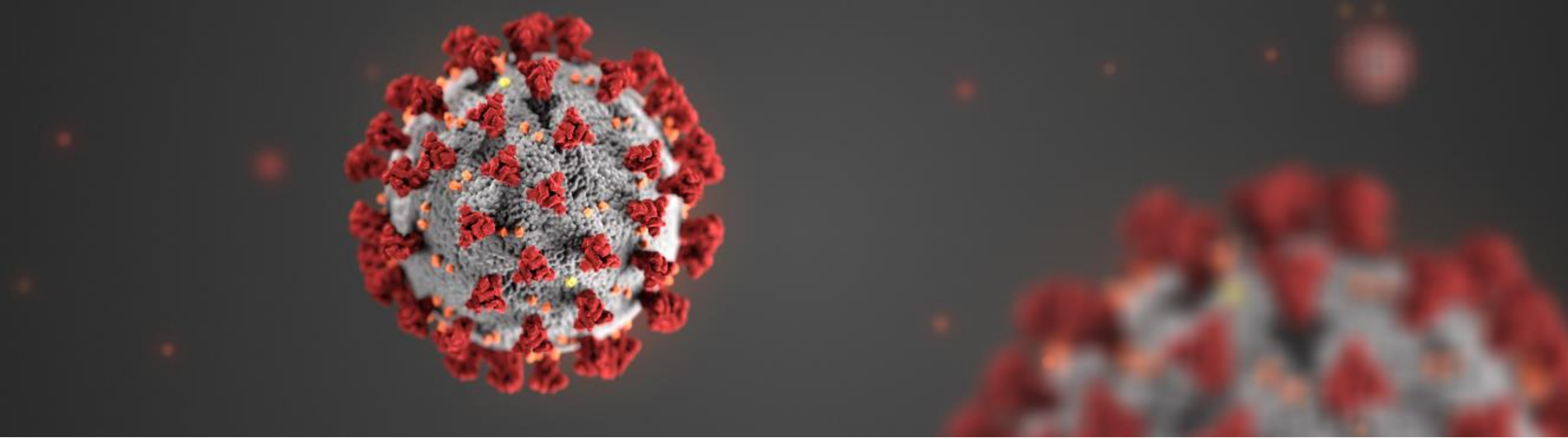
FETN One Health Risk Assessment Workshop

How to Create a SPOT Report and Example of a Risk Assessment Report at CDC

Alden Henderson

April 26, 2022



For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Topics of Presentation

- How to create a SPOT report to respond to public health emergencies
- How to communicate with policy makers
- Share risk assessment report

SPOT REPORTING

A training course for REACT Teams and members

A Spot Report is a short, concise report that relays operationally important data to contribute to the overall common operating picture supporting decision making.

SITREP versus SPOTREP

- SITREP formal, scheduled
- SPOTREP when something significant occurred
- **SITREP** reports status and provides decision-makers and readers a quick understanding of the current situation. It provides a clear, concise understanding of the situation—focusing on meaning or context, in addition to the facts.
- **SPOTREP** is used to report timely intelligence or status regarding events that could have an immediate and significant effect on current and future operations. In early phase, SPOTREP may be only information available.

ProMED

Published Date: 2019-12-30 18:59:00 EST
Subject: PRO/AH/EDR> Undiagnosed pneumonia - China (HU): RFI
Archive Number: 20191230.6864153

UNDIAGNOSED PNEUMONIA - CHINA (HUBEI): REQUEST FOR INFORMATION
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A ProMED-mail post
http://www.promedmail.org
ProMED-mail is a program of the
International Society for Infectious Diseases
http://www.isid.org

[1]
Date: 30 Dec 2019
Source: Finance Sina [machine translation]
https://finance.sina.cn/2019-12-31/detail-iihnzahk1074832.d.html?from=wap

Wuhan unexplained pneumonia has been isolated test results will be announced [as soon as available]

On the evening of [30 Dec 2019], an "urgent notice on the treatment of pneumonia of unknown cause" was issued, which was widely distributed on the Internet by the red-headed document of the Medical Administration and Medical Administration of Wuhan Municipal Health Committee.

On the morning of [31 Dec 2019], China Business News reporter called the official hotline of Wuhan Municipal Health and Health Committee 12320 and learned that the content of the document is true.

12320 hotline staff said that what type of pneumonia of unknown cause appeared in Wuhan this time remains to be determined.

According to the above documents, according to the urgent notice from the superior, some medical institutions in Wuhan have successively appeared patients with pneumonia of unknown cause. All medical institutions should strengthen the management of outpatient and emergency departments, strictly implement the first-in-patient responsibility system, and find that patients with unknown cause of pneumonia actively adjust the power to treat them on the spot, and there should be no refusal to be pushed or pushed.

The document emphasizes that medical institutions need to strengthen multidisciplinary professional forces such as respiratory, infectious diseases, and intensive medicine in a targeted manner, open green channels, make effective connections between outpatient and emergency departments, and improve emergency plans for medical treatment.

ProMED

Published Date: 2003-02-10 18:50:00 EST
Subject: PRO/EDR> Pneumonia - China (Guangdong): RFI
Archive Number: 20030210.0357

PNEUMONIA - CHINA (GUANGDONG): RFI
****

A ProMED-mail post
<http://www.promedmail.org>
ProMED-mail is a program of the
International Society for Infectious Diseases
<http://www.isid.org>
[1]
Date: 10 Feb 2003
From: Stephen O. Cunnion, MD, PhD, MPH <cunnion@erols.com>

This morning I received this e-mail and then searched your archives and found nothing that pertained to it. Does anyone know anything about this problem?
"Have you heard of an epidemic in Guangzhou? An acquaintance of mine from a teacher's chat room lives there and reports that the hospitals there have been closed and people are dying."
--
Stephen O. Cunnion, MD, PhD, MPH
International Consultants in Health, Inc
Member ASTM&H, ISTM
<cunnion@erols.com>

HEPATITIS, UNDEFINED - USA, EUROPE: CHILDREN, POSSIBLE ADENOVIRUS,
REQUEST FOR INFORMATION
****
A ProMED-mail post
http://www.promedmail.org
ProMED-mail is a program of the
International Society for Infectious Diseases
http://www.isid.org

[1] USA, UK, Spain
Date: Thu 14 Apr 2022
Source: Stat News [edit]
https://www.statnews.com/2022/04/14/u-s-u-k-investigating-unusual-cases-of-hepatitis-in-young-children/

Public health officials in the USA and the UK are investigating a number of unusual cases of serious hepatitis in young children, the cause or causes of which are currently unknown. Evidence from the UK and from Alabama, where 9 cases have been recorded since last fall [2021], points to the possible involvement of an adenovirus. Adenoviruses generally attack the respiratory tract, causing cold-like illnesses. But they have been linked to bladder inflammation and infection, and occasionally to hepatitis, though rarely in children who are not immunocompromised.

In a statement issued late Thursday [14 Apr 2022], the CDC said it is working with Alabama on its investigation into the cases, and is working with other state health departments to see if there are other cases elsewhere. In an alert to doctors the Alabama public health department issued in early February [2022s, it mentioned being aware of a case in another state, but it did not give details.

View this CDC HAN Health Advisory as a PDF

Distributed via the CDC Health Alert Network
Friday, April 21, 2022, 11:00 AM ET
CDCHAN-00462

Recommendations for Adenovirus Testing and Reporting of Children with Acute Hepatitis of Unknown Etiology

Summary

The Centers for Disease Control and Prevention (CDC) is issuing this Health Alert Network (HAN) Health Advisory to notify clinicians and public health authorities of a cluster of children identified with hepatitis and adenovirus infection. In November 2021, clinicians at a large children's hospital in Alabama notified CDC of five pediatric patients with significant liver injury, including three with acute liver failure, who also tested positive for adenovirus. All children were previously healthy. None had COVID-19. Case-finding efforts at this hospital identified four additional pediatric patients with hepatitis and adenovirus infection for a total of nine patients admitted from October 2021 through February 2022; all five that were sequenced had adenovirus type 41 infection identified. In two patients, plasma samples were negative for adenovirus by quantitative polymerase chain reaction (qPCR), but both patients were positive when retested using whole blood. Two patients required liver transplant; no patients died. A possible association between pediatric hepatitis and adenovirus infection is currently under investigation. Cases of pediatric hepatitis in children who tested negative for hepatitis viruses A, B, C, D, and E were reported earlier this month in the United Kingdom, including some with adenovirus infection [1].

