

PA Vaccine Conversations on Twitter

Dr. Iuliia Alieva, Dawn Robertson, Dr. Kathleen M. Carley
Vaccine Hesitancy Project Update based on May 6, 2022 – May 12, 2022

The CMU centers for:

Informed DEMocracy And Social cyber-security

Computational Analysis of Social and Organizational Systems



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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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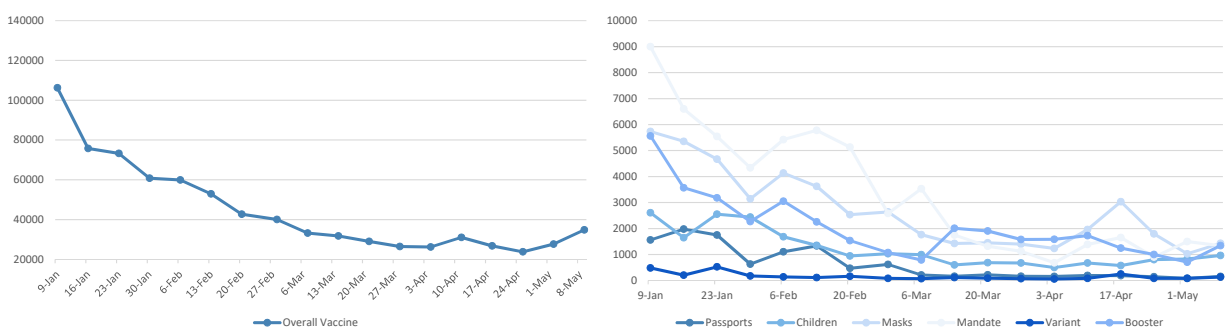
Report Overview May 6 – May 12

- ❑ Mandates, Masks, Natural Immunity, Racism, and Breakthrough Infections are trending this week;
- ❑ Trending stories: [breaking911.com/breaking-fda-restricts-jjs-covid-19-vaccine-due-to-blood-clot-risk](https://www.breaking911.com/breaking-fda-restricts-jjs-covid-19-vaccine-due-to-blood-clot-risk) FDA restricts J&J's COVID-19 vaccine due to blood clot risk; [cnn.com/2022/05/09/us-will-limit-covid-vaccines-to-high-risk-people-this-fall-if-congress-doesnt-approve-more-funding.html](https://www.cnn.com/2022/05/09/us-will-limit-covid-vaccines-to-high-risk-people-this-fall-if-congress-doesnt-approve-more-funding.html) U.S. will limit next-generation Covid vaccines to high-risk people this fall if Congress doesn't approve more funding; twitter.com/jsm2334/status/1522233907076292611 The internet is breaking today from viral claims that the new Pfizer data dump of 80k pages revealed real vaccine efficacy of the Pfizer/BioNTech vaccine in the phase 3 trial was in fact 12%, not 95%. In this I investigate these claims; [6abc.com/covid-deaths-us-cases-vaccine-cdc/11820354](https://www.6abc.com/covid-deaths-us-cases-vaccine-cdc/11820354) Expect rise in US COVID deaths, hospital admissions over next 4 weeks: CDC forecast; [reuters.com/3KNyMur](https://www.reuters.com/3KNyMur) Fact Check-Screenshots do not show Pfizer declaring vaccines unsafe;
- ❑ Anti-vax, disinformation, and vaccine hesitancy stories: thecountersignal.com/pfizer-documents-over-1200-died-during-pfizer-vaccine-trials Pfizer documents: Over 1,200 people died during Pfizer vaccine trials; [vancouvertimes.org/vp-of-pfizer-arrested-after-document-dump](https://www.vancouvertimes.org/vp-of-pfizer-arrested-after-document-dump) VP of Pfizer arrested after #pfizerdocuments get released; [instagram.com/p/CdSvU1ZOpvh](https://www.instagram.com/p/CdSvU1ZOpvh) "Pandemic was fake..."; [twnews.co.uk/uk-news/wonderful-mother-of-two-36-died-from-first-dose-of-covid-pfizer-vaccine-inquest-told](https://www.twnews.co.uk/uk-news/wonderful-mother-of-two-36-died-from-first-dose-of-covid-pfizer-vaccine-inquest-told) 'Wonderful' mother-of-two, 36, died from first dose of Covid Pfizer vaccine, inquest told; [rairfoundation.com/germany-admits-covid-vaccine-40-times-deadlier-than-previously-known](https://www.rairfoundation.com/germany-admits-covid-vaccine-40-times-deadlier-than-previously-known) Germany Admits Covid 'Vaccine' 40 Times Deadlier Than Previously Known; [sharylattkisson.com/2022/05/internal-cdc-docs-on-the-agencys-false-covid-vaccine-claims](https://www.sharylattkisson.com/2022/05/internal-cdc-docs-on-the-agencys-false-covid-vaccine-claims) Internal CDC docs on the agency's false Covid vaccine claims; [soundcloud.com/revolutionarie5/vaccine-lies](https://www.soundcloud.com/revolutionarie5/vaccine-lies) Vaccine Lies song

