

PA Vaccine Conversations on Twitter

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Vaccine Hesitancy Project Update based on May 20, 2022 – May 26, 2022

The CMU centers for:

Informed DEMocracy And Social cyber-security

Computational Analysis of Social and Organizational Systems



Carnegie Mellon University



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PA Vaccine Conversations Project

- ❑ This report is an effort to summarize social media conversations around COVID-19 issues in Pennsylvania, with a focus on vaccination. It contains an analysis of the general topics related to COVID-19 vaccination. This includes discussions related to COVID-19 regulations, mandates, masks, pro-and anti-vaccination campaigns, science messages, misinformation, disinformation, conspiracy theories, and vaccine hesitancy messages.
- ❑ Anti-Vax messaging includes vaccine hesitancy messages, opinions, questions, policy health and science related information, misinformation, disinformation, and conspiracy theories.

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Report Overview May 20 – May 26

- ❑ Mandates, Masks, Boosters, Children, as well as Racism, Breakthrough infections, Passports and Monkeypox are trending this week;
- ❑ Trending stories: [fda.gov/news-events/press-announcements/fda-approves-first-live-non-replicating-vaccine-prevent-smallpox-and-monkeypox](https://www.fda.gov/news-events/press-announcements/fda-approves-first-live-non-replicating-vaccine-prevent-smallpox-and-monkeypox) FDA approves first live, non-replicating vaccine to prevent smallpox and monkeypox; news.sky.com/story/sue-gray-and-boris-johnson-had-private-meeting-to-discuss-handling-of-partygate-report-sky-news-understands-12617829 Boris Johnson under pressure to 'urgently explain' why he privately met Sue Gray to discuss handling of partygate report; [washingtonpost.com/politics/2022/05/19/look-time-tucker-carlson-asked-hunter-biden-favor/](https://www.washingtonpost.com/politics/2022/05/19/look-time-tucker-carlson-asked-hunter-biden-favor/) A look at the time Tucker Carlson asked Hunter Biden for a favor; theguardian.com/commentisfree/2022/may/24/boris-johnson-party-nhs-doctors-covid-rules While Boris Johnson partied, I helped a child put on PPE to see his dying dad;
- ❑ Anti-vax, disinformation, and vaccine hesitancy stories: bitchute.com/video/Sw1gckZMrhrK PFIZER VACCINE DOCUMENTS FRAUD; bit.ly/3lUrgjk 'Doctors & Scientists' With Brian Hooker, Ph.D. – Children's Health Defense; brownstone.org/articles/the-who-treaty-is-tied-to-a-global-digital-passport-and-id-system The WHO Treaty Is Tied to a Global Digital Passport and ID System; theepochtimes.com/top-airline-pilot-suffers-cardiac-arrest-between-flights-post-mandatory-covid-vaccination-4477128.html Top Airline Pilot Suffers Cardiac Arrest Between Flights Post Mandatory COVID Vaccination; the-sun.com/news/2744100/shingles-new-rare-side-effect-covid-vaccine RASH HORROR Shingles could be new but rare side effect of Covid vaccine, docs discover; reclaimthenet.org/world-health-organization-pandemic-treaty-a-fresh-push-for-vaccine-passports-global-surveillance-and-more World Health Organization pandemic treaty: A fresh push for vaccine passports, global surveillance, and more; alexberenson.substack.com/p/urgent-the-most-powerful-evidence URGENT: The most powerful evidence yet that mRNA vaccines hurt long-term immunity to Covid after infection

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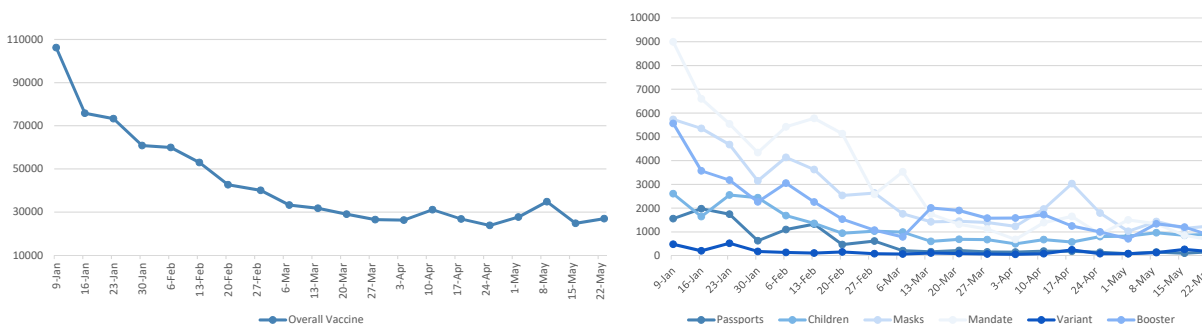
Countering disinformation May 20 – May 26