- Format
  - Summary of event
  - Background of disease
  - Recommendations
  - Request for action
  - Contact information

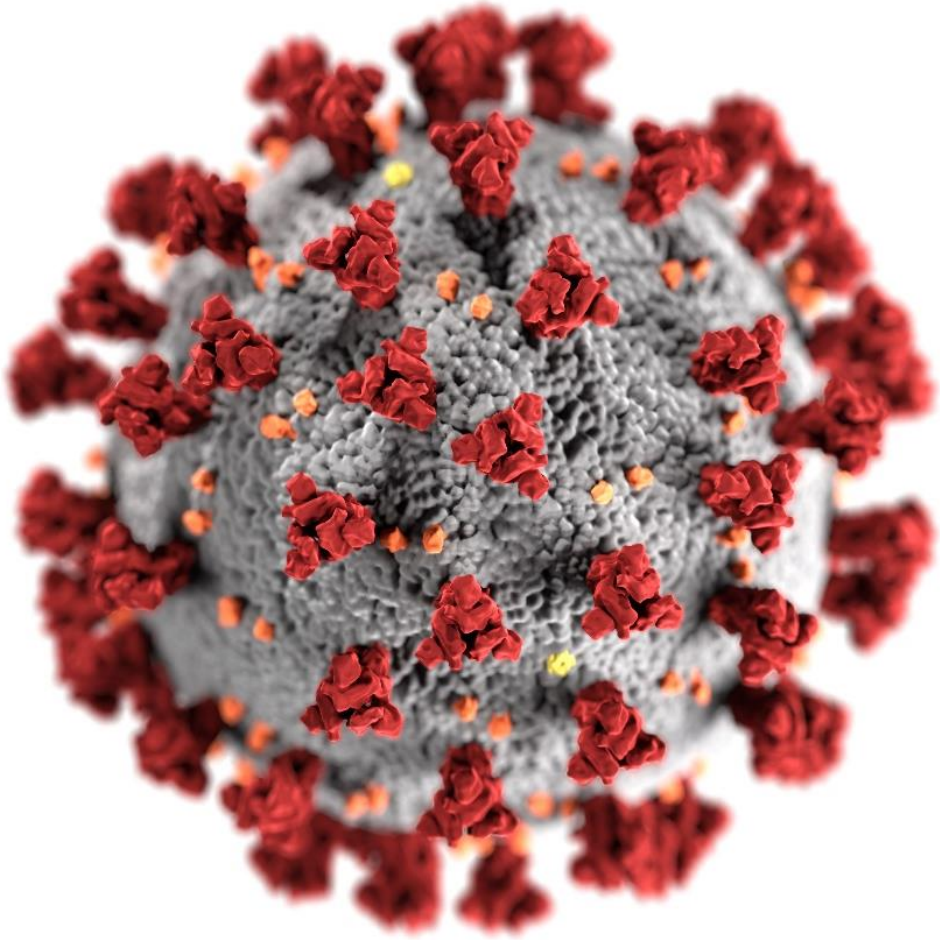
Highlights for Communicating to Policy Makers from FETN Risk Communication Workshop

- Policy makers expect public health agencies to have all the answers
- Made decision with limited amount of information
- Policy makers need to know limitations and uncertainties of Risk Assessment
- Risk assessors
  - Need many sources of information to increase confidence of risk assessment
  - Risk Assessment is a tool for decision making
  - Timeliness crucial
  - Gain and keep trust of policymakers
  - Provide summary of key points on a paper for policy makers

Indicators for Monitoring COVID-19 Community Levels and COVID-19 and Implementing COVID-19 Prevention Strategies

Accessible Version: https://www.cdc.gov/coronavirus/2019-ncov/science/community-levels.html

Overview and Scientific Rationale



February 25, 2022

cdc.gov/coronavirus

CDC's Indicators of Community Transmission – Sept 2020

Indicator	Low Transmission	Moderate Transmission	Substantial Transmission	High Transmission
Total new cases per 100,000 persons in the past 7 days	0-9	10-49	50-99	≥100
Percentage of Nucleic Acid Amplification Test results that are positive during the past 7 days	<5.0%	5.0%-7.9%	8.0%-9.9%	≥10.0%

- Used by CDC to inform setting-specific guidance and layered prevention strategies (e.g., screening testing in schools, masking, etc.)
- Public health practitioners, schools, businesses, and community organizations also rely on these metrics to inform decisions about prevention measures

Establishing Thresholds for COVID-19 Community Levels

- Used correlation analyses and thresholds from Community Profile Reports and State Profile Reports to assess potential thresholds
- Correlations indicate:
  - 100 cases/100,000 population per week corresponds to about 3-4% of COVID-19 inpatient bed utilization, 6-10 new admissions/100,000 population
  - Inpatient bed occupancy is about half that of ICU occupancy
  - Fewer new admissions, fewer admissions per case, and lower inpatient bed utilization in areas with higher vaccination coverage
- Established candidate thresholds, then tested to calibrate levels

The Sept 2020 indicators needed to change with COVID-19 pandemic

- Community transmission indicators were developed in fall 2020 (prior to availability of vaccines) and reflect goal of limiting transmission in anticipation of vaccines being available
- **Neither of the community transmission indicators reflects medically significant disease or healthcare strain**
- Community transmission levels are largely driven by case incidence, which does not differentiate mild and severe disease

Why refocus efforts for monitoring COVID-19 in communities?

- **Shift from eliminating SARS-CoV-2 transmission towards more relevant metrics given current levels of population immunity and tools available**
- **Current high levels of population immunity reduce risk of severe outcomes**
  - High rates of vaccination in population as a whole
  - Availability of boosters, and booster coverage among populations at high risk
  - In unvaccinated, high rates of infection-induced protection
- **Breadth of tools available for public health and clinical care**
  - Broad access to vaccines, therapeutics, testing

- **Community measures should focus on minimizing the impact of severe COVID-19 illness on health and society**
  - Preventing medically significant illness
  - Minimizing burden on the healthcare system
  - Protecting the most vulnerable through vaccines, therapeutics, and COVID-19 prevention

Final Selection of COVID-19 Community Indicators

- Narrowed the list of candidate indicators based on criteria:
  - *New hospital admissions with confirmed COVID-19/100,000 people* and *percent of inpatient beds occupied with COVID-19 patients* selected as best candidates
  - ICU beds occupied, new hospital admissions/100 beds, test positivity, and metrics reflecting percent change (e.g., in new admissions, new cases) eliminated
  - New cases retained as a potential candidate to assess performance as leading indicator

Indicator Thresholds were Further Refined

- Compared different combinations of thresholds
  - With/without case threshold, and with different case thresholds (100, 200, 500, 1000 cases/100,000/week)
  - Different levels of *new COVID-19 hospital admissions* and *inpatient beds occupied by COVID-19 patients*
- Optimized levels based on thresholds with consistently higher performance at predicting ICU bed utilization, deaths, new admissions, and inpatient bed use 3 weeks later