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Trends (tweets per week) May 6 – May 12



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High Level View by City May 6 – May 12

	Total PA	Philadelphia		Pittsburgh		Erie		Allentown/Bethlehem		Other	
Conversation	Tweets	Tweets	%	Tweets	%	Tweets	%	Tweets	%	Tweets	%
Overall Vaccine	28885	14278	49.4%	8788	30.4%	300	1.0%	4347	15.0%	1172	4.1%
Vaccine Passports	156	87	0.6%	37	0.4%	2	0.7%	24	0.6%	6	0.5%
FDA Approval	81	61	0.4%	11	0.1%			8	0.2%	1	0.1%
Boosters	444	213	1.5%	142	1.6%	3	1.0%	55	1.3%	31	2.6%
Employees	113	40	0.3%	29	0.3%	2	0.7%	32	0.7%	10	0.9%
"Experimental"	218	101	0.7%	54	0.6%	3	1.0%	49	1.1%	11	0.9%
Children	712	335	2.3%	210	2.4%	5	1.7%	143	3.3%	19	1.6%
Myocarditis	58	44	0.3%	11	0.1%			3	0.1%		
Heart	376	197	1.4%	95	1.1%	3	1.0%	71	1.6%	10	0.9%
Masks	1372	642	4.5%	387	4.4%	13	4.3%	183	4.2%	147	12.5%
Thrombosis/VITT	15	8	0.1%	3	0.0%			3	0.1%	1	0.1%
Mandates	1335	666	4.7%	374	4.3%	11	3.7%	231	5.3%	53	4.5%
Natural Immunity	185	84	0.6%	77	0.9%			22	0.5%	2	0.2%
Efficacy	507	210	1.5%	127	1.4%	8	2.7%	145	3.3%	17	1.5%
Omicron	219	129	0.9%	73	0.8%	1	0.3%	11	0.3%	5	0.4%
Delta Variant	63	25	0.2%	10	0.1%			11	0.3%	17	1.5%
Race	840	530	3.7%	192	2.2%	8	2.7%	81	1.9%	29	2.5%
Ivermectin	31	20	0.1%	5	0.1%			6	0.1%		
Military	85	37	0.3%	16	0.2%	3	1.0%	22	0.5%	7	0.6%
Breakthrough	81	76	0.5%	2	0.0%			3	0.1%		

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- Conversation topics trending this week over last
 - Natural Immunity
 - Racism
 - Breakthrough Infections



High Level View by County May 6 – May 12

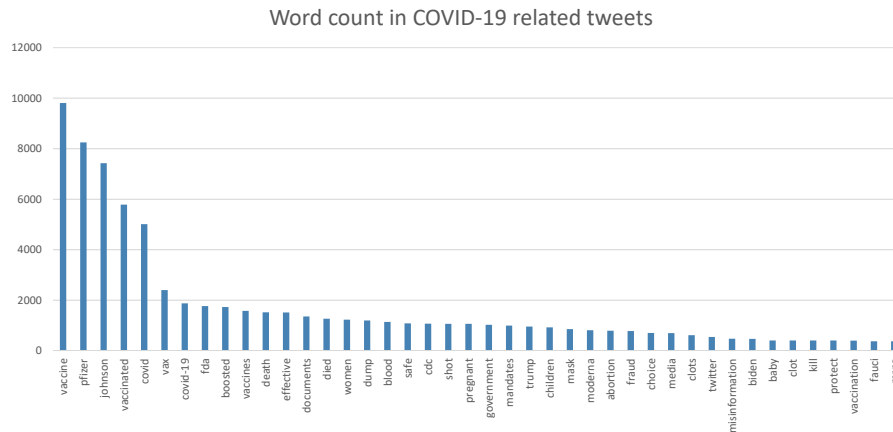
County	Allegheny	Beaver	Butler	Cambria	Fayette	Indiana	Somerset	Westmoreland
Overall Vaccine	8995	11	14	8	3	6	6	25
Vaccine Passports	37					1		
FDA	11							
Boosters	150		2					
Employees	32						1	
"Experimental"	56		1					1
Children	213	1						
Myocarditis	11							
Heart	96							
Masks	409	2	1	5			1	1
Thrombosis/VITT	3							
Mandates	386	2	1			1	1	2
Natural Immunity	77							
Efficacy	127		1					3
Omicron	74							
Delta Variant	10							
Race	198		1				2	
Ivermectin	5							
Military	16							
Breakthrough	2							

