

Swiss cheese model

<https://twitter.com/MackayIM/status/1434033705312415747/photo/1>

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“It’s not vaccines OR, it’s vaccines AND”

- We need to layer public health measures; no single measure is perfect

Healthcare system

- Need to flatten to the curve to ease strain on healthcare systems and improve outcomes
 - <https://healthblog.uofmhealth.org/wellness-prevention/flattening-curve-for-covid-19-what-does-it-mean-and-how-can-you-help>
- Hospital capacity circuit breaker map:
 - <https://alexanderjxchen.github.io/circuitbreaker/>
- For those who believe “contracting COVID is inevitable”, even delaying/spacing out infections to reduce height of surge will be beneficial for medical and public health infrastructure, and reduce suffering from lack of access to care or delayed care (for non-COVID as well as COVID illness)
- We have made great strides in improving outcomes for COVID patients, but lifesaving medications that prevent hospitalizations and deaths, such as monoclonal antibodies, are in short supply and being rationed in many places. 2 of the 3 monoclonal antibodies are not effective against Omicron. The new oral antivirals are likewise in short supply.

Masks

- Important for both source control (outward protection) and inward protection
 - [My mask protects you, your mask protects me](#) [infographic]
 - The most benefit from masks is when everyone is wearing one, but especially if infectious persons are masked
- Masks are one of the most effective public health tools that we have for preventing transmission of COVID, and since they also protect against other respiratory illnesses, they further benefit the health system
- Even when masks do not “prevent” a transmission from occurring, they may still offer benefit from lowering the viral dose of exposure and therefore may lead to less severe illness
- As opposed to medications and vaccines that may be susceptible to “immune evasion” by the evolving virus, masks work for all strains of the virus.
- At this point in the pandemic, the science is overwhelming that airborne transmission occurs; physical distancing is not sufficient to protect against airborne transmission. The case for masks is even stronger now than appreciated early in the pandemic.
 - The virus can remain suspended in the air for hours (even after someone has left the room). Universal masking will reduce viral load in public spaces.
- Masking is important for protection of the vulnerable in communities, including those who are not eligible for COVID vaccination (currently under 5 yrs old) and immunocompromised persons for whom vaccines may not work as well. In addition to those who are immunocompromised due to an underlying condition, it is estimated that nearly 3% of adults in the US are on medications that suppress the immune system (“drug-induced immunosuppression”)
 - <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2780270>
- As we have seen with Omicron, in only a few weeks, the virus exploded to unprecedented levels. Having policy ‘on the books’ that enables public health measures to be implemented quickly in response to fast-paced public health threats is an important component of preparedness and being able to respond effectively. If we can’t be nimble, we are at a great disadvantage.

- A reasonable metric for determining mask requirements for indoor settings (and also for crowded outdoor settings, such as stadiums) would be when COVID incidence rates are at “substantial” or “high” (for a specified period of time, such as a 7 day average). Sustained reduction in rates below the “substantial threshold” for a timeframe of 2-4 weeks would be advised before retracting mask requirements.

https://covid.cdc.gov/covid-data-tracker/#county-view?list_select_state=all_states&list_select_county=all_counties&data-type=Risk

Determining Transmission Risk



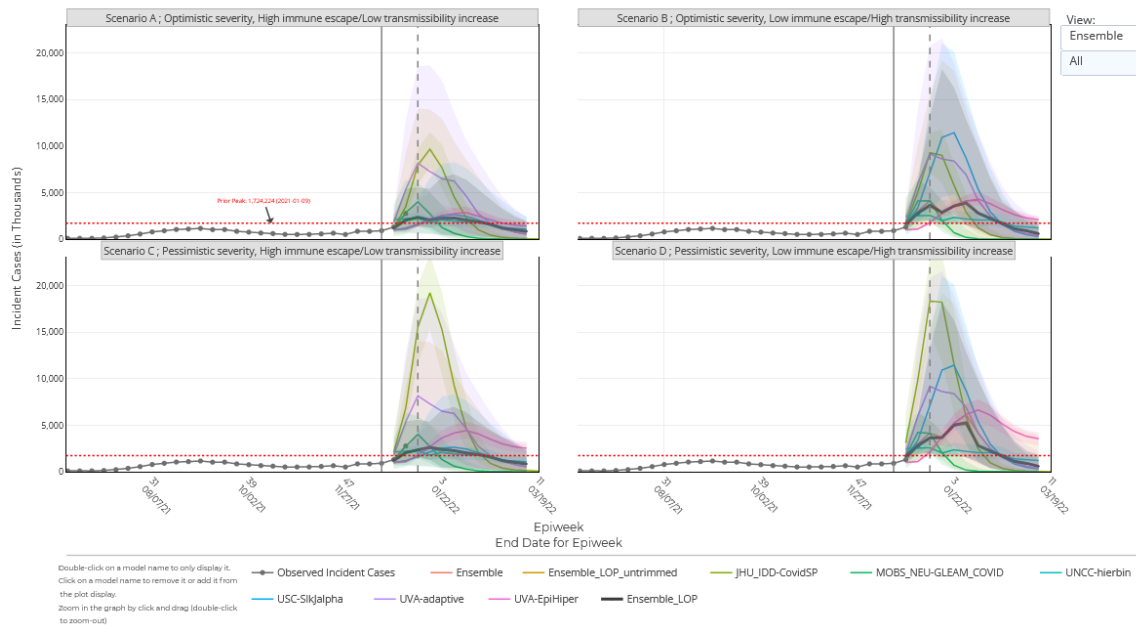
If the two indicators suggest different transmission levels, the higher level is selected

	Low	Moderate	Substantial	High
New cases per 100,000 persons in the past 7 days*	<10	10-49.99	50-99.99	≥100
Percentage of positive NAATs tests during the past 7 days**	<5%	5-7.99%	8-9.99%	≥10.0%

COVID situation:

- From COVID Scenario Modeling Hub: “The Omicron wave is projected to be sharp and fast in all scenarios, with most models projecting both cases and hospitalizations to peak before the end of January 2022 in every state (all models project peaks before the end of February 2022).”
- With the “tall, skinny” peak and tremendous strain on health systems, the interventions we take now will be more impactful than delayed actions, both for COVID and non-COVID illness

Projected Incident Cases by Epidemiological Week and by Scenario for Round 11 - US
 (- Projection Epiweek; -- Current Week)



Omicron is not “mild”

- Although illness due to Omicron is likely about half as severe as Delta, it is probably comparable in severity to earlier variants.
- The sheer volume of cases is leading to high levels of hospitalizations, even if the percent of persons hospitalized is lower than for Delta. With treatments needing to be rationed, we may see increases in severe COVID illness in upcoming weeks due to suboptimal treatment.
 - Pediatric hospitalizations due to COVID are rising; preliminary data (NYS) suggest that rate among kids is higher than for previous variants

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