CDC's COVID-19 Community Levels and Indicators

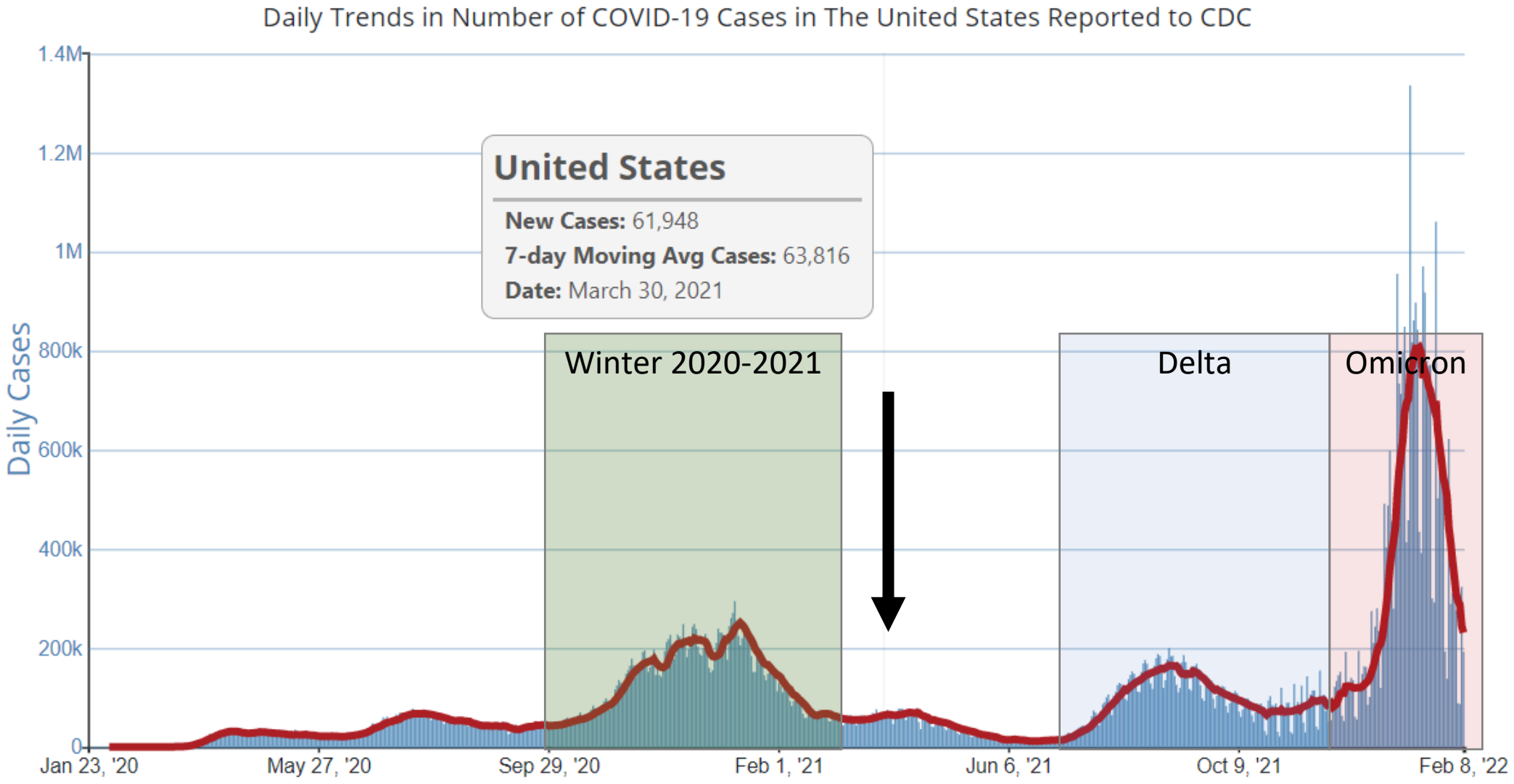
New Cases (per 100,000 population in the last 7 days)	Indicators	Low	Medium	High
Fewer than 200	New COVID-19 admissions per 100,000 population (7-day total)	<10.0	10.0-19.9	≥20.0
	Percent of staffed inpatient beds occupied by COVID-19 patients (7-day average)	<10.0%	10.0-14.9%	≥15.0%
200 or more	New COVID-19 admissions per 100,000 population (7-day total)	NA	<10.0	≥10.0
	Percent of staffed inpatient beds occupied by COVID-19 patients (7-day average)	NA	<10.0%	≥10.0%

The COVID-19 community level is determined by the higher of the inpatient beds and new admissions indicators, based on the current level of new cases per 100,000 population in the past 7 days

COVID-19 community levels are better predictors of deaths and ICU utilization in communities

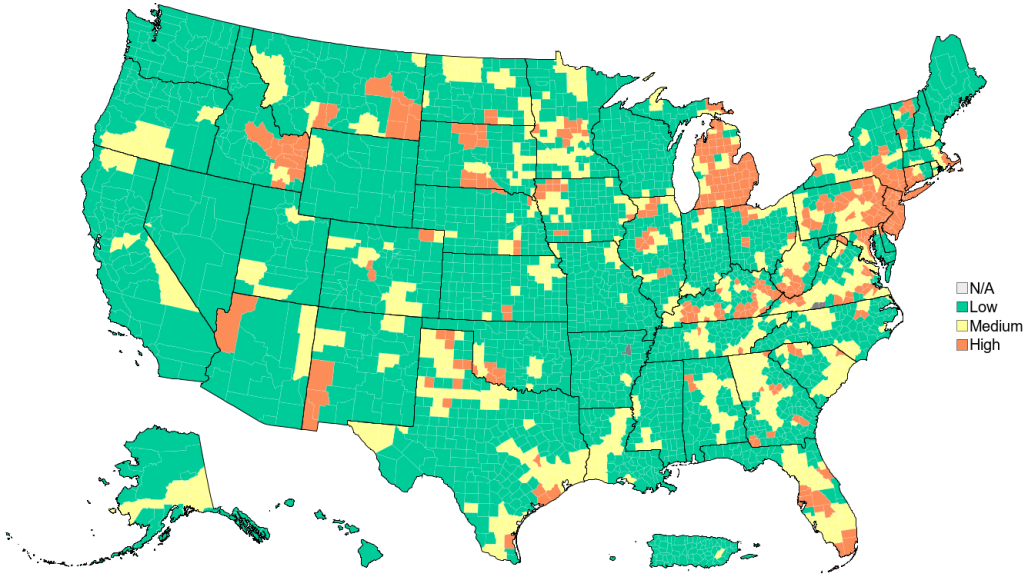
- The proposed COVID-19 community levels provide a **sizeable improvement** over the community transmission levels in identifying regions that will experience severe outcomes 3 weeks later
  - To prevent deaths and ICU bed use, COVID-19 community levels using new indicator metrics provide more robust measures
  - COVID-19 community levels result in more meaningful differences between categories

COVID-19 community levels on March 30, 2021 (post Alpha)



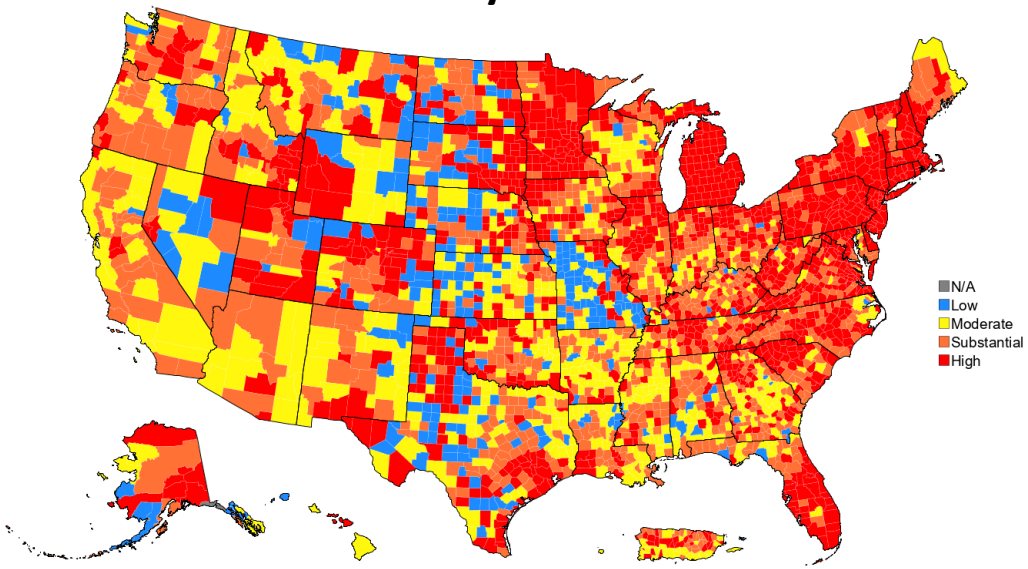
COVID-19 Community Levels on March 30, 2021

