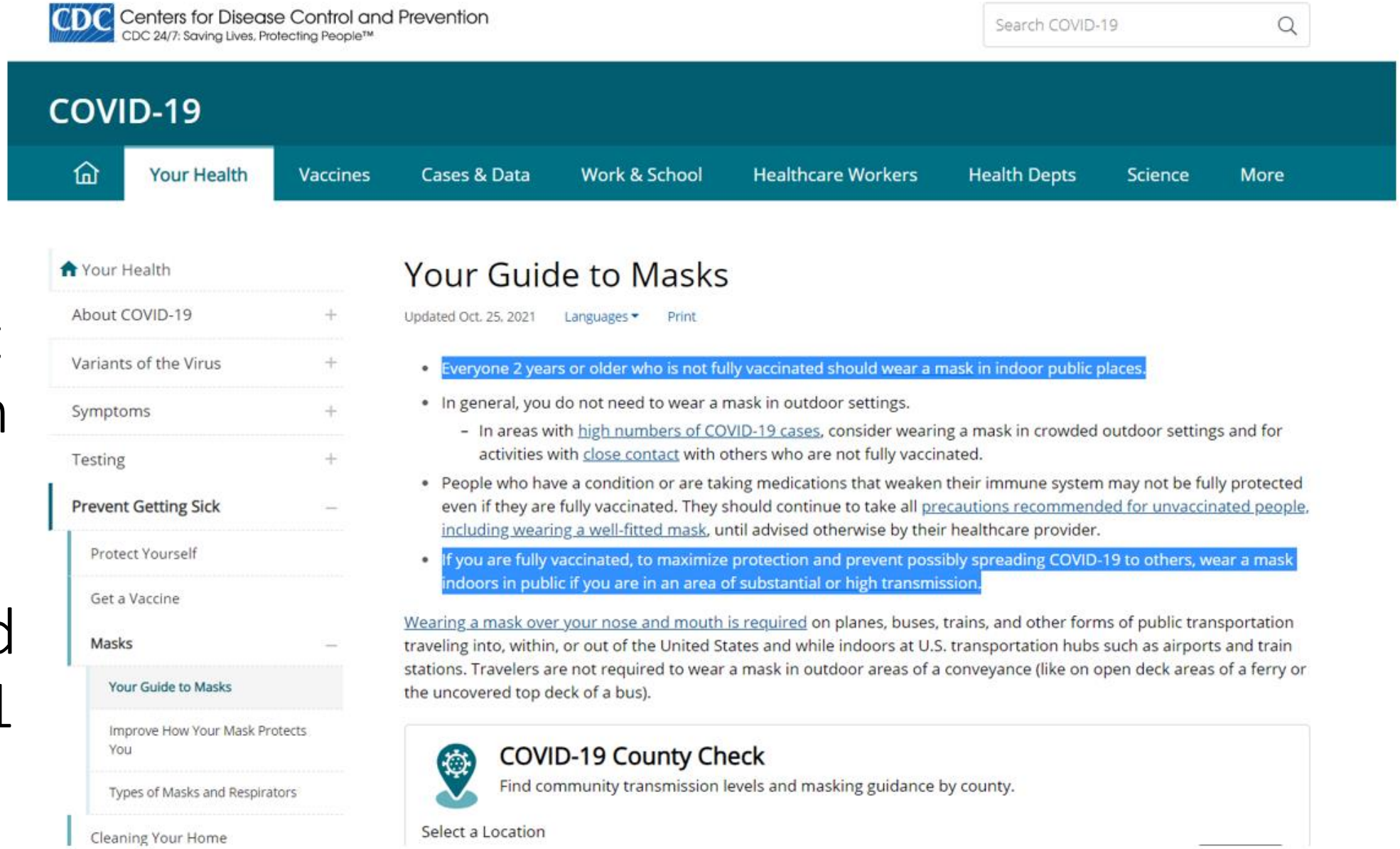
Level of Community Spread in Danville as of 11/30/21

Some data is pre-Thanksgiving as updates will not be available until after the 12/2/21 Selectboard Meeting

CDC Current Guidance on Masking

Last updated 25 Oct, 2021

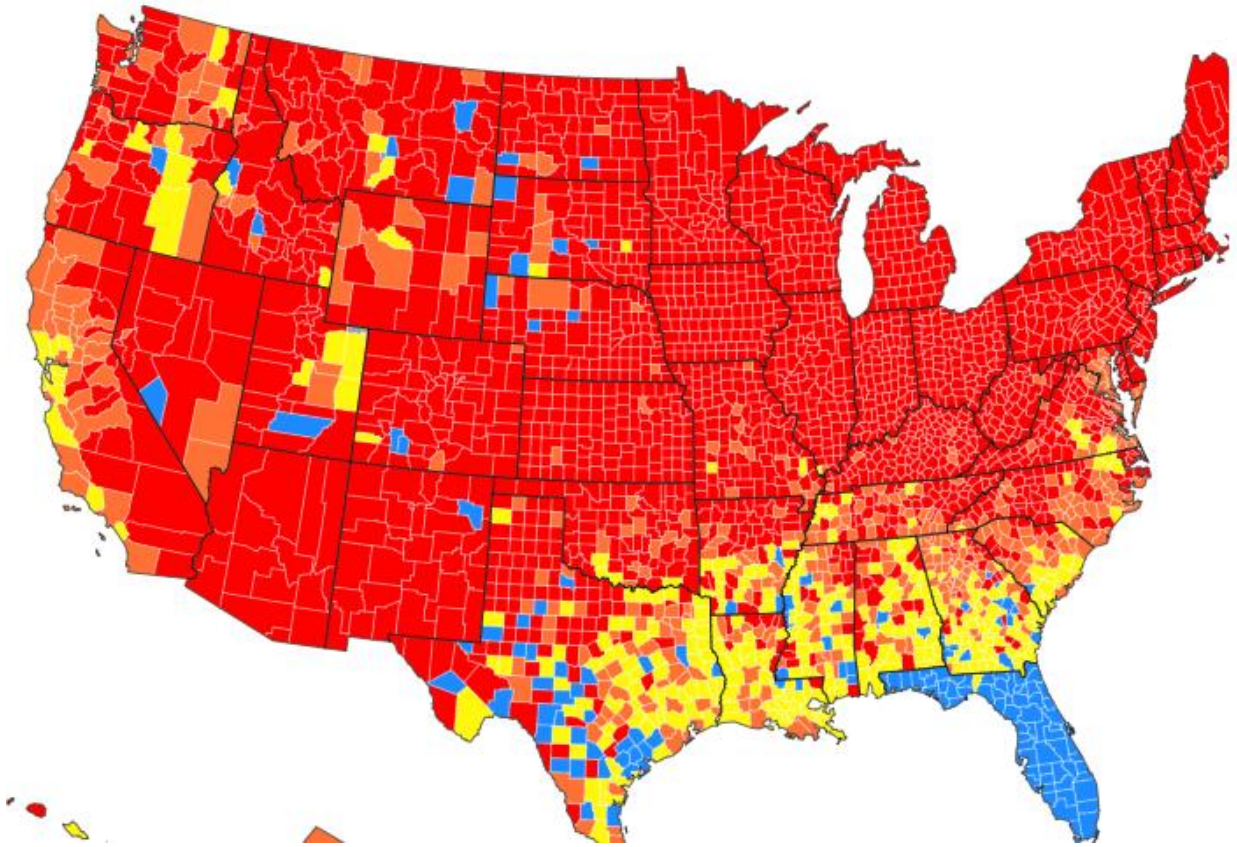


“Everyone who is 2 years or older who is not fully vaccinated should wear a mask in indoor public places”

“If you are fully vaccinated, to maximize protection and prevent possibly spreading COVID 19 to others, wear a mask indoors in public if you are in an area of substantial or high transmission.”