- ❑ The most popular tweet this week spread disinformation quoting the Pfizer CEO Bourla's years-old announcement: "Pfizer CEO Albert Bourla explains Pfizer's new tech to Davos crowd: 'ingestible pills' - a pill with a tiny chip that send a wireless signal to relevant authorities when the pharmaceutical has been digested. 'Imagine the compliance,' he says <https://t.co/uYapKIGDlx>."
- ❑ Pfizer's CEO words were taken out of the context; in fact, he was talking about schizophrenia pill, not a COVID-19 treatment;
- ❑ Here is a Reuters piece that debunks this disinformation claim <https://www.reuters.com/article/factcheck-pfizer-sensorpills/fact-check-video-shows-pfizer-ceo-in-2018-discussing-pill-with-sensor-for-mental-illness-not-new-pfizer-drug-idUSL2N2XF2D0> "Missing context. The clip is not from 2022, and the biological sensor technology discussed is not from Pfizer. The video shows Pfizer's CEO Albert Bourla in 2018, discussing an FDA-approved drug with a sensor to track when patients with mental illness ingest their medication."
- ❑ Here is an article from USA Today: <https://www.usatoday.com/story/news/factcheck/2022/01/12/fact-check-video-pfizer-ceo-microchip-pill-2018/91556840027> "The video circulating online was taken before the COVID-19 pandemic, and Bourla was speaking about a drug for schizophrenia that was approved by the Food and Drug Administration. There's no evidence that Pfizer's COVID-19 antiviral pills or vaccines contain microchips, as the posts suggest."
- ❑ It is necessary to ensure that people share fact-checking links. The suggestion is to promote them via communication and partnerships with local organizations and communities that would share this information or similar fact-checking details from journalists and researchers in mass media and social media online.

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Trends (tweets per week) May 20 – May 26



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High Level View by City May 20 – May 26

	Total PA	Philadelphia		Pittsburgh		Erie		Allentown/Bethlehem		Other	
Conversation	Tweets	Tweets	%	Tweets	%	Tweets	%	Tweets	%	Tweets	%
Overall Vaccine	22105	10985	49.7%	7408	33.5%	192	0.9%	2529	11.4%	991	4.5%
Vaccine Passports	173	89	0.8%	35	0.5%	2	1.0%	41	1.6%	6	0.6%
FDA Approval	151	81	0.7%	30	0.4%	1	0.5%	31	1.2%	8	0.8%
Boosters	526	278	2.5%	122	1.6%	10	5.2%	83	3.3%	33	3.3%
Employees	66	44	0.4%	9	0.1%			7	0.3%	6	0.6%
"Experimental"	70	48	0.4%	13	0.2%	1	0.5%	7	0.3%	1	0.1%
Children	635	368	3.4%	155	2.1%	7	3.6%	84	3.3%	21	2.1%
Myocarditis	58	36	0.3%	15	0.2%			5	0.2%	2	0.2%
Heart	255	161	1.5%	57	0.8%	3	1.6%	31	1.2%	3	0.3%
Masks	1252	792	7.2%	207	2.8%	13	6.8%	114	4.5%	126	12.7%
Thrombosis/VITT	37	18	0.2%	14	0.2%			5	0.2%		
Mandates	583	337	3.1%	108	1.5%	10	5.2%	94	3.7%	34	3.4%
Natural Immunity	60	36	0.3%	17	0.2%			7	0.3%		
Efficacy	107	50	0.5%	33	0.4%	3	1.6%	17	0.7%	4	0.4%
Omicron	166	85	0.8%	33	0.4%			38	1.5%	10	1.0%
Delta Variant	31	11	0.1%	9	0.1%					11	1.1%
Race	571	249	2.3%	223	3.0%	3	1.6%	64	2.5%	32	3.2%
Ivermectin	11	5	0.0%	4	0.1%			2	0.1%		
Military	62	32	0.3%	16	0.2%			14	0.6%		
Breakthrough	51	30	0.3%	6	0.1%	1	0.5%	13	0.5%	1	0.1%

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- Conversation topics trending this week over last
 - Racism
 - Breakthrough infections
 - Passports
 - Monkeypox – not tracked yet but trending