COVID-19 Community Level



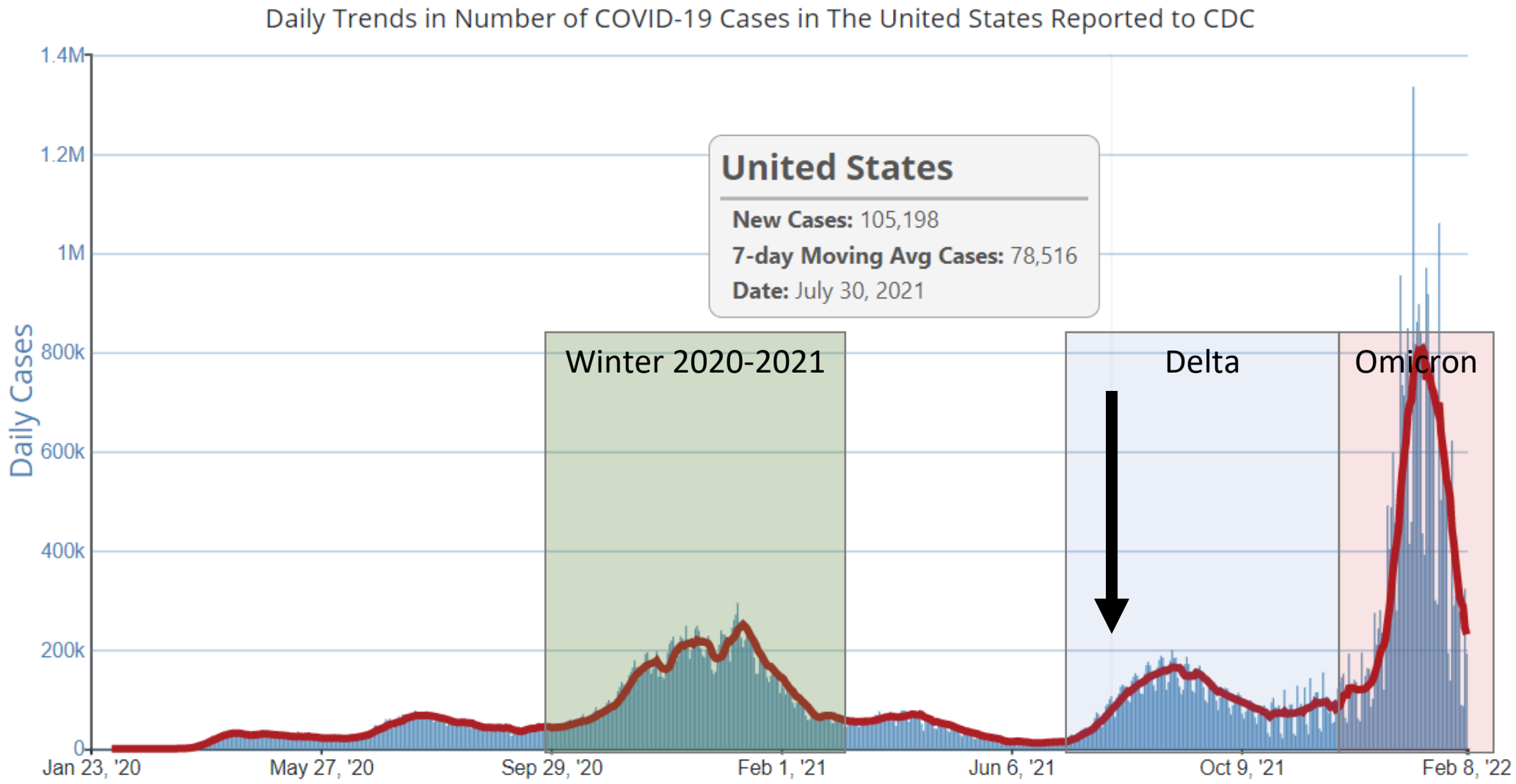
	% of Counties	% of Pop.
Low	67.3%	56.9%
Medium	22.0%	23.4%
High	10.6%	19.7%

Community Transmission



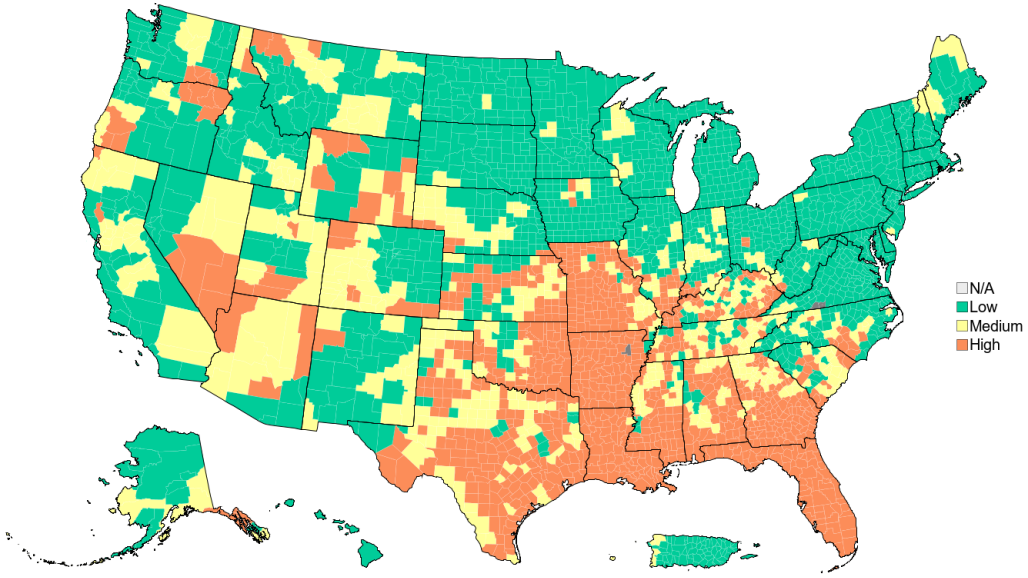
	% of Counties	% of Pop.
Low	9.3%	1.4%
Moderate	22.0%	17.3%
Subst.	28.3%	26.4%
High	40.5%	54.9%

COVID-19 community levels on July 30, 2021 (rise of Delta)



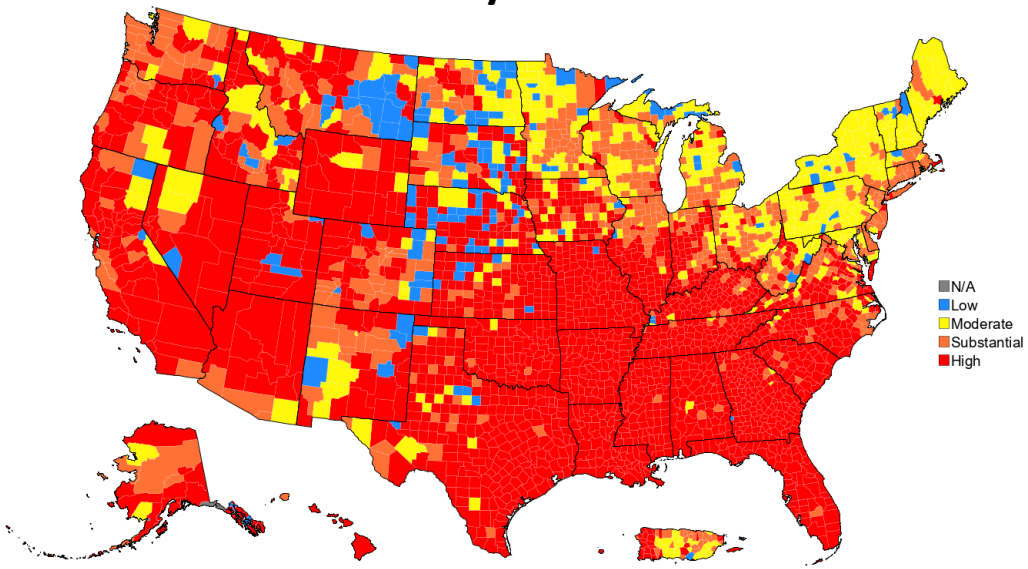
COVID-19 Community Levels on July 30, 2021

