

Twitter Reactions to Governor Pritzker's Indoor Mask Mandate

ISSN 2687-8844

Research Brief,

Short Paper

Vol. 3 , No. 14

(2021, September 7)

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The Illinois Institute for Rural Affairs (IIRA) works to improve the quality of life for rural residents by partnering with public and private agencies on local development and enhancement efforts.

Adee Athiyaman¹

Abstract

This paper analyzed Tweets that were provided as responses to Governor Pritzker's indoor mask mandate that came into effect on August 30, 2021. Illinoisans responded to the mandate the most, 67%. The low vaccination rates for rural counties and the reluctance of rural businesses to enforce the mandate were the Tweets associated with the "rural" adjective. Overall, the energy level of the responses was low and emojis contained either a face with a mask symbol or a warning sign.

1.0. Introduction

On August 26, 2021, Governor Pritzker reintroduced the statewide mask mandate. The mask requirement, which went into effect on August 30, applies to everyone, regardless of one's vaccination status².

The Governor's announcement on Twitter read:

"Our new vaccination requirements and the reinstatement of our indoor mask mandate build on proactive measures we took earlier this month to combat the Delta variant."³

Twitter responses to the mask mandate can be thought of as effects of the Governor's Tweet on the environment; specifically, words used in responses can be thought of the characteristic practices of the Twitter community. The properties of the dependent variable (Tweets) analyzed in this paper include: words emitted, energy level of the Tweet, speed with which the response appeared after the occasion of it has arisen, and repetition.

¹ Professor, Illinois Institute for Rural Affairs, Western Illinois University.

² During the week of August 23, 2021, the daily growth rate for Covid-19 infection in Illinois was 3.08% for the metro and 2.58% for the nonmetro; see Appendix 1.

³ Tweeted at 11.17AM; see

<https://twitter.com/govpritzker/status/1430927300585934856>.

The rest of the paper is organized as follows. The conceptual framework is discussed next; the methodology for obtaining and processing the Tweets is explicated in Section 3. Section 4 presents the results of the data analysis and Section 5 presents a summary of the research and concludes.

2.0. Conceptual Framework

A Tweet is a verbal behavior⁴. Governor Pritzker's Tweet (mask mandate) specifies the behavior required of Illinoisans; the reinforcement for the listener is that the mandate-compliant behavior reduces the threat of contracting Covid-19. In terms of behavioral psychology, it is a three-term contingency: in the presence of a given stimulus, a given response is followed by a given reinforcement.

Twitter responses to the Governor's "mask mandate", the type of verbal responses emitted by the audiences, could be described using the components of thinking: cognition and production⁵. The audience become aware of the things that they encounter (cognition) and they *produce* something in response to that awareness (the "something" for the purposes of this research is the audience's Twitter responses to the Governor's Tweet).

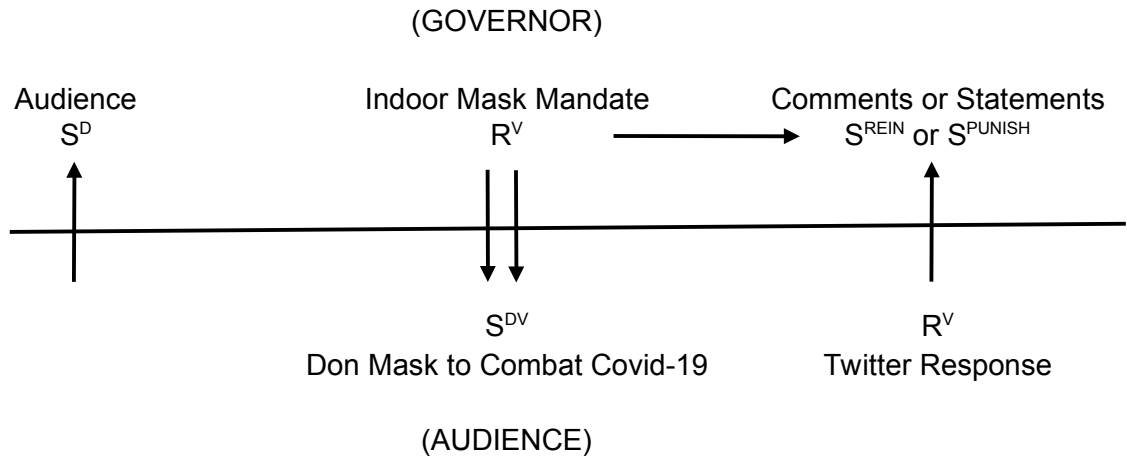
Consider Figure 1, it illustrates the Twitter exchange behavior. The Governor asks Illinoisans to don facial masks when indoors, in spaces such as a grocery store; this initial communication takes place because Governor Pritzker has 219,200 followers on Twitter⁶, the number acts as a discriminative stimulus for the Governor to engage in Tweeting. The stimulation supplied by the audience is indicated by the first \uparrow in Figure 1. In general, the probability of posting a Tweet increases with the number of followers. The Governor's Tweet supplies the occasion (S^{DV}) for verbal response for the audience (R^V); communication exchanges are depicted by arrows. The audience Tweets may supply a reinforcement for the Governor to keep Engaging with his audiences on Twitter.