High Level View by County May 20 – May 26

County	Allegheny	Beaver	Butler	Cambria	Fayette	Indiana	Somerset	Westmoreland
Overall Vaccine	7568	21	21	4	7	6	0	25
Vaccine Passports	38							1
FDA	32							
Boosters	129		3	1				
Employees	9	1						
"Experimental"	13							1
Children	163		1					
Myocarditis	15							
Heart	57							
Masks	216	3	3	2		2		2
Thrombosis/VITT	14							
Mandates	114	1				2		2
Natural Immunity	17							
Efficacy	33							
Omicron	33							
Delta Variant	14							
Race	229		1		1			
Ivermectin	4							
Military	16							
Breakthrough	6							

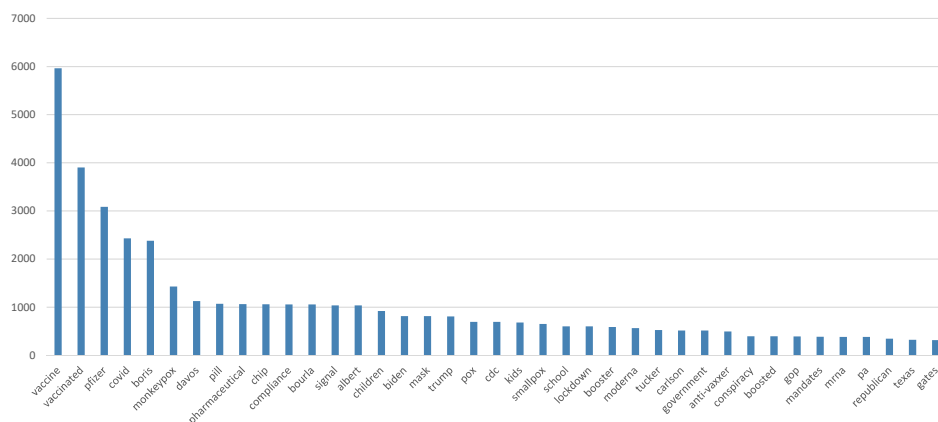
- Race: pulled by one of the vaccine keywords plus at least one other term in ("Black", "African American", "of color", "Latin", "Hispanic", "brown", "eugenic")

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Top Words Used per Week May 20 – May 26

Word count in COVID-19 related tweets



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Top Hashtags by County May 20 – May 26

- ❑ We've checked hashtags in several counties such as Allegheny, Beaver, Butler, Cambria, Fayette, Indiana, Somerset, and West Moreland. After removing hashtags that were part of our search criteria, the top 5 hashtags for each county related to COVID19/vaccines are as follows*:

Allegheny	Beaver + Butler	Indiana
steelers (126)	billgatesbioterrorist (1)	thankspresidentbiden (1)
monkeypox (98)	monkeypox (1)	vaxmasktest (1)
covid19 (75)	vaccine (1)	
billgatesbioterrorist (60)	wpial (1)	
trudeaufortreason (54)	malaria (1)	

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Top Hashtags by City May 20 – May 26

- ❑ After removing hashtags that were part of our search criteria, the top 5 hashtags for each region related to COVID19/vaccines are as follows:

Philadelphia	Chester	Norristown	Pittsburgh	Erie	Allentown/Bethlehem	Other
covid19 (92)	covid19 (29)	partygate (32)	monkeypox (98)	monkeypox (4)	covidvaccine (44)	vaccine (14)
monkeypox (70)	vaccine (19)	covid19 (25)	covid19 (74)	election2022 (3)	monkeypox (40)	covid19 (11)
stopthetreaty (54)	monkeypox (11)	monkeypox (23)	billgatesbioterrorist (60)	wtpblue (3)	covid19 (39)	pitt (8)
biotech (44)	johnsonout119 (8)	suegrayreport (23)	trudeaufortreason (54)	billgatesbioterrorist (2)	news (38)	billofrights (6)
vaccineinjuries (38)	partygate (8)	covidvaccine (20)	holdthemtoaccount (53)	costoflivingcrisis (2)	coronavirus (36)	fauci (6)

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Top URLs by County May 20 – May 26