CDC Guidance as of 25 October 2021

Community Transmission by County in US 11/23/21 CDC website

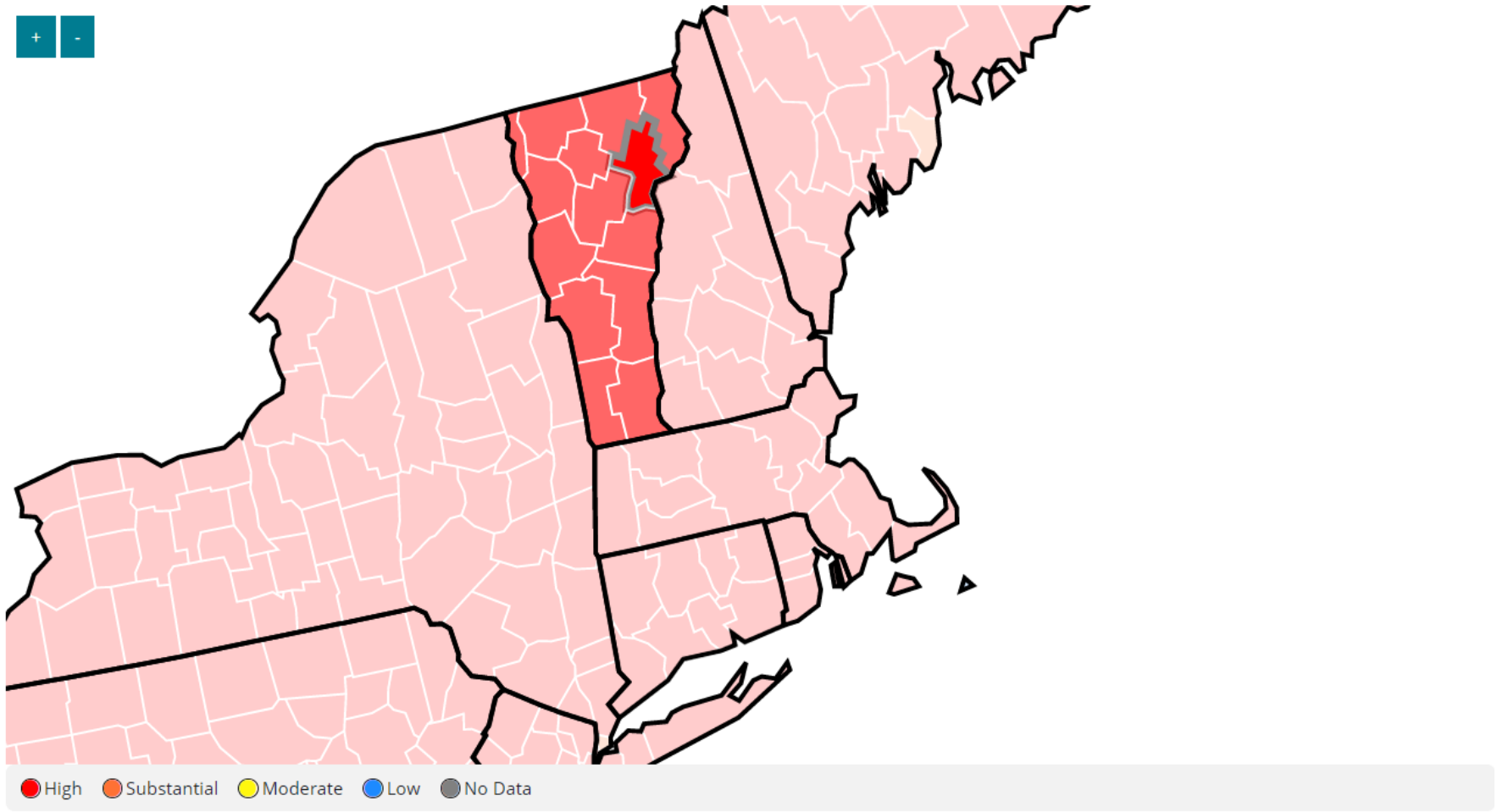


Community Transmission in US by County

	Total	Percent	% Change
High	2101	65.21%	-8.19%
Substantial	467	14.49%	0.87%
Moderate	471	14.62%	4.59%
Low	177	5.49%	2.73%

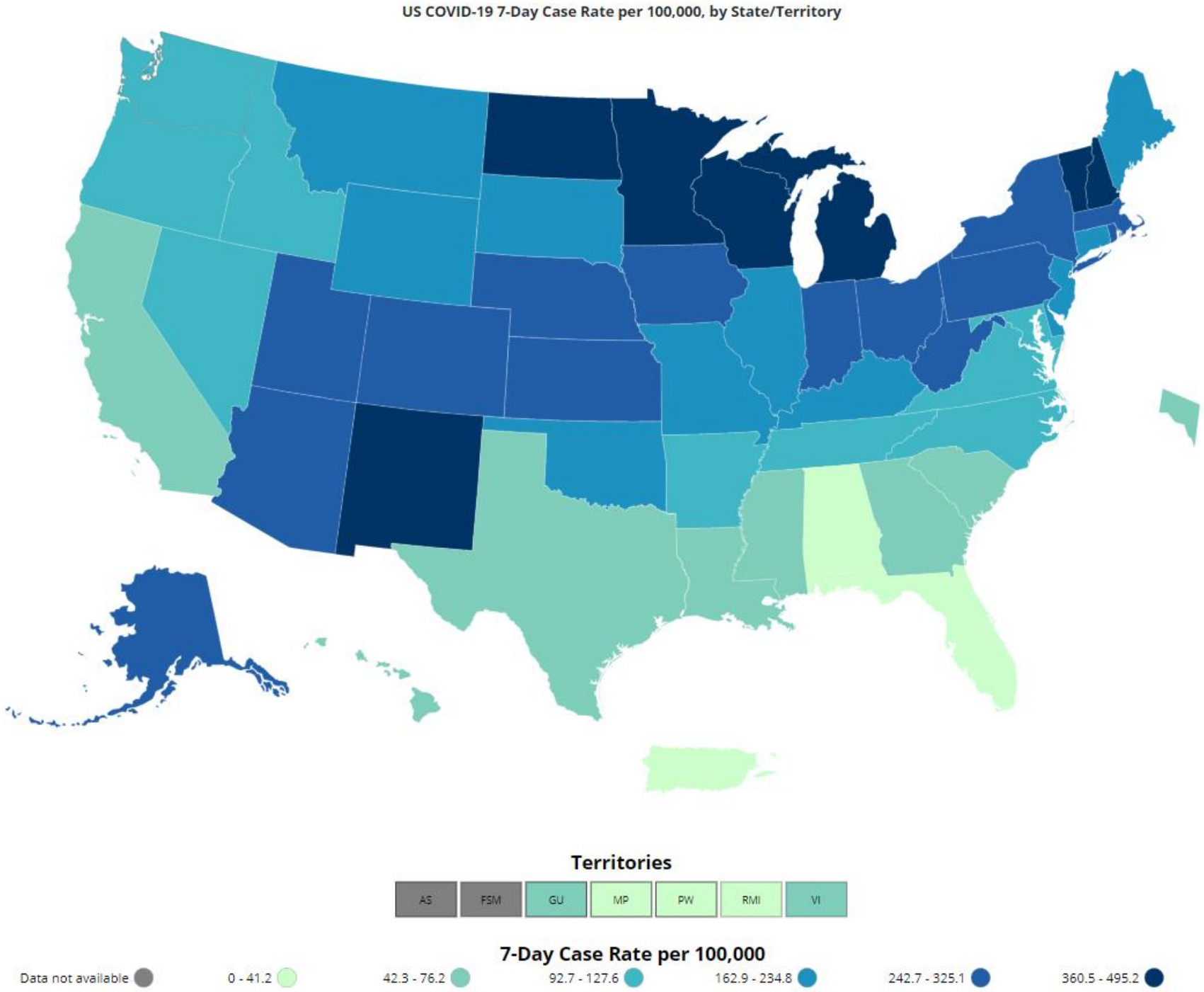
How is community transmission calculated?