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



Top Words Used per Week May 6 – May 12



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Top Hashtags by County May 6 – May 12

- ☐ 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	Fayette	Indiana	West Moreland
pfizerdocuments (224)	masks (1)	boycotttimhortons (1)	novaccinemandates (1)	pfizerdocuments (2)
pfizer (149)	pandemic (1)		novaccinepassports (1)	covid (1)
steelers (85)	pfizerdocuments (1)			crimesagainsthumanity (1)
covid19 (64)	crimesagainsthumanity (1)			goptaliban (1)
crimesagainsthumanity (48)	getvaccinated (1)			vaccine (1)

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Top Hashtags by City May 6 – May 12

- ❑ 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
pfizerdocuments (313)	pfizerdocuments (27)	pfizerdocuments (54)	pfizerdocuments (223)	pfizerdocuments (8)	pfizerdocuments (134)	pfizerdocuments (16)
pfizer (176)	pfizer (24)	pfizer (40)	pfizer (147)	covid (3)	pfizer (83)	pfizer (14)
covid19 (115)	crimesagainsthumanity (8)	covid19 (16)	covid19 (64)	pfizer (3)	immunizeunder5s (39)	covid19 (10)
crimesagainsthumanity (63)	covid19 (5)	partygate (14)	crimesagainsthumanity (48)	ukraine (3)	crimesagainsthumanity (34)	moderna (8)
fda (39)	paxlovid (5)	vaccine (14)	paxlovid (42)	vaccine (3)	covid19 (31)	vaccine (8)

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Top URLs by County May 6 – May 12

Allegheny	Butler + Beaver	Fayette	Indiana	West Moreland
breaking911.com/breaking-fda-restricts-jjs-covid-19-vaccine-due-to-blood-clot-risk FDA restricts J&J's COVID-19 vaccine due to blood clot risk (99)	instagram.com/p/CdSyUIZ0pvh "Pandemic was fake..." (1)	thecountersignal.com/pfizer-documents-over-1200-died-during-pfizer-vaccine-trials Pfizer documents: Over 1,200 people died during Pfizer vaccine trials (1)	twnews.co.uk/uk-news/wonderful-mother-of-two-36-died-from-first-dose-of-covid-pfizer-vaccine-inquest-told 'Wonderful' mother-of-two, 36, died from first dose of Covid Pfizer vaccine, inquest told (1)	cnn.it/3FytNcD Bill Gates has Covid (1)
thetimes.co.uk/article/boris-johnson-can-rip-up-northern-ireland-protocol-attorney-general-rules-3xmcv8ws8 Boris Johnson can rip up Northern Ireland protocol, attorney-general rules (61)	wapo.st/3vSUNA6 The lucky few to never get coronavirus could teach us more about it (1)			latimes.com/entertainment-arts/story/2022-05-11/josh-johnson-comedy-special-bourbon-room Comedian Josh Johnson gives crowds a therapy session with a shot of bourbon for his new special (1)
cnn.com/2022/05/09/us-will-limit-covid-vaccines-to-high-risk-people-this-fall-if-congress-doesnt-approve-more-funding.html U.S. will limit next-generation Covid vaccines to high-risk people this fall if Congress doesn't approve more funding (49)				steelersnow.com/steelers-waive-tegray-scales-rex-sunahara-isaiah-johnson Steelers Waive Tegray Scales, Rex Sunahara, Isaiah Johnson (1)
thecountersignal.com/pfizer-documents-over-1200-died-during-pfizer-vaccine-trials Pfizer documents: Over 1,200 people died during Pfizer vaccine trials (48)				trib.al/GrCEtHR J&J's Covid Shot Restricted by FDA on Rare Clotting Disorder (1)
vancouvertimes.org/vp-of-pfizer-arrested-after-document-dump VP of Pfizer arrested after #pfizerdocuments get released (46)				