⁴ Verbal behavior includes vocal behavior, writings, and signals such as clapping the hands to gain the attention of someone.

⁵ Guilford, J. P. (2017). Creativity: A quarter century of progress. In *Perspectives in creativity* (pp. 37-59). Routledge.

⁶ See, <https://twitter.com/govpritzker?lang=en>. Technically, the audiences are the S^D , discriminative stimuli, for the Twitter post.

Figure 1: Twitter Exchange: Concepts and Associations



Note: S = Stimulus; R = Response; S^D = Discriminative Stimulus; V = Verbal; REIN = Reinforcement; PUNISH = Punishment.

3.0. Methodology

The Tweepy⁷ library was used to extract 10,000 Tweets related to the keywords: Pritzker, mask mandate, and Illinois; the Tweets appeared during the time period August 26, 2021 to September 1, 2021. The unit of analysis was the entire Tweet. Data analysis included: words emitted by the audiences, word counts; the energy level of the tweet measured by the “pitch” of the Tweet: that is, Tweets that were entirely or partially constructed using uppercase letters; and the speed with which the Tweet (responses) followed Governor Pritzker’s original Tweet⁸. Emojis associated with the Tweets were also analyzed. Table 1 lists the variables used in the research and their operational definitions.

⁷ Used to access Twitter API.

⁸ More about the NLP analysis, including the “py” files associated with the data analysis, can be obtained by writing to the author.

Table 1: Variables and their Operational Definitions

Variable	Operational Definition
Verbal behavior (the entire Tweet)	Maximum of 280 characters; the maximum permitted by Twitter. The entire Tweet was subjected to linguistic analysis such as word counts.
Energy level of the Tweet (binary variable)	Whether the Tweet had words in capital letters, value = 1; else = 0.
Speed	Time-lag of response, in hours, since the Governor's Tweet.
Audience Location (binary variable)	Illinois = 1; rest of the geography = 0.
Followers	Number of followers listed in the Twitter account.
Friends	Number of friends listed in the Twitter account.
Emoji	Symbols used in Tweets.

4.0. Results

Of the 10,000 Tweets extracted, a majority of them were re-Tweets and duplicates; the latter being Tweets that had the same verbiage as other Tweets. In all, 441 “original” Tweets were analyzed.