Caledonia County has a HIGH Level of Community Transmission as of 11/23/2021 according to the CDC

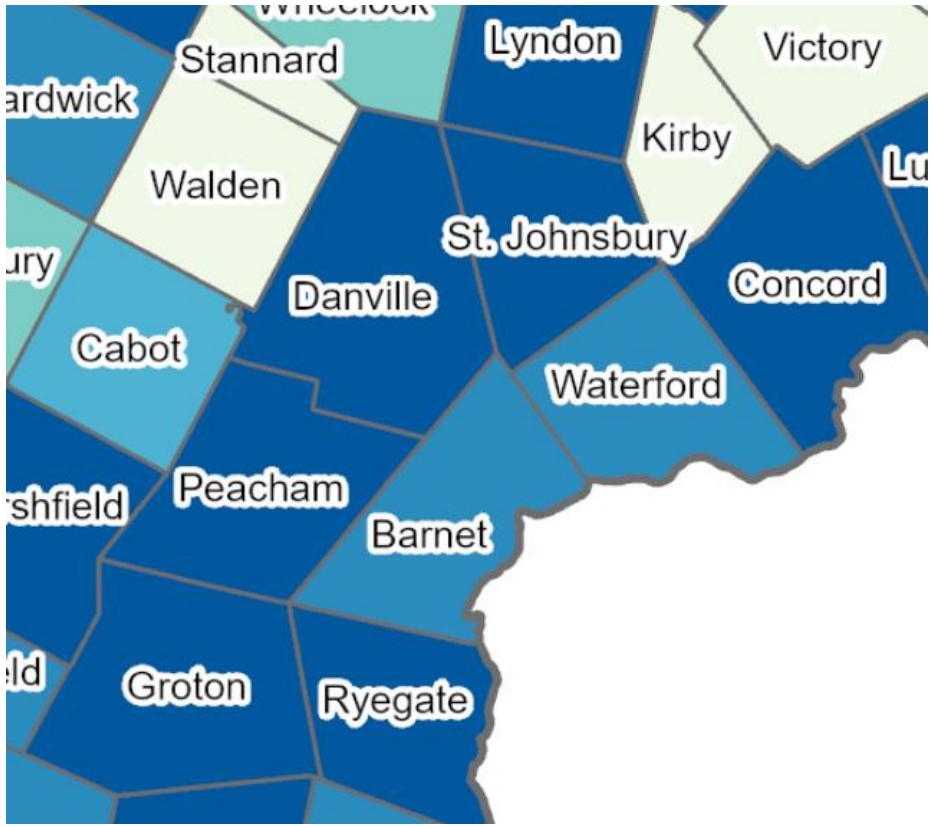


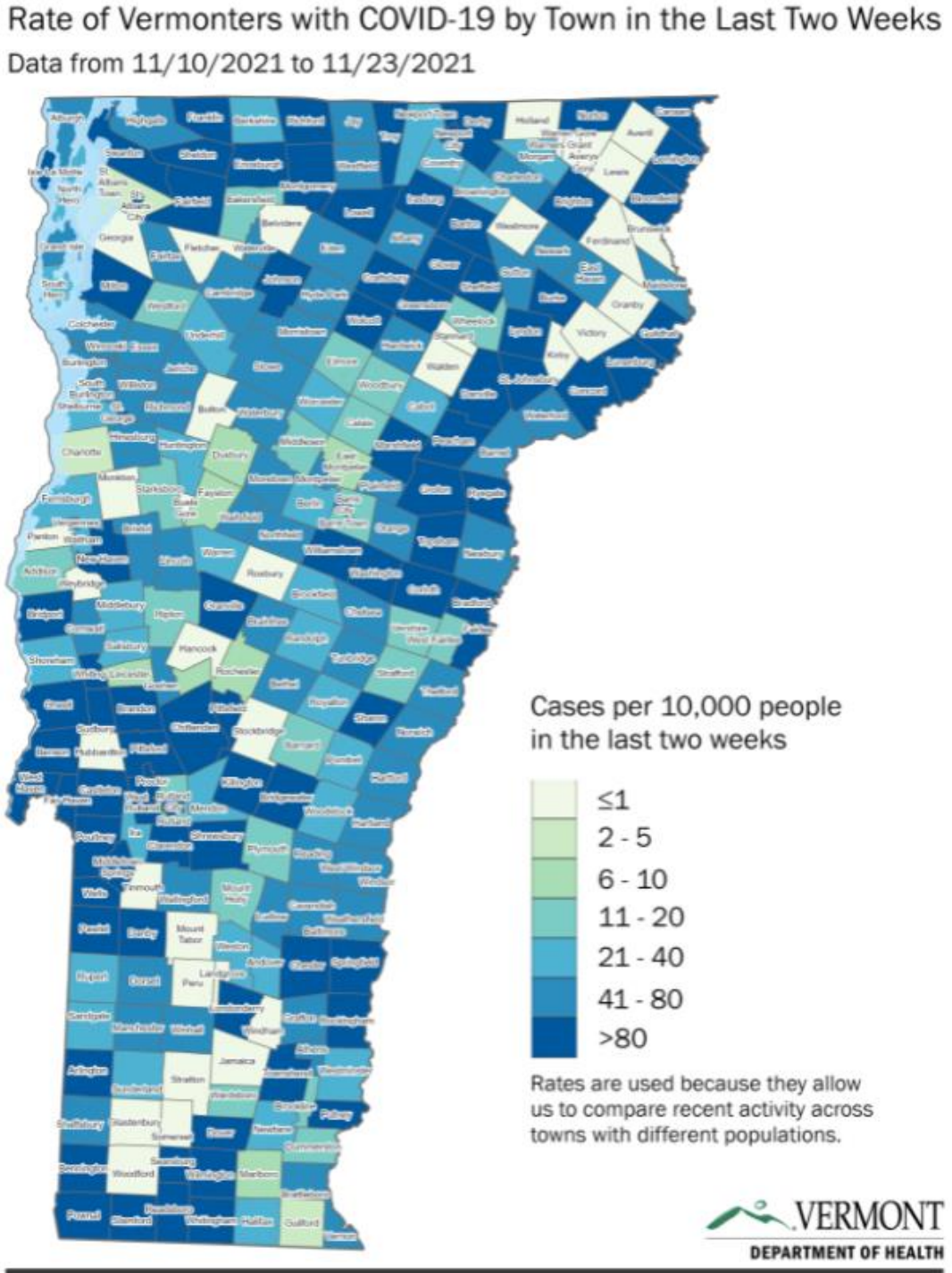
Current 7-days is Tue Nov 23 2021 - Mon Nov 29 2021 for case rate and Sun Nov 21 2021 - Sat Nov 27 2021 for percent positivity. The percent change in counties at each level of transmission is the absolute change compared to the previous 7-day period.