COVID-19 Community Level



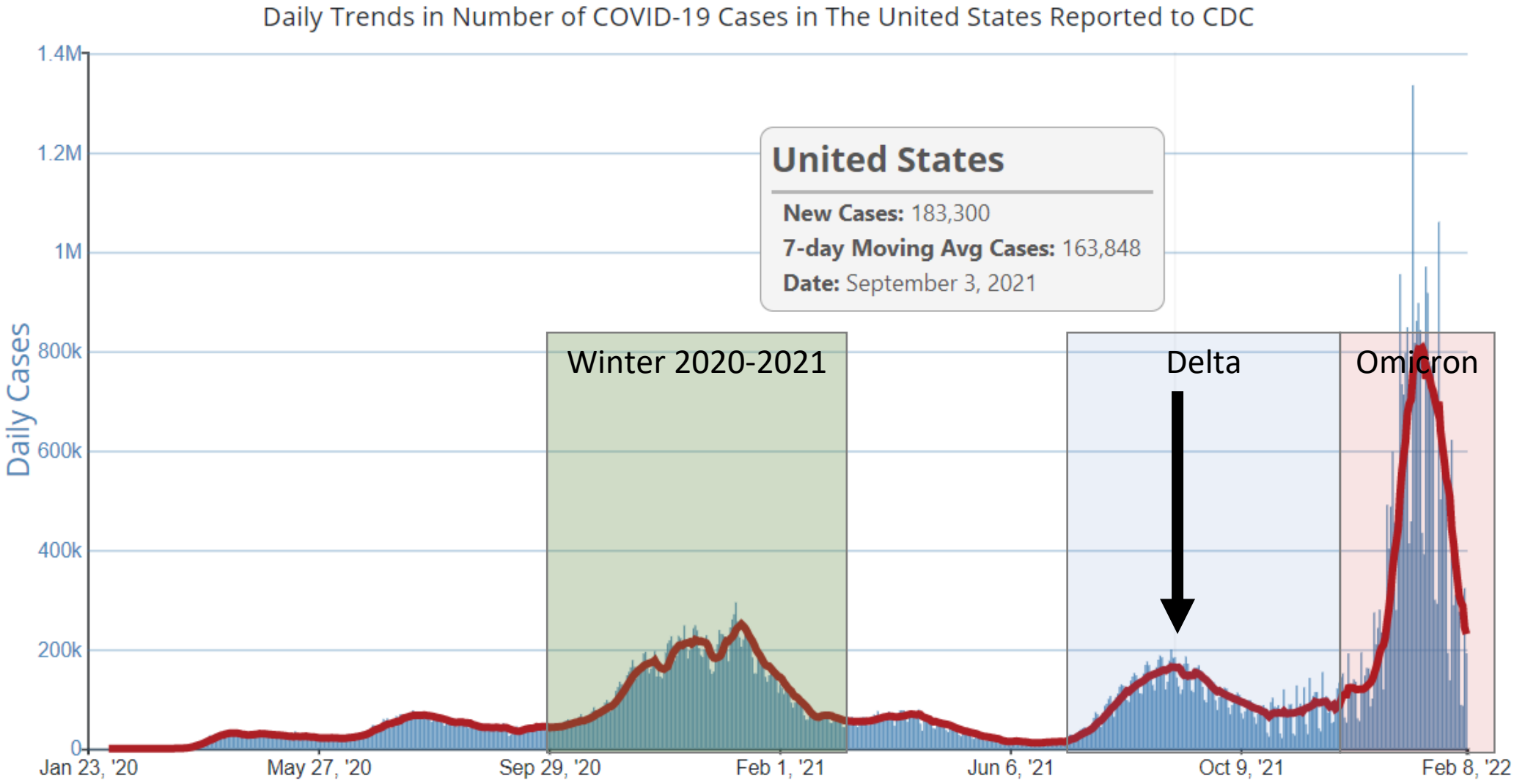
	% of Counties	% of Pop.
Low	49.6%	57.7%
Medium	20.2%	18.3%
High	30.1%	23.9%

Community Transmission



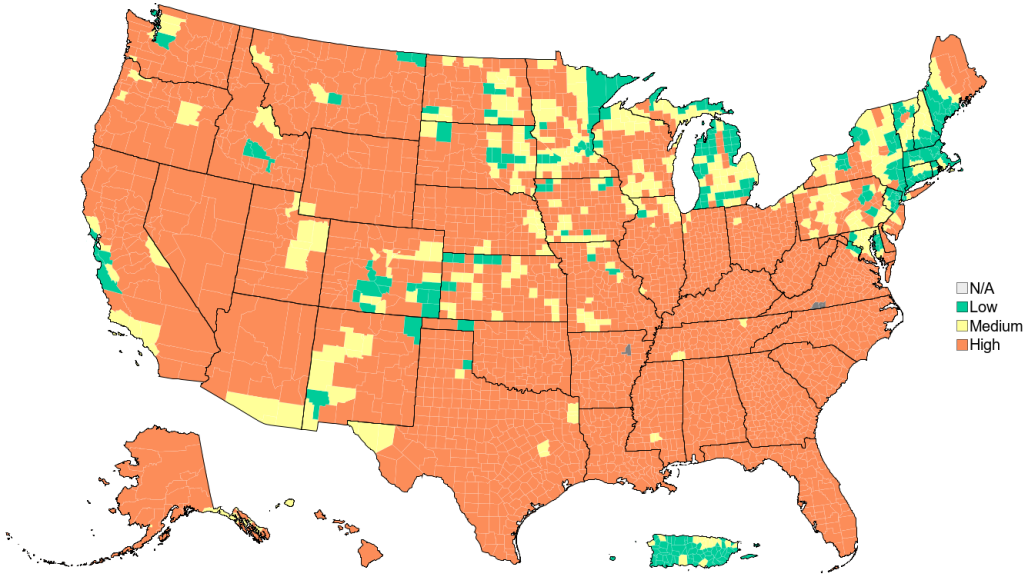
	% of Counties	% of Pop.
Low	4.8%	0.4%
Moderate	15.7%	12.1%
Subst.	18.2%	28.0%
High	61.3%	59.4%

COVID-19 community levels on September 3, 2021 (peak of Delta)



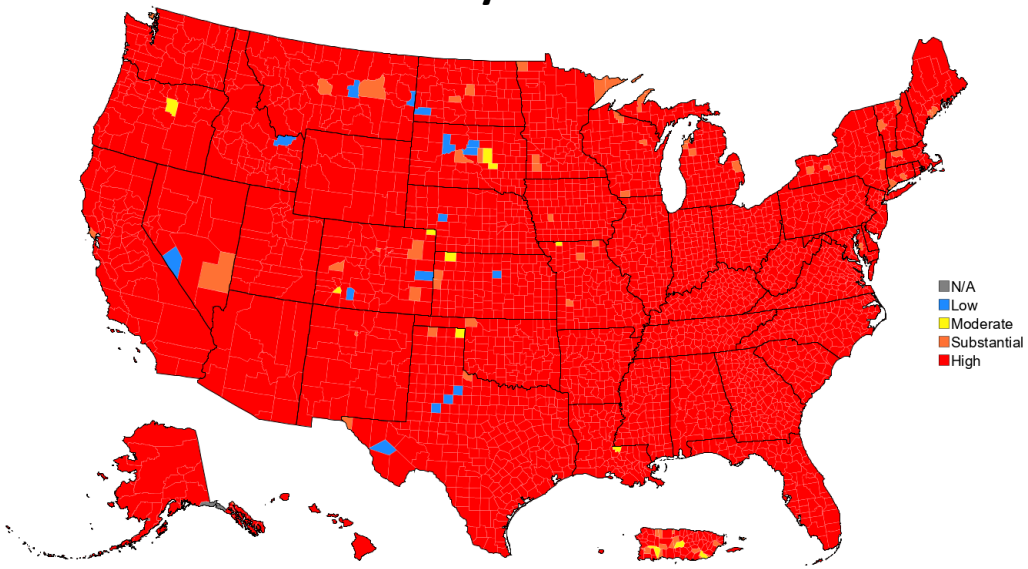
COVID-19 Community Levels on September 3, 2021