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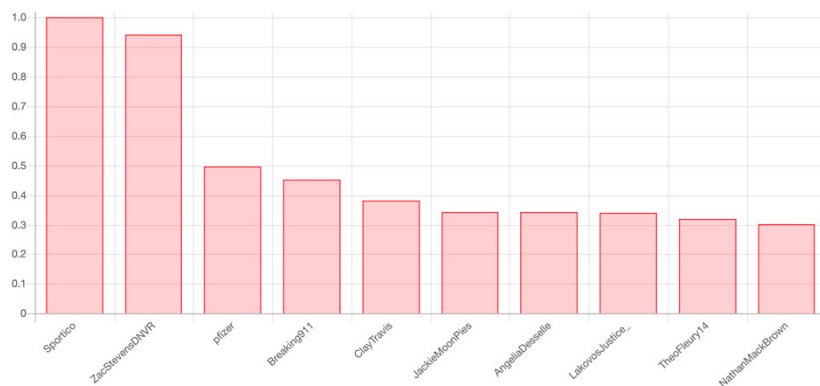
Top URLs by City May 6 – May 12

Philadelphia	Chester	Norristown	Pittsburgh	Erie	Allentown/ Bethlehem	Other
soa.org/48ff80/globalassets/assets/files/resources/research-report/2022/group-life-covid-19-mortality.pdf Group Life COVID-19 Mortality Survey Report (257)	sharylattkisson.com/2022/05/15/terminal-cdc-docs-on-the-agencys-false-covid-vaccine-claims Internal CDC docs on the agency's false Covid vaccine claims (219)	soa.org/48ff80/globalassets/assets/files/resources/research-report/2022/group-life-covid-19-mortality.pdf Group Life COVID-19 Mortality Survey Report (35)	breaking911.com/breaking-fda-restricts-jis-covid-19-vaccine-due-to-blood-clot-risk FDA restricts J&J's COVID-19 vaccine due to blood clot risk (99)	reut.rs/3KNvMur Fact Check- Screenshots do not show Pfizer declaring vaccines unsafe (3)	thecountersignal.com/pfizer-documents-over-1200-died-during-pfizer-vaccine-trials Pfizer documents: Over 1,200 people died during Pfizer vaccine trials (36)	breaking911.com/breaking-fda-restricts-jis-covid-19-vaccine-due-to-blood-clot-risk FDA restricts J&J's COVID-19 vaccine due to blood clot risk (10)
rairfoundation.com/germany-admits-covid-vaccine-40-times-deadlier-than-previously-known Germany Admits Covid 'Vaccine' 40 Times Deadlier Than Previously Known (144)	twitter.com/jsm2334/status/1522233907076292611 The internet is breaking today from viral claims that the new Pfizer data dump of 80k pages revealed the real vaccine efficacy of the Pfizer/BioNTech vaccine in the phase 3 trial was in fact 12%, not 95%. In this I investigate these claims. (51)	theguardian.com/world/2022/may/05/us-johnson-johnson-covid-vaccine-blood-clot US restricts use of Johnson & Johnson Covid vaccine over rare blood clot risk (19)	thetimes.co.uk/article/horise-johnson-can-rip-up-northern-ireland-protocol-attorney-general-rules-3xmcy8ws9 Boris Johnson can rip up Northern Ireland protocol, attorney-general rules (61)	twitter.com/ReutersFacts/status/1522241612302241792 A screenshot circulating online does not show a Pfizer document but 2020 guidance from Britain's medicines regulator, which has since been updated. It is not evidence that COVID-19 vaccines are unsafe during pregnancy or while breastfeeding (3)	breaking911.com/breaking-fda-restricts-jis-covid-19-vaccine-due-to-blood-clot-risk FDA restricts J&J's COVID-19 vaccine due to blood clot risk (27)	abcn.ws/3w3AvTy FDA limits J&J COVID-19 vaccine due to rare blood clot risk (6)