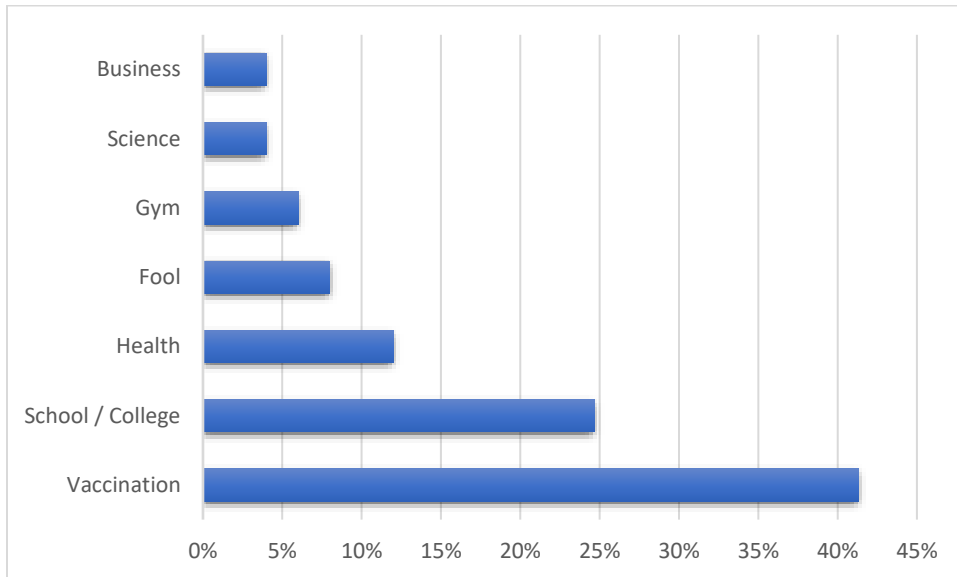
Word Counts

Figure 2 shows the most used noun phrases in the Tweets; the mandatory vaccination requirements for certain types of workers were the topics addressed in two of five Tweets. The legal challenges

mounted by 51 schools in Illinois against the mask mandate were also discussed; relevance of the mandate to schools / colleges were discussed in 25% of the Tweets.

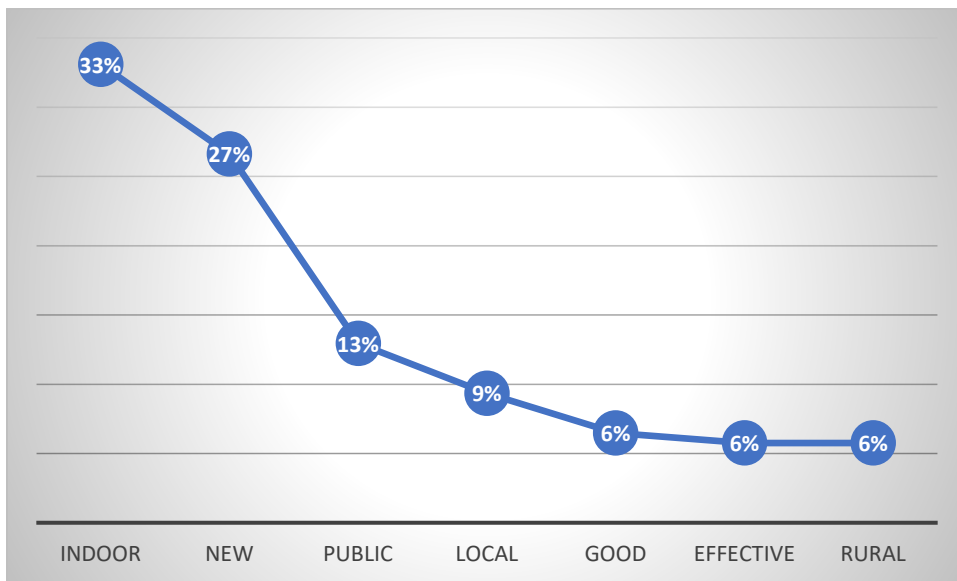
The feature of the mandate, that it is for “indoors”, was the adjective that had the most occurrences in the Tweets, 33%. The low vaccination rates for rural counties and the reluctance of rural businesses to enforce the mandate were the Tweets associated with the “rural” adjective (Figure 3). Appendix 2 lists examples of Tweets associated with these word counts.

Figure 2: Most Used Noun Phrases



Note: N= 461 Tweets

Figure 3: Most Used Adjectives



Note: N= 461 Tweets

Energy Level of Tweets

Nineteen Tweets (4%) were classified as high-energy responses; they emphasized terms such as: MASK UP; COVID-19, and TOMORROW. In general, these Tweets alerted the audiences about the indoor mask mandate.

Speed

The speed of the response to the Governor's Tweet on indoor mask mandate averaged slightly more than 48 hours; the median value was 48.50 hours. The earliest response appeared 0.9 hours after the Governor's Tweet (54 minutes time lag); the last Tweet or response analyzed in this research came after a delay of 115 hours: 6:17AM on August 31, 2021.













Audience (Respondents) Profile

Only 60% of the Tweets contained location information for the Twitter account holder. Of these, 67% were Illinoisans. On average, the respondents had 1716 followers and 655 friends, median values.

Emojis

Emojis highlight contextual information in messages and are understood across linguistic barriers¹. The emojis provided as responses to the indoor mask mandate ranged from approval signs to anger (Table 2).

Table 2: Emoji Responses

Emoji	Meaning	Emoji	Meaning
	Reference to Covid-19		Sunrise and/or Sunset
	Depicts embarrassment		Hotel or Hospital
	Warning		School / College
	Approval		School / College
	Hysterical laughter		School / College
	Anger, hate, or rage		Hmm, I don't know about that.