Allegheny	Butler + Beaver	Indiana	West Moreland
news.sky.com/story/sue-gray-and-boris-johnson-had-private-meeting-to-discuss-handling-of-partygate-report-sky-news-understands-12617829 Boris Johnson under pressure to 'urgently explain' why he privately met Sue Gray to discuss handling of partygate report (60)	reut.rs/3z1xuWK Fact Check-Video shows Pfizer CEO in 2018 discussing pill with sensor for mental illness, not new Pfizer drug (1)	COVIDTests.gov (1)	nti.org/wp-content/uploads/2021/11/NTI_Paper_BIO-TTX_Final.pdf Strengthening Global Systems to Prevent and Respond to High-Consequence Biological Threats (1)
the-sun.com/news/2744100/shingles-new-rare-side-effect-covid-vaccine RASH HORROR Shingles could be new but rare side effect of Covid vaccine, docs discover (53)	townhall.com/tipsheet/leahbarkoukis/2022/05/23/nyc-health-department-is-urging-residents-to-put-their-masks-back-on-but-its-not-because-of-covid-n2607643 NYC Health Department Is Urging Residents to Put Their Masks Back On...But It's Not Because of Covid (1)		washingtonpost.com/politics/2022/05/19/look-time-tucker-carlson-asked-hunter-biden-favor/ A look at the time Tucker Carlson asked Hunter Biden for a favor (1)
WEFreports.com Rebel News asking to cover their trip to Davos WEF (52)	townhall.com/tipsheet/saraharnold/2022/05/20/npr-sets-up-tip-line-to-curb-mask-mandate-violators-n2607590 NPR Sets Up Hotline So Employees Can Tattle on Anti Mask-Mandate Violators (1)		
theguardian.com/commentisfree/2022/may/24/boris-johnson-party-nhs-doctors-covid-rules While Boris Johnson partied, I helped a child put on PPE to see his dying dad (50)	usatoday.com/story/news/factcheck/2022/01/12/fact-check-video-pfizer-ceo-microchip-pill-2018/9155684002 Fact check: Video shows Pfizer CEO speaking about schizophrenia pill, not COVID-19 treatment (1)		
brownstone.org/articles/the-who-treaty-is-tied-to-a-global-digital-passport-and-id-system The WHO Treaty Is Tied to a Global Digital Passport and ID System (40)	isonline.com/story/news/investigations/daniel-bice/2022/05/24/diane-hendricks-uilleins-give-3-5-million-pro-ron-johnson-group/9893536002 Bice: Billionaires Diane Hendricks and Uilleins pump \$3.5 million into new group backing U.S. Sen. Ron Johnson (1)		

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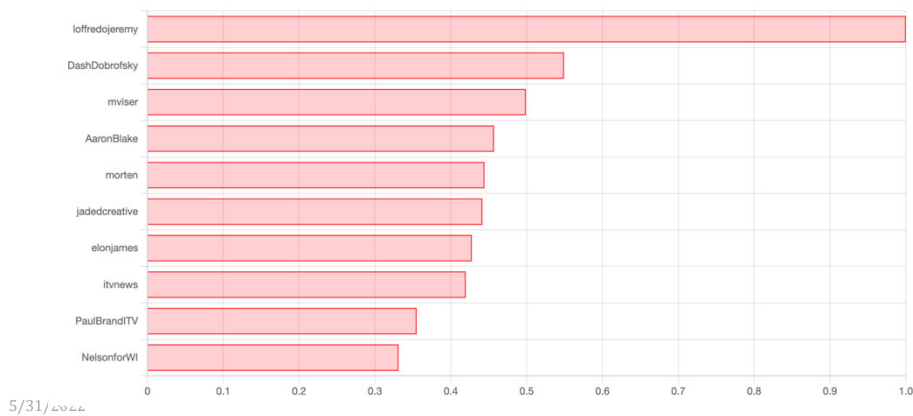
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Top URLs by City May 20 – May 26