breaking911.com/breaking-fda-restricts-jis-covid-19-vaccine-due-to-blood-clot-risk FDA restricts J&J's COVID-19 vaccine due to blood clot risk (77)	6abc.com/covid-deaths-us-cases-vaccine-cdc/11820354 Expect rise in US COVID deaths, hospital admissions over next 4 weeks: CDC forecast (13)	thecountersignal.com/pfizer-documents-over-1200-died-during-pfizer-vaccine-trials Pfizer documents: Over 1,200 people died during Pfizer vaccine trials (14)	cnbc.com/2022/05/09/us-will-limit-covid-vaccines-to-high-risk-people-this-fall-if-congress-doesnt-approve-more-funding.html U.S. will limit next-generation Covid vaccines to high-risk people this fall if Congress doesn't approve more funding (49)	breaking911.com/breaking-fda-restricts-jis-covid-19-vaccine-due-to-blood-clot-risk FDA restricts J&J's COVID-19 vaccine due to blood clot risk (2)	soundcloud.com/revolutionarie/5/vaccine-lies Vaccine Lies song (15)	theguardian.com/world/2022/may/05/us-johnson-johnson-covid-vaccine-blood-clot US restricts use of Johnson & Johnson Covid vaccine over rare blood clot risk (6)
thecountersignal.com/pfizer-documents-over-1200-died-during-pfizer-vaccine-trials Pfizer documents: Over 1,200 people died during Pfizer vaccine trials (61)	datascience.com/post/refuting-peter-doshi-s-claims-doubting-trustworthiness-meaningfulness-of-covid-vaccine-results Refuting Peter Doshi's claims doubting "trustworthiness & meaningfulness" of COVID vaccine results (11)	breaking911.com/breaking-fda-restricts-jis-covid-19-vaccine-due-to-blood-clot-risk FDA restricts J&J's COVID-19 vaccine due to blood clot risk (12)	thecountersignal.com/pfizer-documents-over-1200-died-during-pfizer-vaccine-trials Pfizer documents: Over 1,200 people died during Pfizer vaccine trials (48)	erie.gov/health/rabies Free Rabies Vaccination Clinics (2)	theguardian.com/world/2022/may/05/us-johnson-johnson-covid-vaccine-blood-clot US restricts use of Johnson & Johnson Covid vaccine over rare blood clot risk (15)	evanhospital.com/virus (5)
vancouvertimes.org/vp-of-pfizer-arrested-after-document-dump VP of Pfizer arrested after #pfizerdocuments get released (45)	cnbc.com/2022/05/05/fda-limits-use-of-jis-covid-19-vaccine-for-adults.html FDA limits use of J&J's Covid-19 vaccine for adults (10)	reut.rs/3KNvMur Fact Check- Screenshots do not show Pfizer declaring vaccines unsafe (8)	vancouvertimes.org/vp-of-pfizer-arrested-after-document-dump VP of Pfizer arrested after #pfizerdocuments get released (46)	eriecountypa.gov/departments/health/services-and-programs/clinics Immunization Clinics (2)	cnbc.com/2022/05/05/fda-limits-use-of-jis-covid-19-vaccine-for-adults.html FDA limits use of J&J's Covid-19 vaccine for adults (13)	https://www.adrreports.eu/en/ Online access to suspected side-effect reports (4)