¹ Steinbergh, A. (2014). Smile, you are speaking Emoji: The rapid evolution of wordless tongue. *New York Magazine*, November 16.

The emojis summarize the topics of the responses; the modal response was the simple reference to Covid-19, a face with a mask. Concerns about the health of the population, including k-12 and higher education students and workers, and disapproval for the mandate were conveyed through the emojis.

5.0. Summary and Conclusion

This paper analyzed Tweets that were provided as responses to Governor Pritzker's indoor mask mandate that came into effect on August 30, 2021. The term "vaccination" was the most mentioned noun phrase; the term "indoor" was the most mentioned adjective.

Contextual factors related to the responses for the mandate include: (1) Illinoisans responded to the mandate the most; (2) the

respondents had, on average, 1716 followers and 655 friends, and (3) it took an average of two days for responses to be made to the Governor's original Tweet.

The characteristics of the response were: (1) the energy level of the Tweets was low; only 4% of the Tweets contained high-pitch uppercase letters; (2) emojis were included as part of the textual responses in only 3% of the Tweets, and (3) the majority of the emojis were neutral: they contained either a face with a mask symbol or a warning sign.

In conclusion, Illinoisans responded to the "indoor mask mandate" in a neutral manner; although positive and negative statements were made about the mandate, the majority of the responses were neutral, more of an "information" type Tweet.

Appendix 1: Covid-19 Growth Rate

Metro County	Start Date	End Date	Daily Growth Rate (%)
Alexander	8/24/2021	8/27/2021	2.13
Bond	8/24/2021	8/27/2021	2.58
Boone	8/24/2021	8/27/2021	2.96
Calhoun	8/24/2021	8/27/2021	2.13
Champaign	8/24/2021	8/27/2021	3.36
Clinton	8/24/2021	8/27/2021	2.92
Cook	8/24/2021	8/27/2021	4.43
DeKalb	8/24/2021	8/27/2021	3.11
DeWitt	8/24/2021	8/27/2021	2.49
DuPage	8/24/2021	8/27/2021	3.83
Ford	8/24/2021	8/27/2021	2.55
Grundy	8/24/2021	8/27/2021	2.93
Henry	8/24/2021	8/27/2021	2.87
Jackson	8/24/2021	8/27/2021	2.93
Jersey	8/24/2021	8/27/2021	2.67
Kane	8/24/2021	8/27/2021	3.68
Kankakee	8/24/2021	8/27/2021	3.22
Kendall	8/24/2021	8/27/2021	3.20
Lake	8/24/2021	8/27/2021	3.73
Macon	8/24/2021	8/27/2021	3.15
Macoupin	8/24/2021	8/27/2021	2.88
Madison	8/24/2021	8/27/2021	3.49
Marshall	8/24/2021	8/27/2021	2.37
McHenry	8/24/2021	8/27/2021	3.45
McLean	8/24/2021	8/27/2021	3.31
Menard	8/24/2021	8/27/2021	2.42
Mercer	8/24/2021	8/27/2021	2.48
Monroe	8/24/2021	8/27/2021	2.83
Peoria	8/24/2021	8/27/2021	3.37
Piatt	8/24/2021	8/27/2021	2.49
Rock Island	8/24/2021	8/27/2021	3.24
Sangamon	8/24/2021	8/27/2021	3.34
St. Clair	8/24/2021	8/27/2021	3.50
Stark	8/24/2021	8/27/2021	2.19
Tazewell	8/24/2021	8/27/2021	3.28
Vermilion	8/24/2021	8/27/2021	3.12
Will	8/24/2021	8/27/2021	3.77
Williamson	8/24/2021	8/27/2021	3.07
Winnebago	8/24/2021	8/27/2021	3.50
Woodford	8/24/2021	8/27/2021	2.85
Median (Metro)			3.09