Philadelphia	Chester	Norristown	Pittsburgh	Erie	Allentown/ Bethlehem	Other
washingtonpost.com/politics/2022/05/19/look-time-tucker-carlson-asked-hunter-biden-favor/ A look at the time Tucker Carlson asked Hunter Biden for a favor (436)	itv.com/news/2022-05-23/exclusive-pm-pictured-drinking-at-downing-street-party-during-lockdown Exclusive: Prime Minister Boris Johnson pictured drinking at Downing Street party during lockdown (232)	news.sky.com/story/sue-gray-and-boris-johnson-had-private-meeting-to-discuss-handling-of-partygate-report-sky-news-understands-12617829 Boris Johnson under pressure to 'urgently explain' why he privately met Sue Gray to discuss handling of partygate report (13)	news.sky.com/story/sue-gray-and-boris-johnson-had-private-meeting-to-discuss-handling-of-partygate-report-sky-news-understands-12617829 Boris Johnson under pressure to 'urgently explain' why he privately met Sue Gray to discuss handling of partygate report (60)	jamanetwork.com/journals/jamanetworkopen/fullarticle/2792382 Routine Surveillance and Vaccination on a University Campus During the Spread of the SARS-CoV-2 Omicron Variant (4)	brownstone.org/articles/the-who-treaty-is-tied-to-a-global-digital-passport-and-id-system The WHO Treaty Is Tied to a Global Digital Passport and ID System (23)	bridgemi.com/michigan-government/james-craig-perry-johnson-three-others-shouldnt-make-gop-ballot-state-says James Craig Perry Johnson, three others shouldn't make GOP ballot, state says (7)
bitchute.com/video/Sw1gck2MhrK PFIZER VACCINE # DOCUMENTS FRAUD (83)	brownstone.org/articles/the-who-treaty-is-tied-to-a-global-digital-passport-and-id-system The WHO Treaty Is Tied to a Global Digital Passport and ID System (14)	brownstone.org/articles/the-who-treaty-is-tied-to-a-global-digital-passport-and-id-system The WHO Treaty Is Tied to a Global Digital Passport and ID System (11)	the-sun.com/news/2744100/shingles-new-rare-side-effect-covid-vaccine RASH HORROR Shingles could be new but rare side effect of Covid vaccine, docs discover (53)	WEFreports.com Rebel News asking to cover their trip to Davos WEF (3)	fda.gov/news-events/press-announcements/fda-approves-first-live-non-replicating-vaccine-prevent-smallpox-and-monkeypox FDA approves first live, non-replicating vaccine to prevent smallpox and monkeypox (15)	standard.co.uk/news/politics/boris-johnson-sparks-up-ur-as-he-compares-french-president-francois-hollande-to-pow-guard-in-brexit-row-a3443701.html Boris Johnson sparks uproar as he compares French president Francois Hollande to PoW guard in Brexit row (6)
bit.ly/3Umgik 'Doctors & Scientists' With Brian Hooker, Ph.D. - Childrens Health Defense(52)	thepoetimes.com/top-airline-pilot-suffers-cardiac-arrest-between-flights-post-mandatory-covid-vaccination-4477228.html Top Airline Pilot Suffers Cardiac Arrest Between Flights Post Mandatory COVID Vaccination (14)	WEFreports.com Rebel News asking to cover their trip to Davos WEF (11)	WEFreports.com Rebel News asking to cover their trip to Davos WEF (52)	reclaimthenet.org/world-health-organization-pandemic-treaty-a-fresh-push-for-vaccine-passports-global-surveillance-and-more World Health Organization pandemic treaty: A fresh push for vaccine passports, global surveillance, and more (2)	reclaimthenet.org/world-health-organization-pandemic-treaty-a-fresh-push-for-vaccine-passports-global-surveillance-and-more World Health Organization pandemic treaty: A fresh push for vaccine passports, global surveillance, and more (14)	WEFreports.com Rebel News asking to cover their trip to Davos WEF (6)
WEFreports.com Rebel News asking to cover their trip to Davos WEF (43)	thetimes.co.uk/article/boris-johnson-pictured-with-drink-at-lockdown-party-shown-in-shahid-khan-demands-met-explain-why-boris-johnson-escaped-second-party-fine-13 Met explain why Boris Johnson escaped second party fine (13)	fda.gov/news-events/press-announcements/fda-approves-first-live-non-replicating-vaccine-prevent-smallpox-and-monkeypox FDA approves first live, non-replicating vaccine to prevent smallpox and monkeypox (9)	theguardian.com/commentisfree/2022/may/24/boris-johnson-party-nhs-doctors-covid-rules While Boris Johnson partied, I helped a child put on PPE to see his dying dad (50)	smidhu.org/GetVaccinated GET VACCINATED (2)	washingtonpost.com/politics/2022/05/19/look-time-tucker-carlson-asked-hunter-biden-favor/ A look at the time Tucker Carlson asked Hunter Biden for a favor (13)	evanhospital.com/virus (5)
bridgemi.com/michigan-government/james-craig-perry-johnson-three-others-shouldnt-make-gop-ballot-state-says James Craig Perry Johnson, three others shouldn't make GOP ballot, state says (35)	WEFreports.com Rebel News asking to cover their trip to Davos WEF (10)	itv.com/news/2022-05-23/exclusive-pm-pictured-drinking-at-downing-street-party-during-lockdown Exclusive: Prime Minister Boris Johnson pictured drinking at Downing Street party during lockdown (9)	brownstone.org/articles/the-who-treaty-is-tied-to-a-global-digital-passport-and-id-system The WHO Treaty Is Tied to a Global Digital Passport and ID System (40)	alexberenson.substack.com/p/urgent-the-most-powerful-evidence-URGENT-The-most-powerful-evidence-yet-that-mrna-vaccines-hurt-long-term-immunity-to-covid-after-infection-1 URGENT: The most powerful evidence yet that mRNA vaccines hurt long-term immunity to Covid after infection (1)	WEFreports.com Rebel News asking to cover their trip to Davos WEF (12)	vaccines.gov (5)