Vermont's 7 day case rate per 100,000 is in the **highest category** (dark blue) as of 11/30/21, according to the CDC

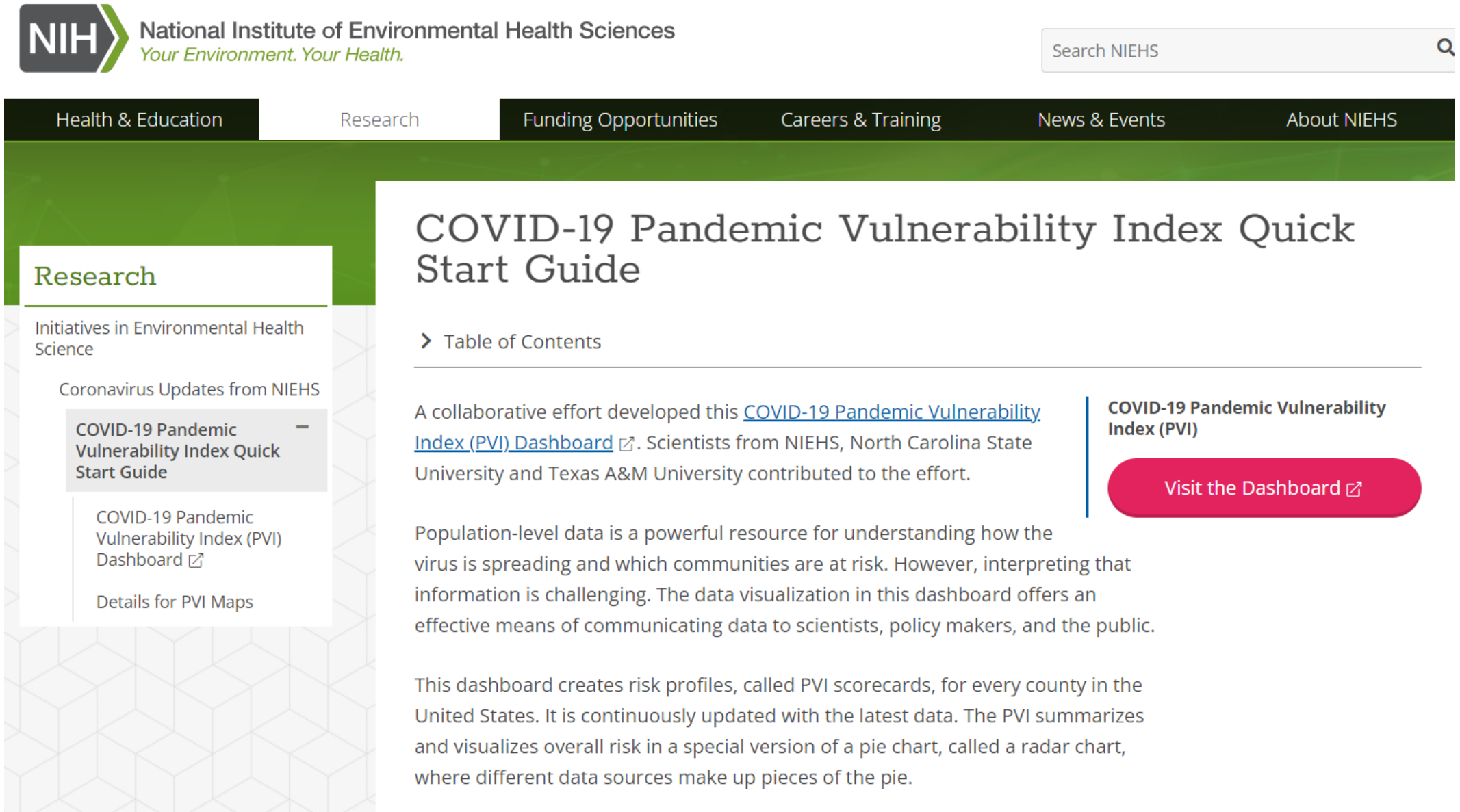


Danville's case rate in the last two weeks is in the **highest category** (dark blue) as of 11/23/21, according to the Vermont Department of Health