Nonmetro County	Start Date	End Date	Daily Growth Rate (%)
Brown	8/24/2021	8/27/2021	2.29
Bureau	8/24/2021	8/27/2021	2.77
Carroll	8/24/2021	8/27/2021	2.55
Cass	8/24/2021	8/27/2021	2.58
Christian	8/24/2021	8/27/2021	2.79
Clark	8/24/2021	8/27/2021	2.56
Clay	8/24/2021	8/27/2021	2.52
Coles	8/24/2021	8/27/2021	2.93
Crawford	8/24/2021	8/27/2021	2.63
Cumberland	8/24/2021	8/27/2021	2.42
Douglas	8/24/2021	8/27/2021	2.65
Edgar	8/24/2021	8/27/2021	2.53
Edwards	8/24/2021	8/27/2021	2.23
Effingham	8/24/2021	8/27/2021	2.85
Fayette	8/24/2021	8/27/2021	2.72
Franklin	8/24/2021	8/27/2021	2.89
Fulton	8/24/2021	8/27/2021	2.80
Gallatin	8/24/2021	8/27/2021	2.15
Greene	8/24/2021	8/27/2021	2.50
Hamilton	8/24/2021	8/27/2021	2.32
Hancock	8/24/2021	8/27/2021	2.57
Hardin	8/24/2021	8/27/2021	2.07
Henderson	8/24/2021	8/27/2021	2.12
Iroquois	8/24/2021	8/27/2021	2.73
Jasper	8/24/2021	8/27/2021	2.39
Jefferson	8/24/2021	8/27/2021	2.86
Jo Daviess	8/24/2021	8/27/2021	2.52
Johnson	8/24/2021	8/27/2021	2.51
Knox	8/24/2021	8/27/2021	2.90
LaSalle	8/24/2021	8/27/2021	3.17
Lawrence	8/24/2021	8/27/2021	2.63
Lee	8/24/2021	8/27/2021	2.79
Livingston	8/24/2021	8/27/2021	2.85
Logan	8/24/2021	8/27/2021	2.80
Marion	8/24/2021	8/27/2021	2.89
Mason	8/24/2021	8/27/2021	2.50
Massac	8/24/2021	8/27/2021	2.47
McDonough	8/24/2021	8/27/2021	2.71
Montgomery	8/24/2021	8/27/2021	2.78
Morgan	8/24/2021	8/27/2021	2.82
Moultrie	8/24/2021	8/27/2021	2.50

Ogle	8/24/2021	8/27/2021	2.93
Perry	8/24/2021	8/27/2021	2.74
Pike	8/24/2021	8/27/2021	2.59
Pope	8/24/2021	8/27/2021	2.00
Pulaski	8/24/2021	8/27/2021	2.25
Putnam	8/24/2021	8/27/2021	2.08
Randolph	8/24/2021	8/27/2021	2.83
Richland	8/24/2021	8/27/2021	2.56
Saline	8/24/2021	8/27/2021	2.70
Schuyler	8/24/2021	8/27/2021	2.27
Scott	8/24/2021	8/27/2021	2.16
Shelby	8/24/2021	8/27/2021	2.62
Stephenson	8/24/2021	8/27/2021	2.85
Union	8/24/2021	8/27/2021	2.64
Wabash	8/24/2021	8/27/2021	2.49
Warren	8/24/2021	8/27/2021	2.53
Washington	8/24/2021	8/27/2021	2.52
Wayne	8/24/2021	8/27/2021	2.58
White	8/24/2021	8/27/2021	2.56
Whiteside	8/24/2021	8/27/2021	2.98
Median, Nonmetro			2.58