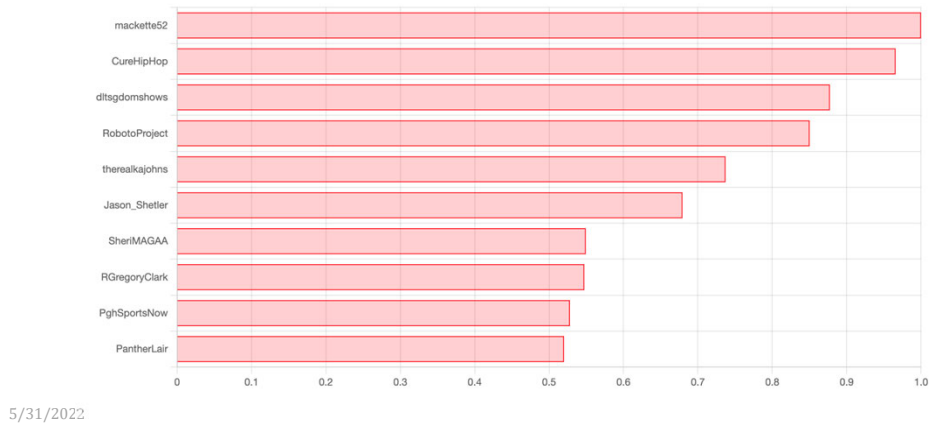
Analysis of Tweeters - Super Spreaders

- ❑ Super Spreaders are users which generate content that is shared often, and hence spread information effectively.



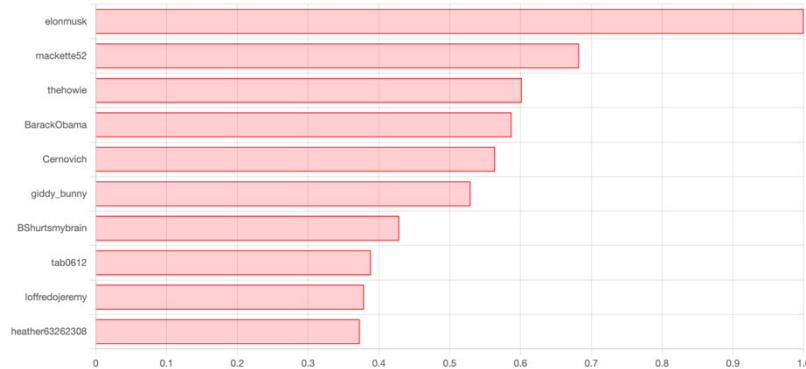
Analysis of Tweeters - Super Friends

- ❑ Super Friends are users that exhibit frequent two-way communication, facilitating large or strong communication networks.



Analysis of Tweeters - Other Influencers

- Other Influencers are users which have an active network presence, by tweeting often or mentioning users often, and operate in central parts of the conversation, such as by using important hashtags, or mentioning important users.



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Accounts Referenced by the Most Tweets

- This shows the tweeters that are most often referenced (e.g. mentioned) in PA tweets. Value is the number of tweets that reference the agent.

Agent Label	Value
morten[+]	477
mviser	477
itvnews	340
US_FDA[+]	246
pfizer[+]	226
CDCgov[+]	138
JackPosobiec[+]	133
POTUS[+]	127
elonmusk[+]	105
sarahlazare	103
morten[+]	477
mviser	477
itvnews	340

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Trending Tweets May 20 – May 26

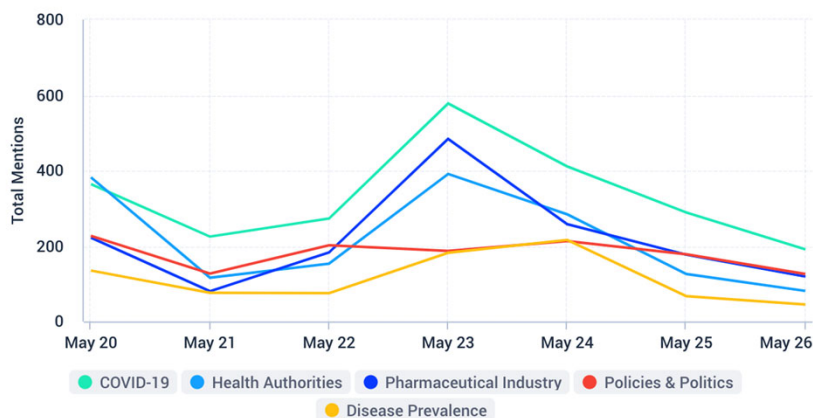
Tweets that are the most forwarded, either by retweet, reply, or quote:

