, and the substantial benefit of mask wearing in reducing transmission rates within enclosed areas where airborne transmission can be highest, and air is shared, the BOH has identified the need to issue an order for mandatory mask wearing indoors in publicly accessible spaces within Concord, MA.

<sup>1</sup> <https://www.cdc.gov/coronavirus/2019-ncov/variants/delta-variant.html>

<sup>2</sup> Bernal JL, Andrews N, Gower C, et al. Effectiveness of Covid-19 Vaccines against the B.1.617.2 (Delta) Variant. N Engl J Med. 2021 Jul 21; doi: 10.1056/NEJMoa2108891external icon

<sup>3</sup> Stowe J, Andrews N, Gower C, et al. Effectiveness of COVID-19 vaccines against hospital admission with the Delta (B.1.617.2) variant. 2021. [https://khub.net/web/phe-national/public-library/-/document\\_library/v2WsRK3ZIEig/view\\_file/479607329](https://khub.net/web/phe-national/public-library/-/document_library/v2WsRK3ZIEig/view_file/479607329)

<sup>4</sup> Musser JM, Christensen PA, Olsen RJ. et al. Delta Variants of SARS-CoV-2 Cause Significantly Increased Vaccine Breakthrough COVID-19 Cases in Houston, Texas. medRxiv. 2021 Jul 22; <https://org/10.1101/2021.07.07.21260122>.

<sup>5</sup> Brown CM, Vostok J, Johnson H, et al. Outbreak of SARS-CoV-2 Infections, Including COVID-19 Vaccine Breakthrough Infections, Associated with Large Public Gatherings — Barnstable County, Massachusetts, July 2021. MMWR Morb Mortal Wkly Rep. ePub: 30 July 2021; <https://www.cdc.gov/mmwr/volumes/70/wr/mm7031e2.htm>

<sup>6</sup> <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/fully-vaccinated-guidance.html>

<sup>7</sup> <https://covid.cdc.gov/covid-data-tracker/#county-view>

<sup>8</sup> Brooks JT, Butler JC. Effectiveness of Mask Wearing to Control Community Spread of SARS-CoV2. JAMA. 2021;325(10):998–999. doi:10.1001/jama.2021.1505