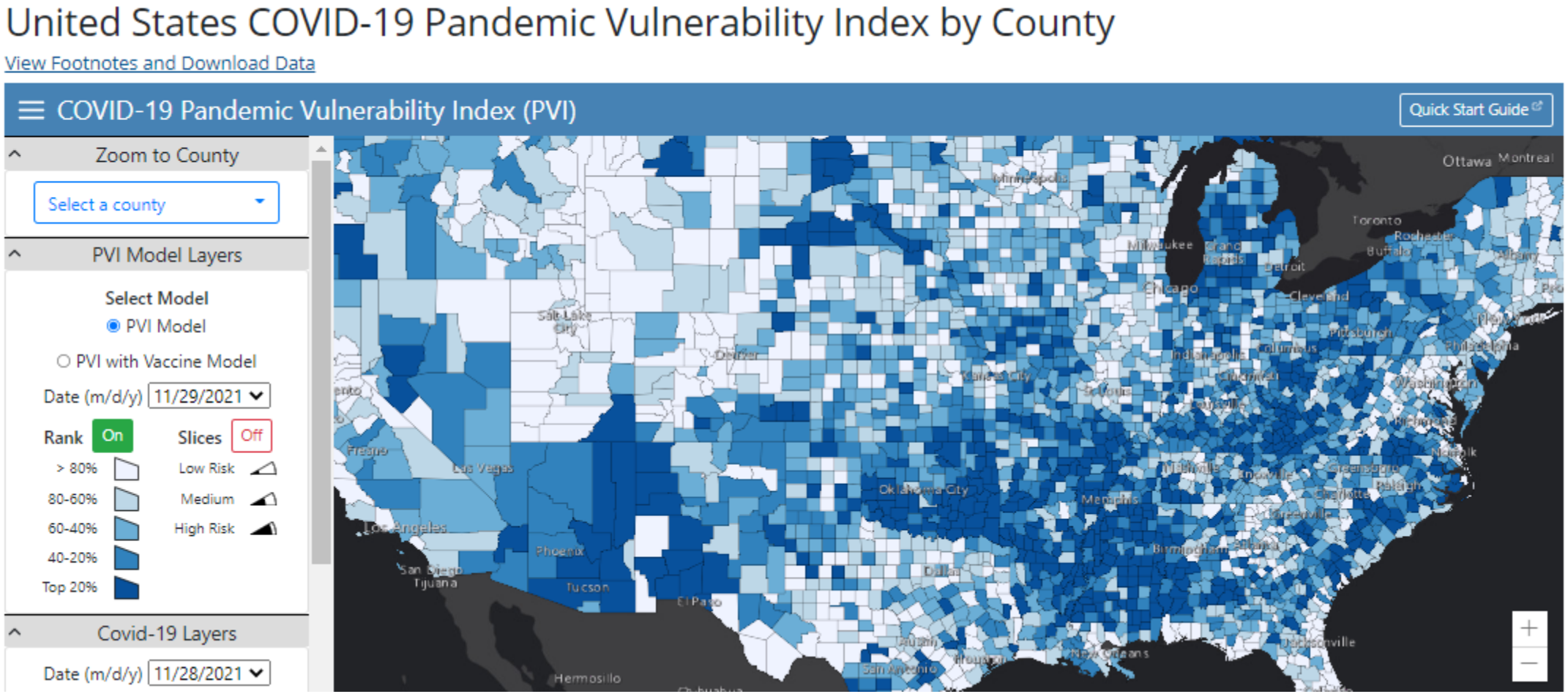




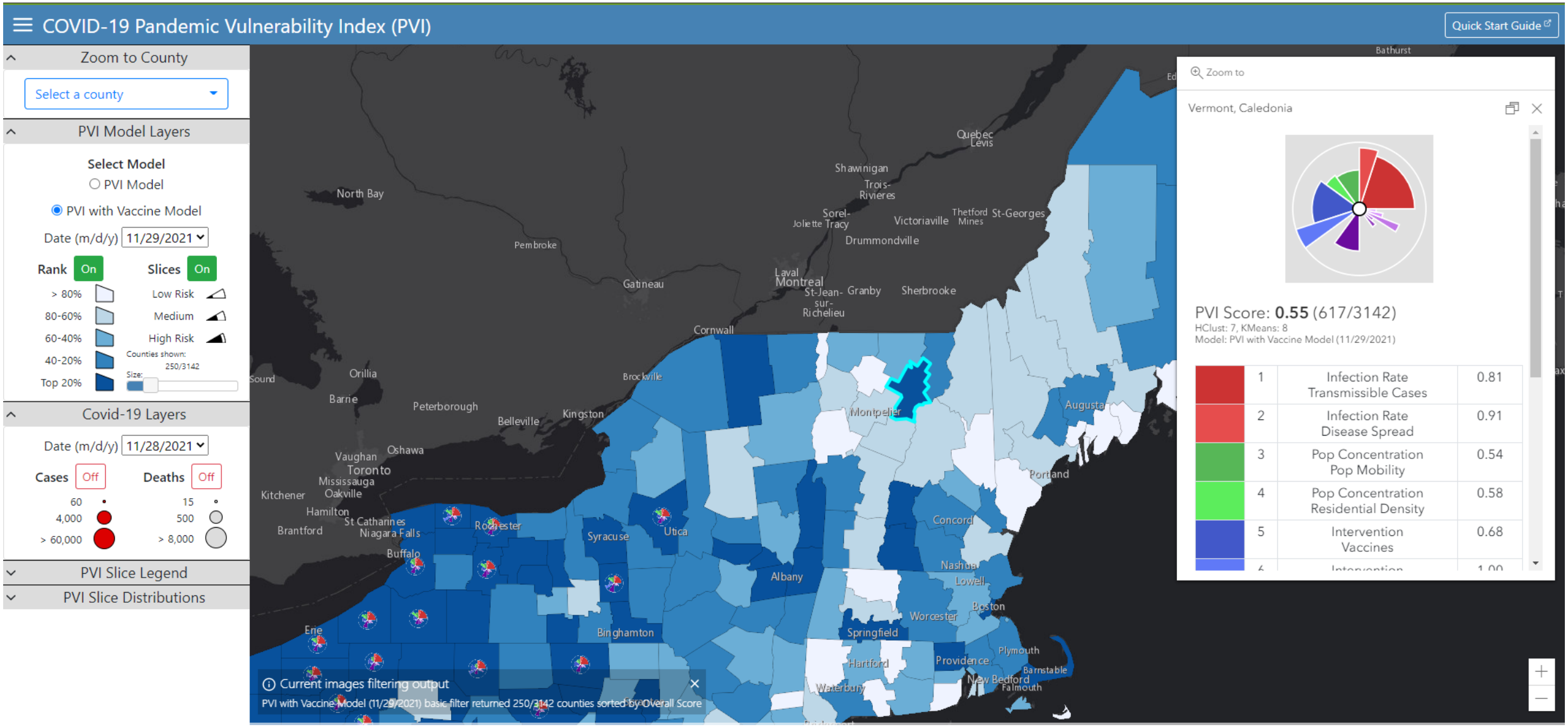
The NIH has developed a Pandemic Vulnerability Index (PVI) with risk profiles for every county in the US



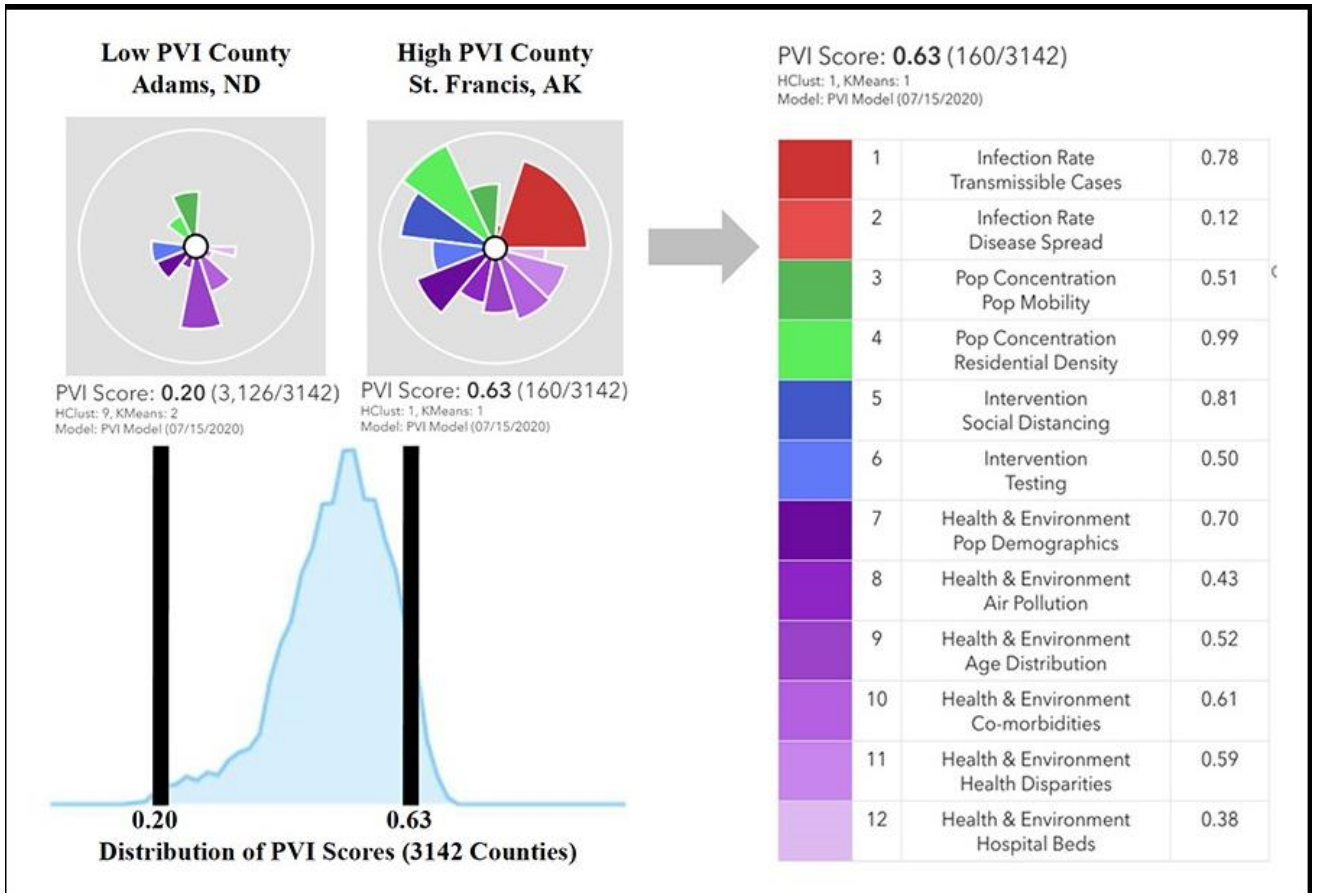
As of 11/28/21 this is what the Vulnerability Index looked like at the national level

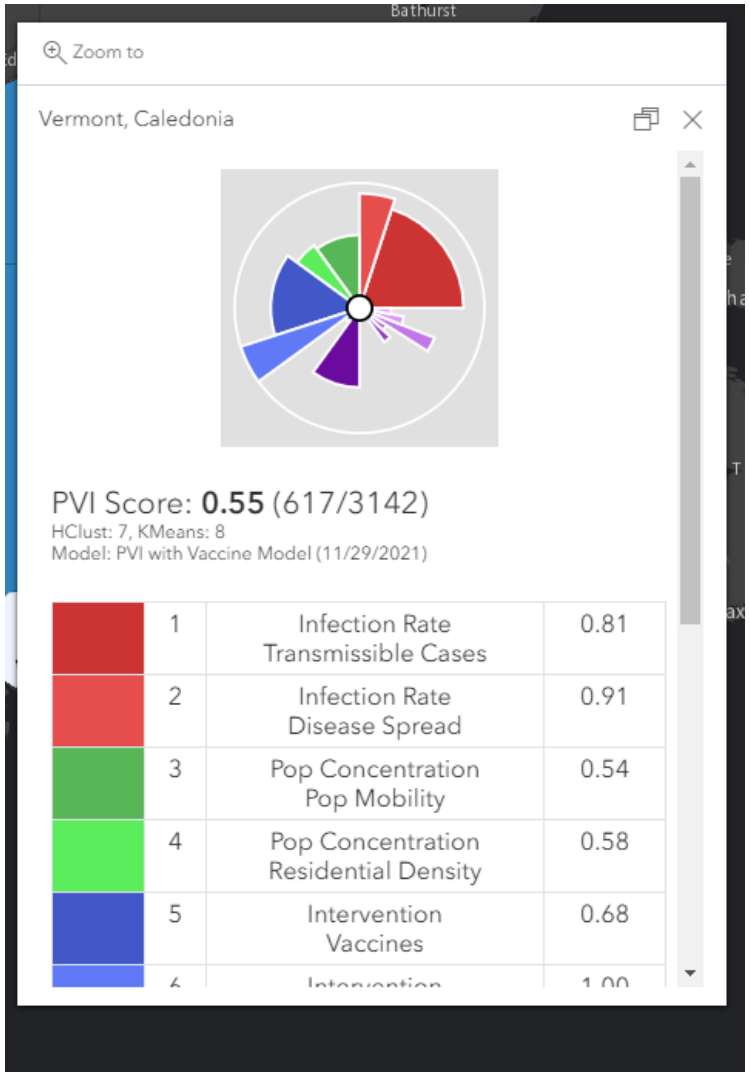


As of 11/28/21 Caledonia County Stands out as highest (dark blue color) in region & the state for the NIH Pandemic Vulnerability Index