COVID-19 Community Level



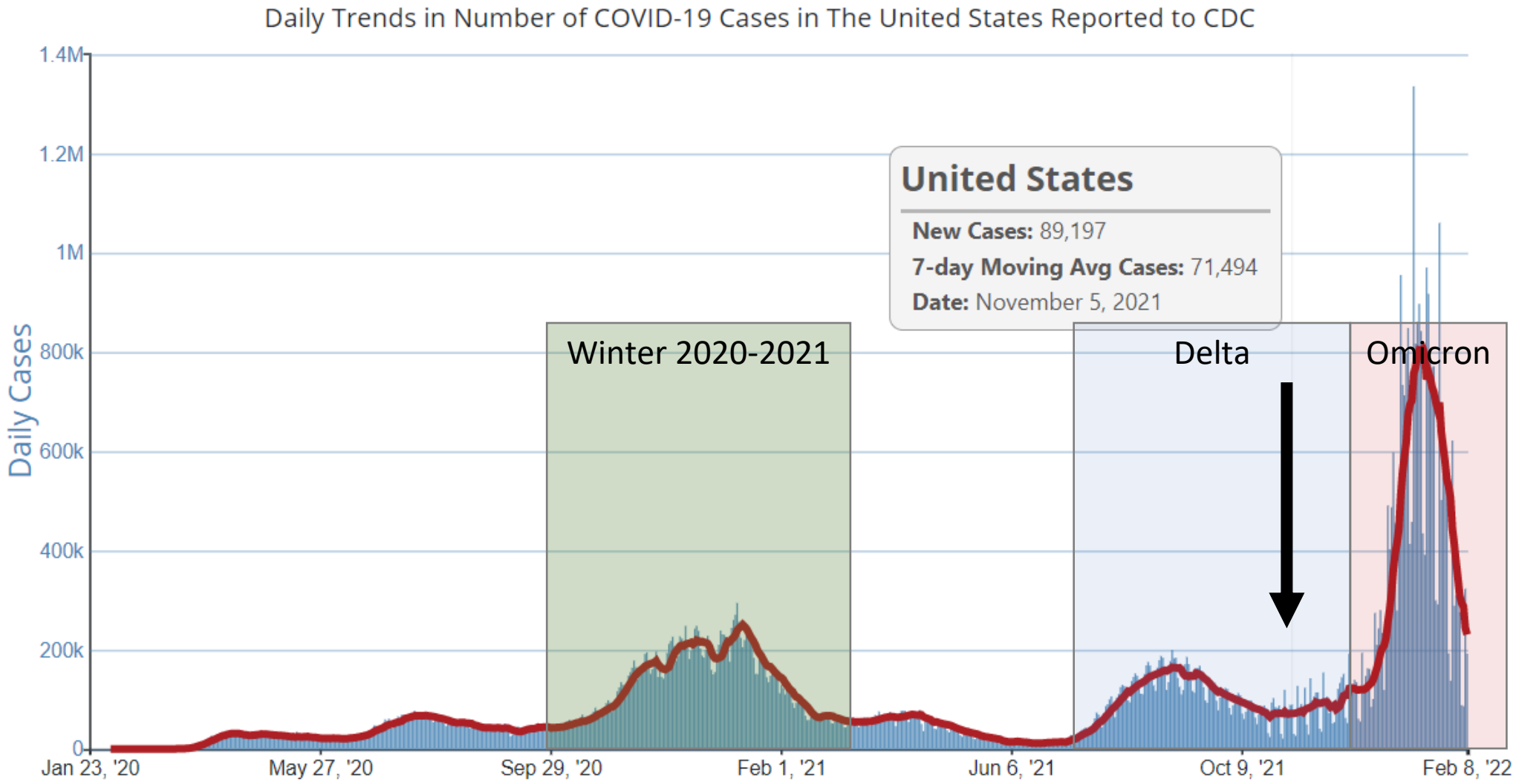
	% of Counties	% of Pop.
Low	8.1%	14.9%
Medium	12.2%	20.5%
High	79.6%	64.7%

Community Transmission



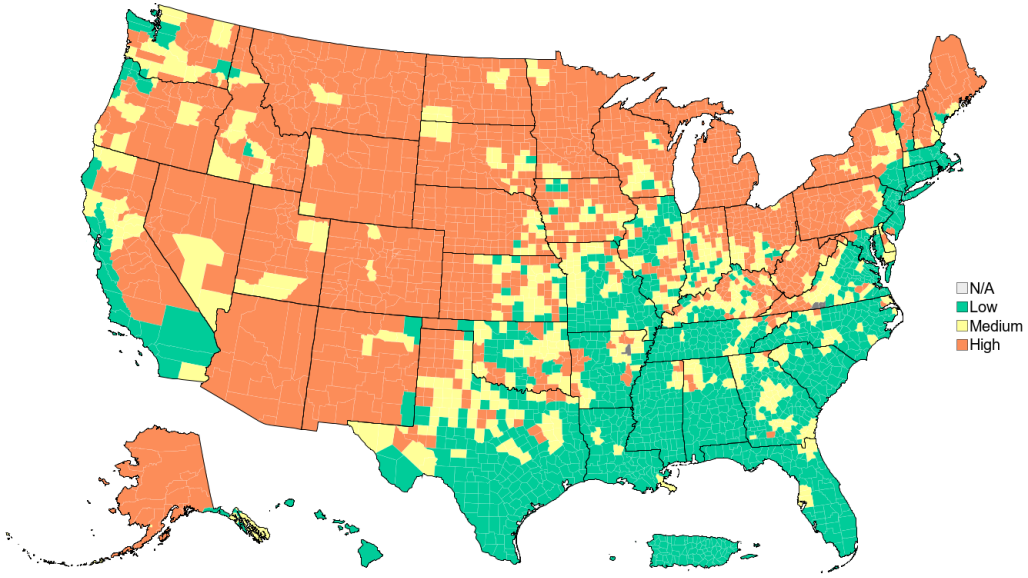
	% of Counties	% of Pop.
Low	0.5%	0.0%
Moderate	0.4%	0.0%
Subst.	2.0%	1.2%
High	97.0%	98.8%

COVID-19 community levels on November 5, 2021 (between Delta and Omicron)



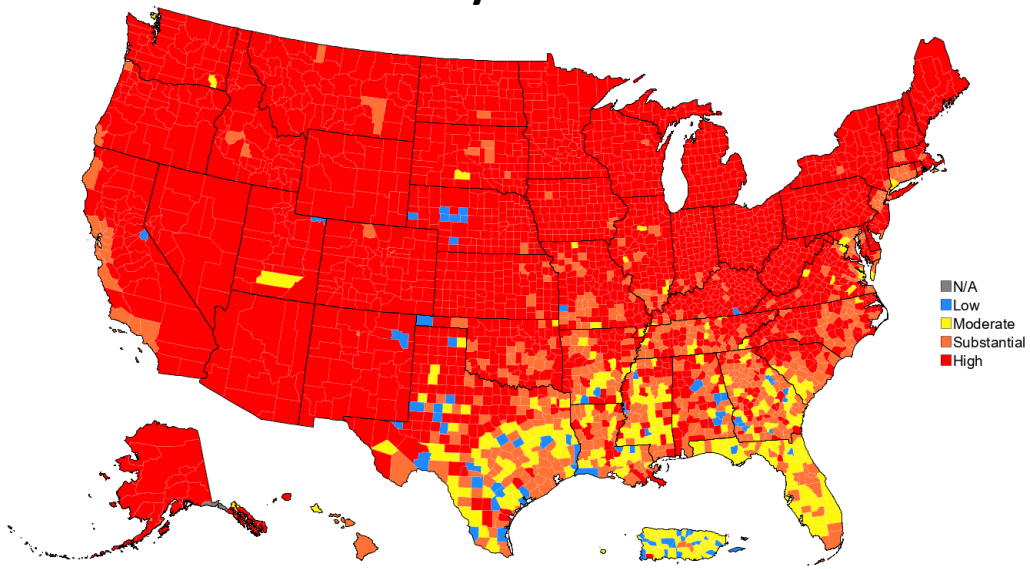
COVID-19 Community Levels on November 5, 2021