Appendix 2: Examples of Tweets Related to the Word Counts

Nouns

vaccination	<p>@jhnsn57_deb @kylegriffin1 My SIL works at a hospital where they had several employees walk out mid-shift upon hearing that the healthcare system would require vaccination. Our local mayor said he wouldn't enforce the mask mandate. Unfortunately, Trump-ism is alive in notoriously blue-Illinois.</p> <p>@mattimeo9 Come to Illinois, get a vaccination and have a universal mask mandate everywhere in the state regardless of the vaccination you were told to get. Added bonus, no choice in regards to your own child and just for fun, if you don't get vaccinated you will lose your job. Sound good?</p>
school	<p>After the state required school mandates, she told the board, the school district received a backlash and threats. https://t.co/DA2HJnr32Y</p> <p>"Mask Up, Vax Up: Illinois Governor Issues Immediate Face Covering Mandate for All, COVID-19 Vaccine Mandate for Healthcare, School and State Workers and Students" https://t.co/cGQPhQsHR8 #COVIDVaccine #COVIDTesting @McDermottLaw</p>
college	<p>#Illinois Gov. J.B. Pritzker issued a sweeping #vaccination mandate for all #healthcare workers, #college #students, schoolteachers and staff from pre-kindergarten through college, and required indoor masking for people age 2 and older starting Monday. https://t.co/cq31EOLElf</p> <p>Illinois governor mandates COVID vaccines for teachers, college students and health care workers, and imposes indoor mask mandate for all https://t.co/3uZgWkVSDU</p>
health	<p>That's central Illinois, I'm worried that they're not. Pritzker explicitly said it's because of southern and central IL that we've got the mask mandate back on Monday. (Though I wanted it back anyway, because I like good health.)</p>
fool	<p>If you think an indoor mask mandate for bars and restaurants is saving lives you are a fool. This is a fool's mandate.</p> <p>Everyone in Illinois has had the opportunity to get vaccinated for free. Counties near Chicago about 55% vaccinated, rural Illinois, approx. 20-30% vaccinated.</p>
gym	<p>Illinois mask mandate begins today. Curious to see how gyms will implement it. Will some say you can remove it when "actively working out?"</p> <p>The thing that bothers me about the Illinois mask mandate is that no parameters accompanied it. There's no defined end point, and vaccinated people have already taken the big step that needs taking to help. Yes, this is still about me being able to play basketball in a gym.</p>
science	<p>Boone County, Illinois; 'On the first day of school, Missouri Attorney General Eric Schmitt filed a lawsuit against Columbia Public School's mask mandate, alleging it goes against science and calling it "arbitrary and capricious.'" https://t.co/z3X6dTQKKI</p> <p>I live in Illinois... can anyone explain the "science" @JBPritzker is talking about to back his mask mandate? #mask #NoVaccineMandates #nomaskmandate https://t.co/ySfpsG0TW7</p>
business	<p>Same thing in my county and city. The second mask mandate in Illinois starts Monday, but our businesses will not be enforcing the mandate. All they do is post a poorly written suggestion on the entrance. More Covid-19 cases and deaths are on the way</p> <p>The president of the Illinois Retail Merchants Association said he's pleased with one specific aspect of the new mask mandate: businesses won't face fines if customers don't comply.</p>

Modifiers

- indoor Eastern Illinois University has a mask mandate for all indoor spaces. We have a campus "strongly encourage" vaccine rule, and just last week, the governor of Illinois FINALLY issued a vaccine mandate. Good luck with whatever you are doing....
- Illinois governor mandates COVID vaccines for teachers, college students and health care workers, and imposes indoor mask mandate for all <https://t.co/HXYiVbayEr> #news
- new Yep, it does. The mask mandate that was applied to Cook County and now will be applied to the rest of Illinois also applies for fully vaccinated people. Before it, it was an optional if you were vaccinated, but the new mask mandate is b/c of the Delta variant.
- Illinois Mask Mandate And New Restrictions Begin TOMORROW, How Does It Impact You? #NewsBreak <https://t.co/C1fbjvsLM8>
- public Illinois Gov. JB Pritzker announced that beginning today, masks will be required in all indoor public places. The decision was made from the rising hospitalizations in the state. <https://t.co/8Gha9evvwe>
- The entire state of Illinois is under a mandatory mask mandate starting today, August 30. This mandate requires all individuals over the age of 2, regardless of vaccination status, to wear a mask in indoor public settings. This includes the Sullivan Center and Lakeview Fitness. <https://t.co/jfpxA17Kmb>
- local Time to #GenevaLL! Illinois' indoor mask mandate starts Aug. 30. Also, plenty of local construction news you can use in the latest edition of GenevaMail
- If you visit downtown Galena now, you'll start noticing a lot more of these signs. That's because Illinois' newest mask mandate went into effect today. Tonight on @KCRG at 10, local reaction and what health officials across the bridge in Dubuque want people to do there.
- good Good. We'll all walk out.
- Good people of northern Illinois, you've had an entire weekend to rub your mad spot and cry your crocodile tears. Now put on your big boy pants and #WearAMask Indoor mask mandate went in to effect this morning and #MasksSaveLives
- rural Illinois back to mask mandate... walked into small rural Denny's at 6am and nobody cared. Into Casey's in bigger city, immediately screamed at "you have to have a mask!!" Good ol' fear propagating
- Illinois is only blue because of Chicago. The rest of the state is rural red (low vax rates and anti-mask protests). They hate the governor that imposed a mask mandate, which so far isn't being followed. Us blue dots in the red sea of downstate IL are not OK.