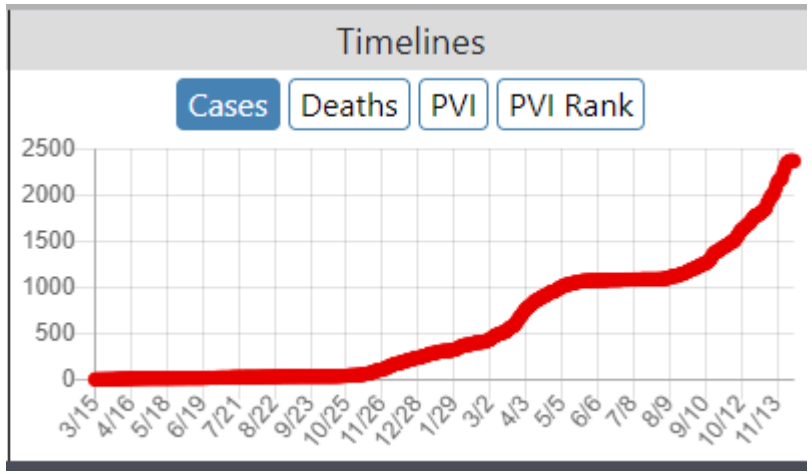


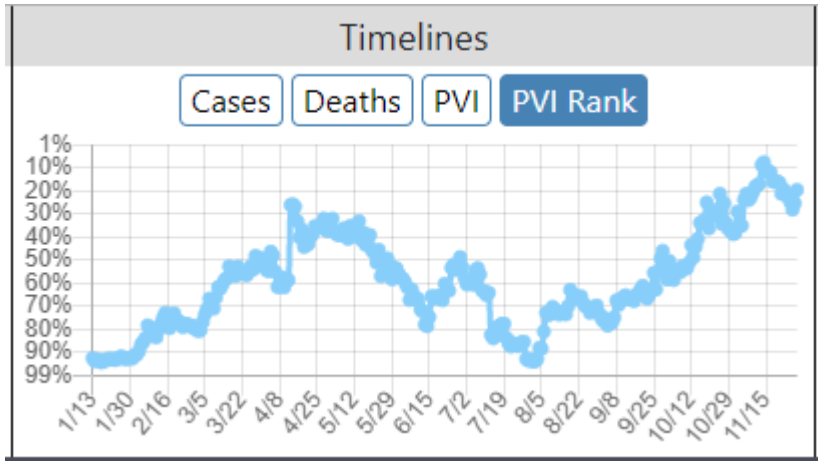
Example radar plots show that Caledonia County has what is considered a High Pandemic Vulnerability Score





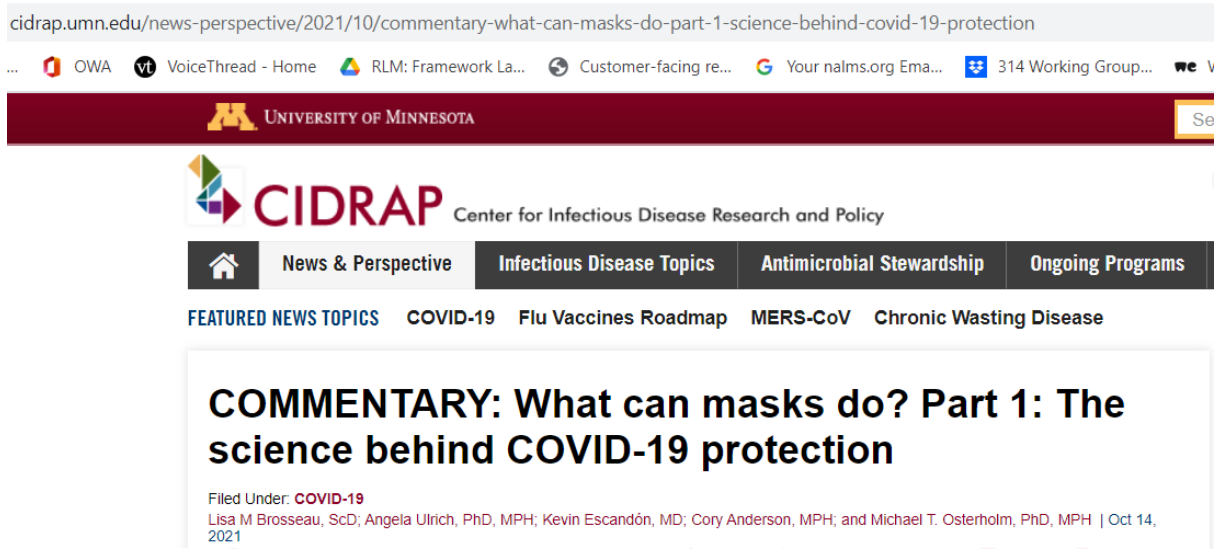
Caledonia County NIH data as of 11/28/21, shows county is trending up in cases and PVI rank





County Numbers	
(On 11/28/2021)	
Cases	2,367
Deaths	21
Deaths/Cases	0.89%
Population	30,302
Cases (per 100k)	7811.4
Deaths (per 100k)	69.3

Mask effectiveness varies by mask type, mask fit and duration of exposure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FEATURED NEWS TOPICS COVID-19 Flu Vaccines Roadmap MERS-CoV Chronic Wasting Disease

COMMENTARY: What can masks do? Part 1: The science behind COVID-19 protection

Filed Under: COVID-19

Lisa M Brosseau, ScD; Angela Ulrich, PhD, MPH; Kevin Escandón, MD; Cory Anderson, MPH; and Michael T. Osterholm, PhD, MPH | Oct 14, 2021

Table 1. Time to Infectious Dose for an Uninfected Person (Receiver)*

		Receiver is wearing (% inward leakage)				
		Nothing	Typical cloth mask	Typical surgical mask	Non–fit-tested N95 FFR	Fit-tested N95 FFR
Source is wearing (% outward leakage)		100%	75%	50%	20%	10%
Nothing	100%	15 min	20 min	30 min	1.25 hr	2.5 hr
Typical cloth mask	75%	20 min	26 min	40 min	1.7 hr	3.3 hr
Typical surgical mask	50%	30 min	40 min	1 hr	2.5 hr	5 hr
Non–fit-tested N95 FFR**	20%	1.25 hr	1.7 hr	2.5 hr	6.25 hr	12.5 hr
Fit-tested N95 FFR	10%	2.5 hr	3.3 hr	5 hr	12.5 hr	25 hr

*The data for % inward and outward leakage of cloth and surgical masks were derived from a study by Lindsley et al (2021). Data for non–fit-tested N95 FFRs come from a study by Brosseau (2020). Data for fit-tested N95 FFRs are derived from the OSHA-assigned protection factor of 10 for half-facepiece respirators. Also, times were established before wide circulation of the more transmissible Delta variant.