COVID-19 Community Level



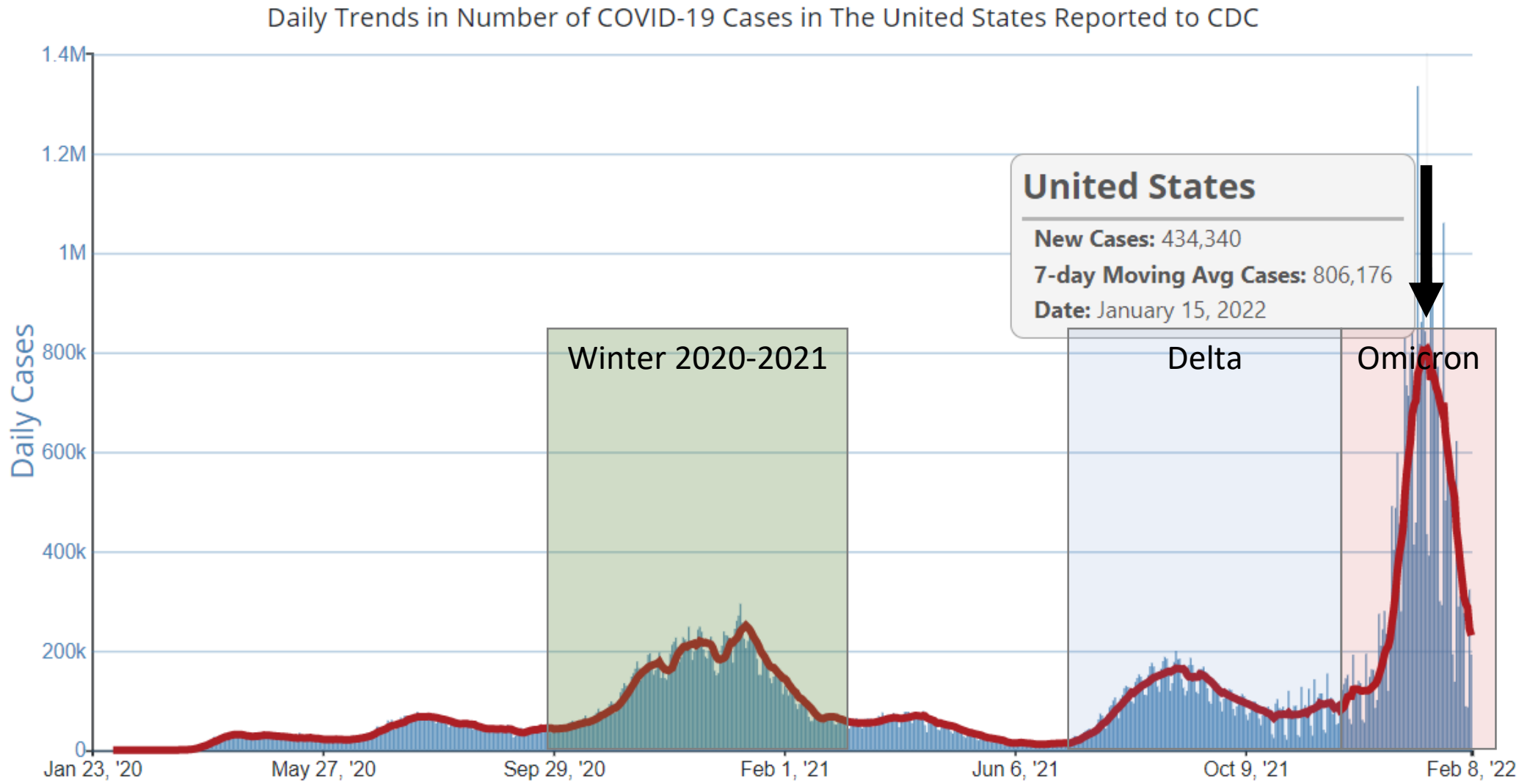
	% of Counties	% of Pop.
Low	38.3%	58.5%
Medium	21.5%	16.5%
High	40.1%	25.0%

Community Transmission



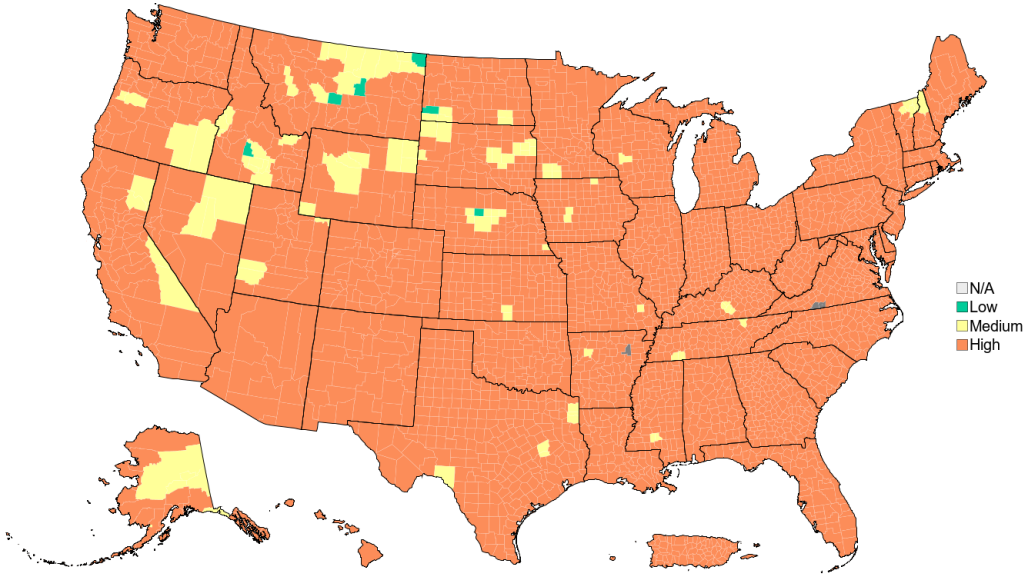
	% of Counties	% of Pop.
Low	2.6%	0.6%
Moderate	9.4%	8.6%
Subst.	16.8%	32.5%
High	71.2%	58.2%

COVID-19 community levels on January 15, 2022 (peak of Omicron)



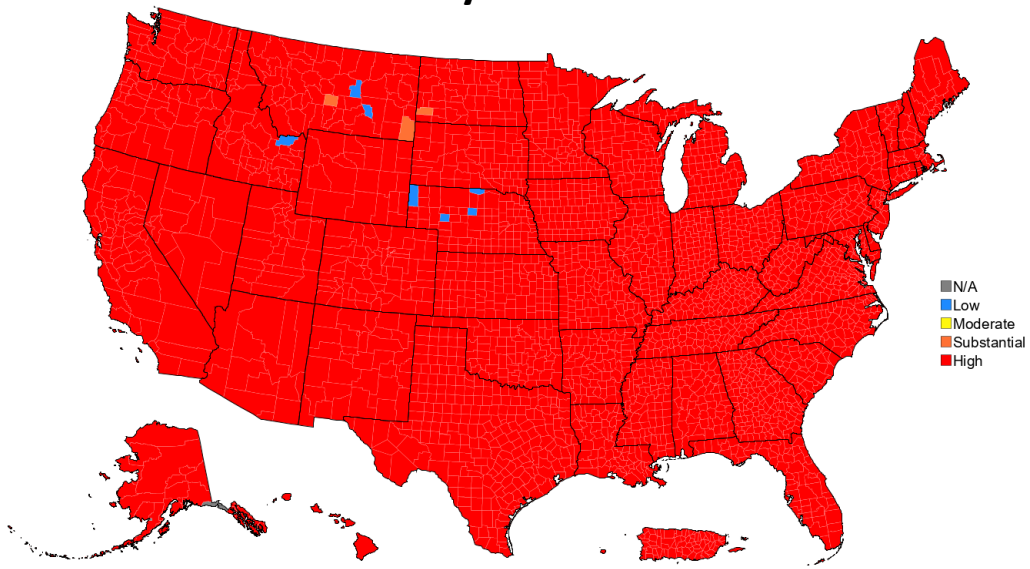
COVID-19 Community Levels on January 15, 2022