- ❑ Pfizer CEO Albert Bourla explains Pfizer's new tech to Davos crowd: "ingestible pills" - a pill with a tiny chip that send a wireless signal to relevant authorities when the pharmaceutical has been digested. "Imagine the compliance," he says <https://t.co/uYapKJGDJx>;
- ❑ WaPo has verified 2014 emails in which Tucker Carlson and his wife asked Hunter Biden for help in getting their son into Georgetown. (via @mviser) <https://t.co/aKmBABMB4N>;
- ❑ The guy next to me on the plane: "You want to wear a mask wear a mask, you want to get vaccinated get vaccinated" Gonna be a long flight. <https://t.co/LHMjllJsRL>;
- ❑ EXCL: @ITVNews has obtained pictures of Boris Johnson drinking at a No10 party during lockdown in November 2020. The photos cast fresh doubt on the PM's repeated claims he was unaware of rule-breaking in No10 during the pandemic. See all images here: <https://t.co/sUjiWpxqmm> <https://t.co/iXOpuPIQu7>;
- ❑ Last night former DHS Secretary Jeh Johnson told me that America needs an Emmett Till moment. We need to see the photos-the images of slaughtered innocent children in Texas. It is the only way to wake America from this defeated haze & take REAL ACTION on guns;
- ❑ Johnson and his snivelling sidekicks want us to 'move on'. Again. We will move on. But we will move on with an even deeper loathing for him, a steadfast refusal to *ever* trust the lying shit and a steely determination to get him and his dismal party out of power for good;
- ❑ NRA BLOOD MONEY \$1,267,139 Mitch McConnell \$1,269,486 Ron Johnson \$1,306,130 Marsha Blackburn \$1,968,714 Tom Cotton \$2,897,582 Todd Young \$3,063,327 Rob Portman \$3,124,773 Joni Ernst \$3,303,355 Marco Rubio \$13,647,676 Mitt Romney Mass shootings are a Republican policy choice;
- ❑ "As part of this plan, the WHO has contracted Deutsche Telekom to develop a global vaxx passport system, with plans to link every person on the planet to a QR code digital ID." <https://t.co/5xbmDpjTne>
- ❑ "As part of this plan, the WHO has contracted Deutsche Telekom to develop a global vaxx passport system, with plans to link every person on the planet to a QR code digital ID." <https://t.co/5xbmDpjTne>
- ❑ The Pfizer data is out ppl...go have a look. They're not hiding it and it isn't good

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General PA Conversation May 20 – May 26



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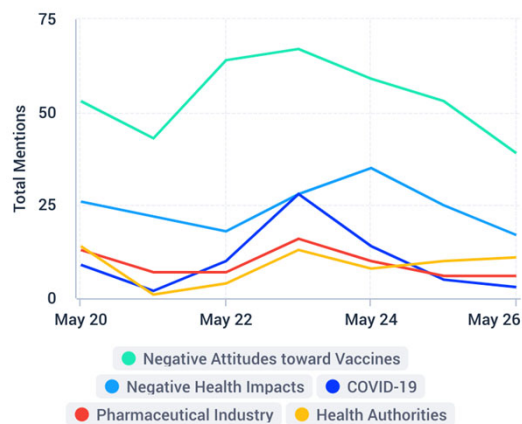
PA Hashtag Cloud May 20 – May 26