**FFR = filtering facepiece respirator; N95 = not oil-proof, 95% efficient at NIOSH filter test conditions

https://www.cidrap.umn.edu/news-perspective/2021/10/commentary-what-can-masks-do-part-1-science-behind-covid-19-protection

Masks are an *additional* step toward preventing infectious aerosol inhalation in our community.

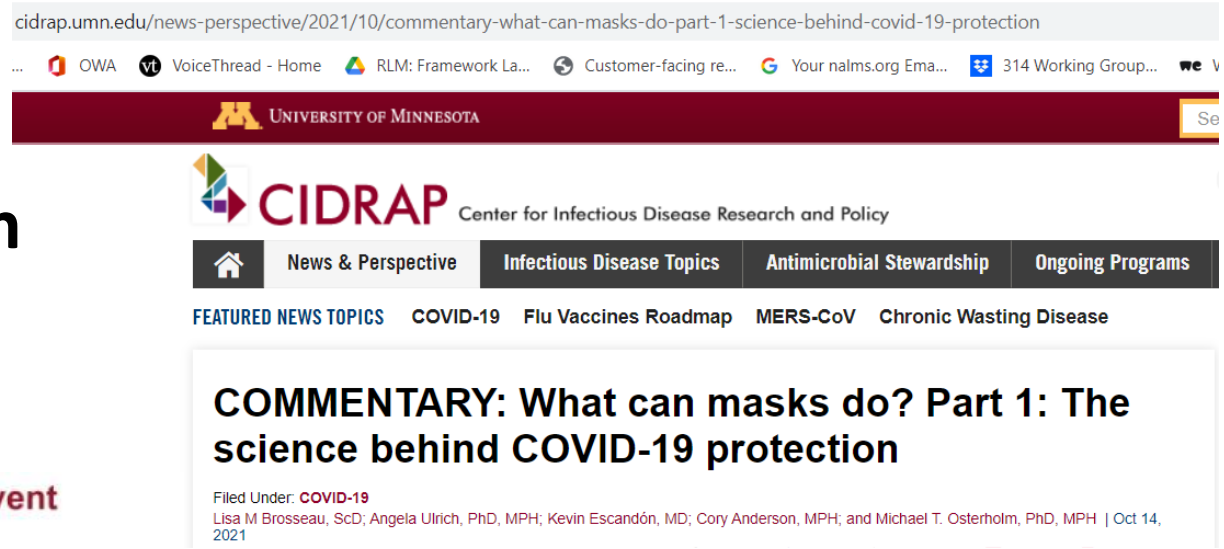

Table 2. Source, Pathway, and Receiver Controls for the Public to Prevent Infectious Aerosol Inhalation

Source (infected person)	Pathway (infectious particles in air)	Receiver (uninfected person)
Do these first and use as many as possible	**Do these second in combination with source controls**	**Do these last after using all possible source and pathway controls**
Limit the number of sources or time spent in shared spaces	Limit the movement of infectious particles from source to receiver	Limit receiver's inhalation of infectious particles
• Vaccination • Consider immediate testing and isolation for 5-10 days when in contact with sources who are infected or whose infectious status is unknown • Masks or non–fit-tested respirators to limit outward emission of particles* • Limit number of people inside • Limit time spent with people indoors	• Move activities outdoors • Increase distance between source and receiver (will work for only a short time) • Remove, replace, and clean the air to lower particle concentrations (e.g., portable air cleaners)	• Masks or respirators to limit inhalation of particles*

*Refer to Table 1 for information on how long it will take for an uninfected person to receive an infectious dose when the source and the receiver are wearing a cloth face covering, surgical mask, or respirator.

https://www.cidrap.umn.edu/news-perspective/2021/10/commentary-what-can-masks-do-part-1-science-behind-covid-19-protection

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FEATURED NEWS TOPICS COVID-19 Flu Vaccines Roadmap MERS-CoV Chronic Wasting Disease

COMMENTARY: What can masks do? Part 2: What makes for a good mask study — and why most fail

Filed Under: COVID-19

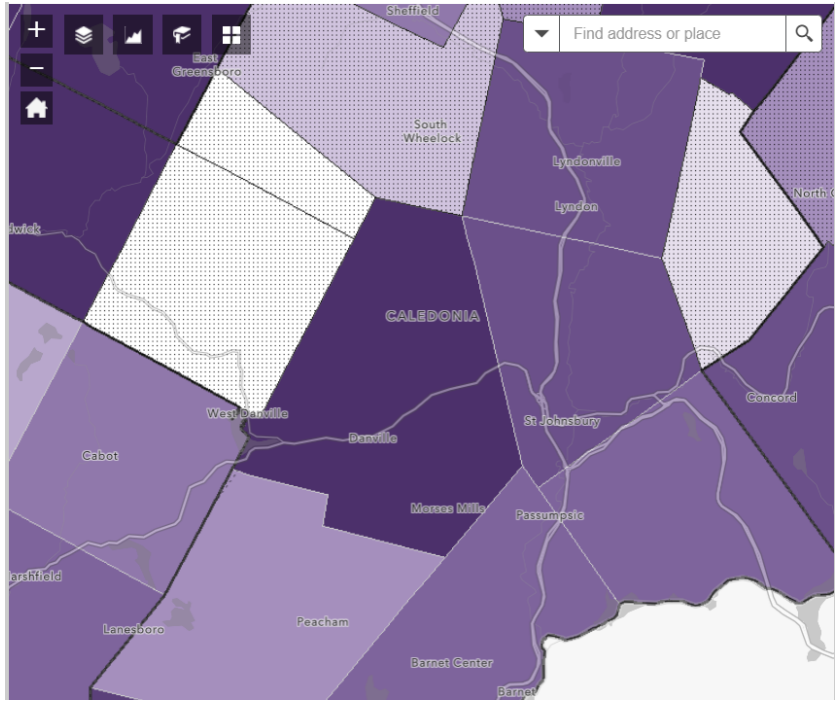
Lisa M Brosseau, ScD; Angela Ulrich, PhD, MPH; Kevin Escandón, MD; Cory Anderson, MPH; and Michael T. Osterholm, PhD, MPH | Oct 15, 2021