COVID-19 Community Level



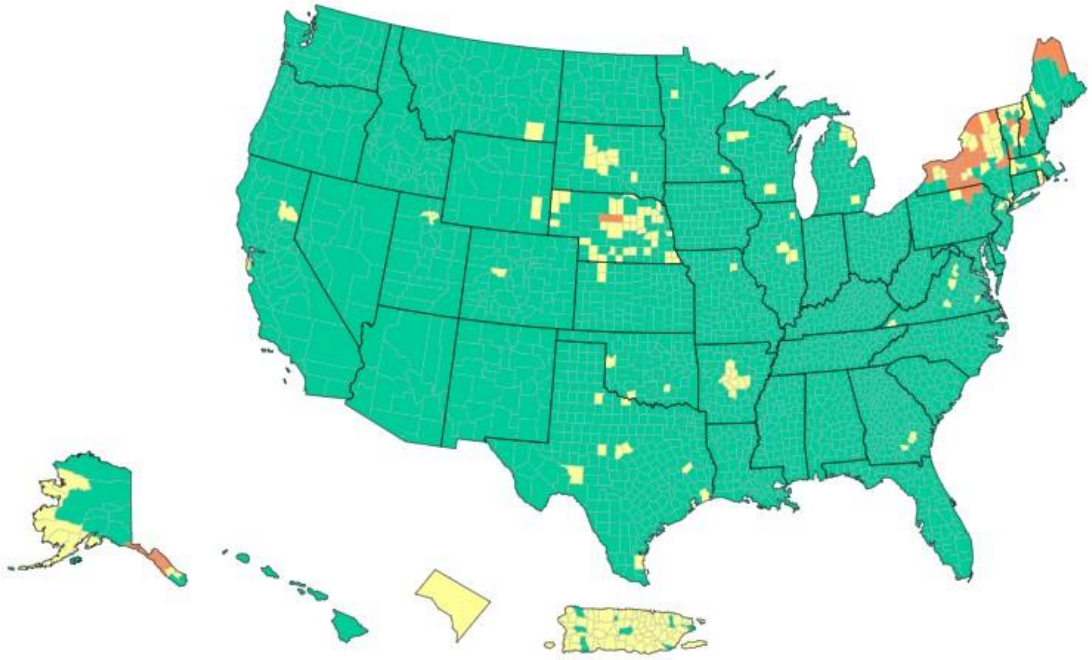
	% of Counties	% of Pop.
Low	0.2%	0.0%
Medium	3.2%	0.5%
High	96.5%	99.5%

Community Transmission

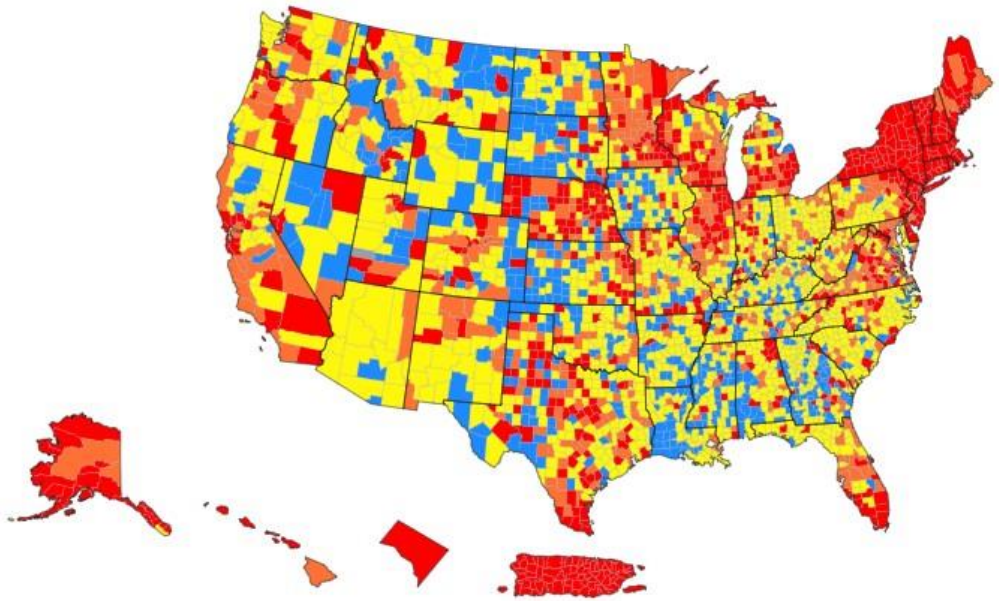


	% of Counties	% of Pop.
Low	0.3%	0.0%
Moderate	0.0%	0.0%
Subst.	0.1%	0.0%
High	99.6%	100.0%

COVID-19 community levels on April 21, 2022

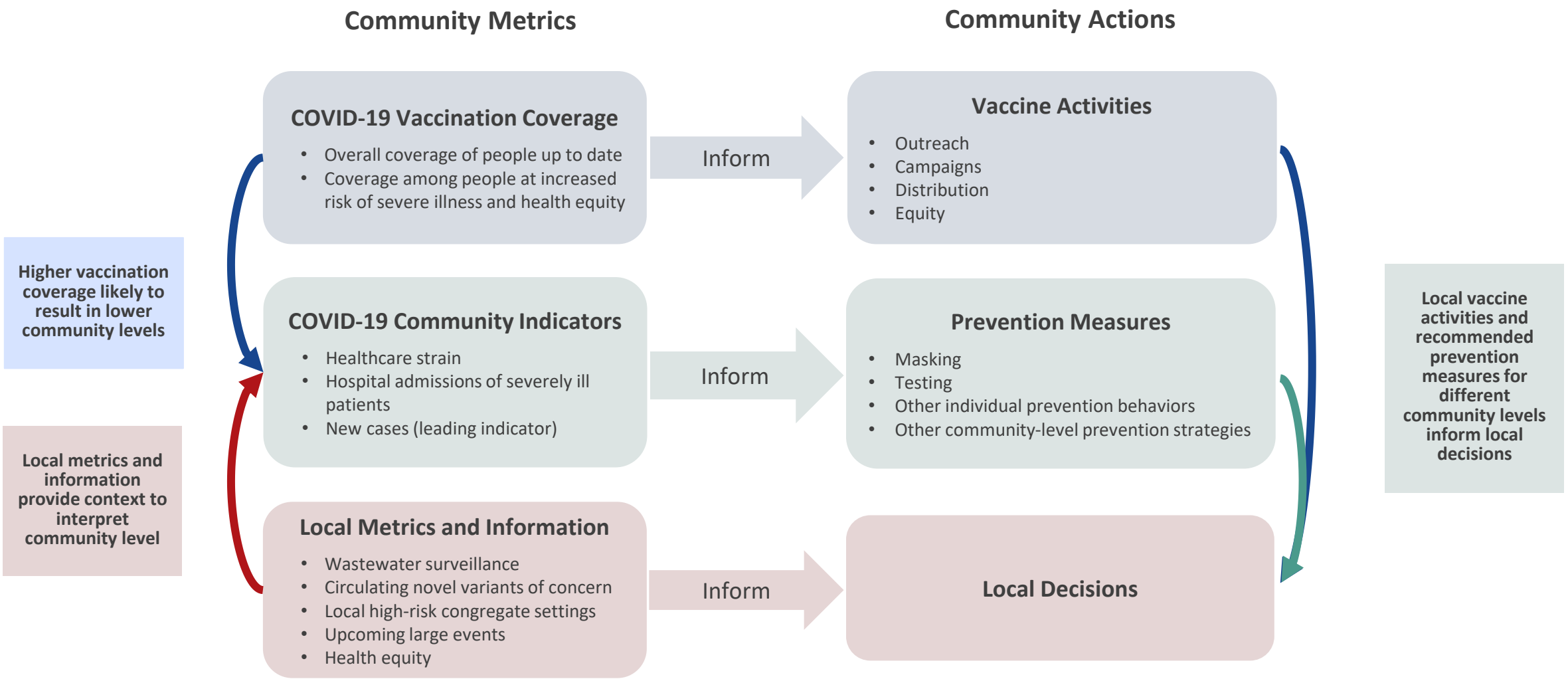


	% of Counties
Low	91.7%
Medium	7.1%
High	1.2%



	% of Counties
Low	16.5%
Moderate	36.5%
Subst.	16.1%
High	21.8%

Proposed Framework for Monitoring and Prevention



Key Considerations

- Vaccination is the leading public health prevention strategy to prevent severe disease and deaths from COVID-19.
- People who are up to date on vaccines have much lower risk of severe illness and death from COVID-19 compared with unvaccinated people.
- When making decisions about individual preventive behaviors and community prevention strategies in addition to vaccination, people and health officials should consider the COVID-19 community level.
- Health departments should consider health equity, and make use of other surveillance information (wastewater, ED surveillance, etc.), if available, to inform local decisions.
- Layered prevention strategies — like staying up to date on vaccines and wearing masks — can help prevent severe disease and reduce strain on the healthcare system.

Data sources and acknowledgments

- **Data sources**
  - Unified Hospital Data Surveillance System (UHDSS)
  - Aggregate Case and Death Counts (ACDC)
- **Acknowledgments**
  - Johns Hopkins University's Applied Physics Laboratory
  - CDC COVID-19 Response