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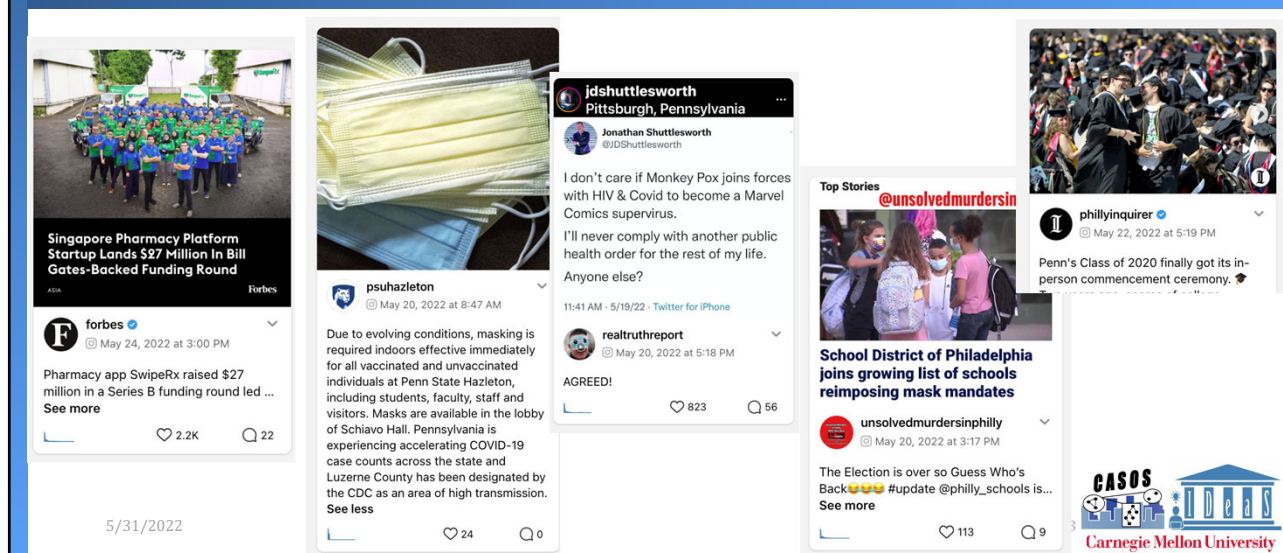
Negative Attitudes May 20 – May 26



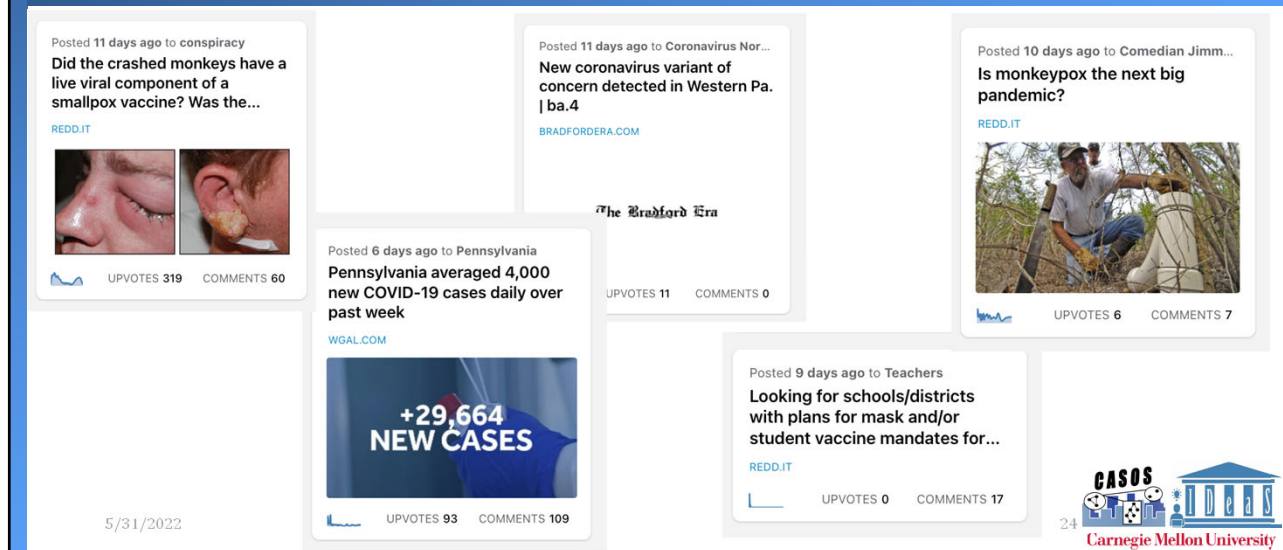
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Trending Posts on Instagram May 20 – May 26



Trending Posts on Reddit May 20 – May 26



For More Information

- ❑ Director Kathleen M. Carley - kathleen.carley@cs.cmu.edu
 - ❑ <http://www.casos.cs.cmu.edu/bios/carley/carley.html>
- ❑ IDeaS website - <https://www.cmu.edu/ideas-social-cybersecurity/>
- ❑ CASOS website - <http://www.casos.cs.cmu.edu/>
- ❑ Social Cybersecurity Working Group - <http://social-cybersecurity.org>
- ❑ Facebook: [@IDeasCMU](#)
- ❑ Twitter: [@IDeaSCMU](#)
- ❑ YouTube: [IDeaS Center](#)
- ❑ Ask to be on our Email-Distro Lists

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