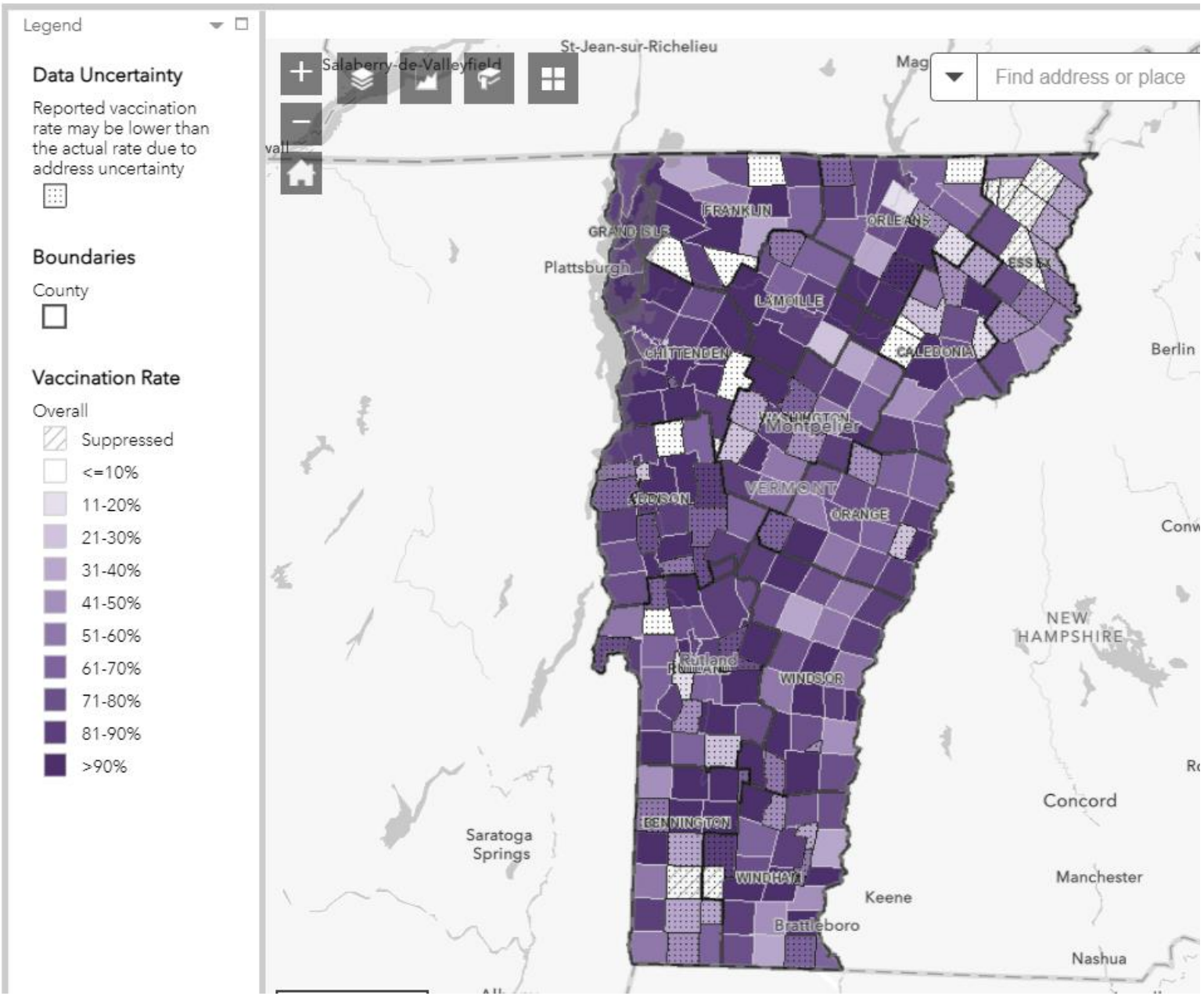
Mask wearing has been an extremely polarizing and politicized topic across the world, but especially in the United States.[27,28] Endless unrealistic expectations, along with gross misinterpretation and overconfidence, have been evident, including claims that masks alone would "flatten the curve," "end the pandemic," or "reduce the clinical severity of COVID-19."[16,29–31] Now, one and a half years into the pandemic, if masks were as effective as many believed them to be, we should have seen significant impacts. But that has not been the case anywhere on the globe.

This is not to say that masks do not play a role in disease control, but that public health officials should not oversell the role of masks. Rather, they need to encourage appropriate mask use in the context of other highly effective interventions such as vaccination.

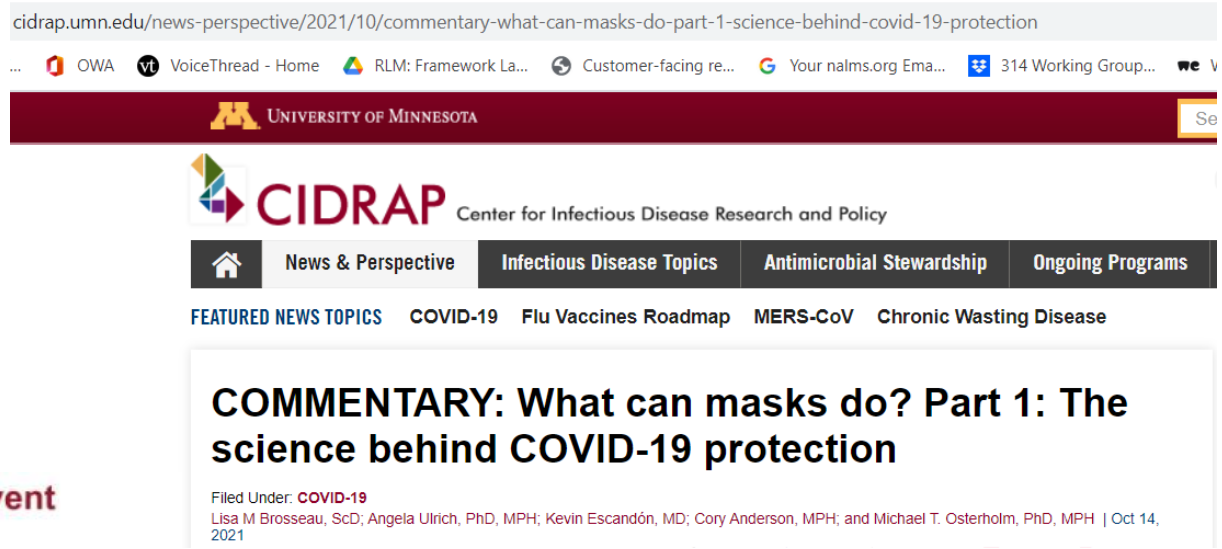
https://www.cidrap.umn.edu/news-perspective/2021/10/commentary-what-can-masks-do-part-2-what-makes-good-mask-study-and-why-most

According to the Vermont Department of Health, Danville is one of the Vermont towns with the highest (dark purple) vaccination rate (aged 12 and older who have been vaccinated with at least one dose of a COVID-19 vaccine). Data is pre-Thanksgiving.





While masking alone is not the answer, at this time in this town it seems a town-wide indoor mask mandate is appropriate in the context of the other highly effective interventions (i.e. vaccinations) already taken by Danville residents despite which, the last two week case rate is one of the highest in the state. Masks are an additional step toward preventing infectious aerosol inhalation in our community.



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In Summary

- The CDC recommends everyone over 2 years old who is not vaccinated wear a mask indoors.
- The CDC recommends “If you are fully vaccinated, to maximize protection and prevent possibly spreading COVID 19 to others, wear a mask indoors in public if you are in an area of substantial or **high** transmission.”
- Caledonia County has a **HIGH** Level of Community Transmission as of 11/23/2021 according to the CDC
- Vermont’s 7 day case rate per 100,000 is in the **highest category** (dark blue) as of 11/30/21, according to the CDC

In Summary

- Danville's case rate in the last two weeks is in the **highest category** (dark blue) as of 11/23/21, according to the Vermont Department of Health
- As of 11/28/21 Caledonia County Stands out as **highest** (dark blue color) in the region & the state for the National Institute of Health's Pandemic Vulnerability Index
- The University of Minnesota's Center for Infectious Disease Research Policy recognize masks are an *additional* step toward preventing infectious aerosol inhalation in public

Danville town wide indoor mask mandate for public spaces appears merited at this time

- **While masking alone is not the answer, at this time in this town it seems a town-wide indoor mask mandate is appropriate in the context of the other highly effective interventions (i.e. vaccinations) already taken by Danville residents despite which, the last two-week case rate for the town is one of the highest in the state.**
- **Masks are an additional step toward preventing infectious aerosol inhalation in our community.**

References

- CDC current mask recommendations: "Your Guide to Masks" https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/about-face-coverings.html
- CDC Community Transmission by County in US https://covid.cdc.gov/covid-data-tracker/#datatracker-home
- CDC 7 Day Case Rate by State https://covid.cdc.gov/covid-data-tracker/#cases_casesper100klast7days
- Vermont Department of Health Rate of Recent Cases by Town https://www.healthvermont.gov/covid-19/current-activity/rates-town

References

- National Institute of Environmental Health Sciences (NIH) , COVID 19 Pandemic Vulnerability Index by County https://covid19pvi.niehs.nih.gov/
- University of Minnesota Center for Infectious Disease Research and Policy
  - What Masks Can Do? Part 1 https://www.cidrap.umn.edu/news-perspective/2021/10/commentary-what-can-masks-do-part-1-science-behind-covid-19-protection
  - What Masks Can Do? Part 2 https://www.cidrap.umn.edu/news-perspective/2021/10/commentary-what-can-masks-do-part-2-what-makes-good-mask-study-and-why-most