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Analysis of Tweeters - Super Spreaders

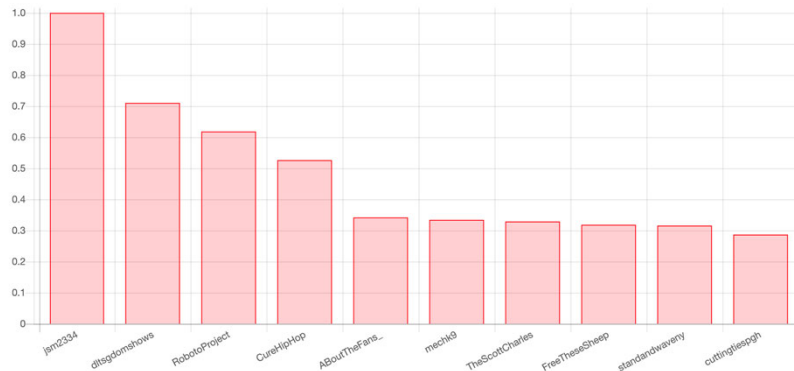
- ❑ Super Spreaders are users which generate content that is shared often, and hence spread information effectively.



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Analysis of Tweeters - Super Friends

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

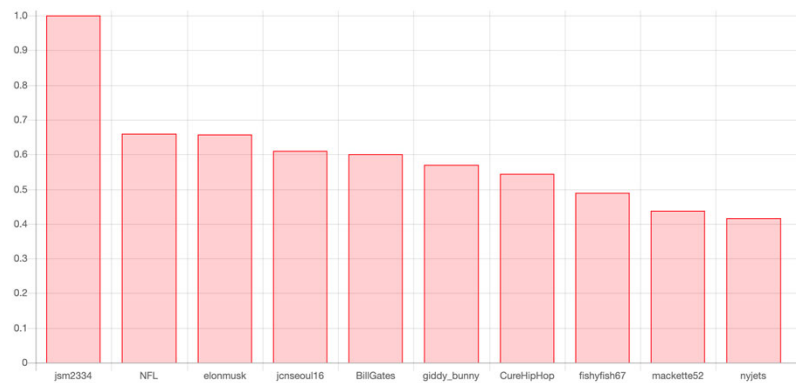


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Analysis of Tweeters - Other Influencers

- ❑ 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
pfizer[+]	656
ClayTravis[+]	404
TexasLindsay	302
PBSImpulse9	299
DrOz	244
gofundme	176
elonmusk[+]	170
thevivafrei[+]	149
CDCgov[+]	141
CPHO_Canada	141
pfizer[+]	656
ClayTravis[+]	404
TexasLindsay	302

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Trending Tweets May 6 – May 12

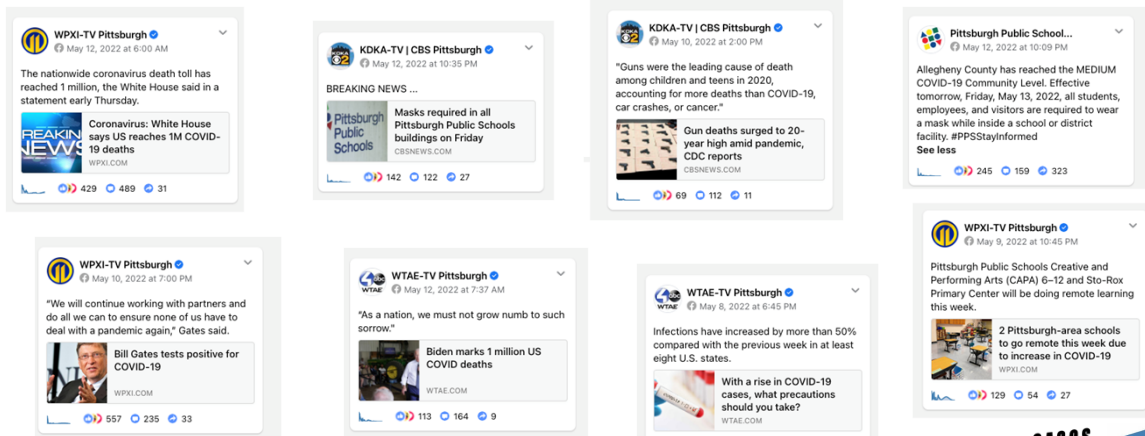
Tweets that are the most forwarded, either by retweet, reply, or quote:

- ❑ People who got the vaccine U regret that decision yet?
- ❑ Thanks Pfizer <https://t.co/IHSFTVUf7s>
- ❑ U.S Group Life Insurance Mortality Survey. P. 23 data on Q3 is terrifying. Am told Q4 looking the same. Some CEO's speaking out. How many more have to die for states to revolt against Federal HHS by stopping vax & allowing access to early Rx like TN & NH? <https://t.co/gfjQAbZw7F> <https://t.co/CIHVd4wfB9>
- ❑ URGENT PFIZER NEWS: Pfizer and the CDC committed fraud for willfully withholding critical data from the public resulting in harm and death to thousands. The CDC is spreading medical misinformation. What they have done is obscene. We are completely vindicated. Thread 1 of 3 <https://t.co/311le9lcdH>
- ❑ Why is the media not reporting in the Pfizer documents? Do your fucking jobs
- ❑ So the leak distracted from the Pfizer dump. 46,000 people took the vaccine in a trial period....42,000 had adverse affects and 1200 died. FDA rules that one death in 30 days closes the trial down....it didn't...why?
- ❑ SERIOUS QUESTION: Do you know anyone who is fully vaccinated, boosted, and never got COVID?
- ❑ BREAKING: FDA restricts J&J's COVID-19 vaccine due to blood clot risk - <https://t.co/NMH8S7n0Jf> <https://t.co/fNuik39gyp>
- ❑ The reason we can't talk about anything but lockdown parties is Johnson. We will lumber from blame and counter blame for as long as he feeds the machine. And after Partygate it will be something else... anything other than sorting the severe problems our Nation is facing.
- ❑ Here is @DrOz debating Wendy Williams about getting the vaccine Who do you side with? <https://t.co/HK8F83qQbr>

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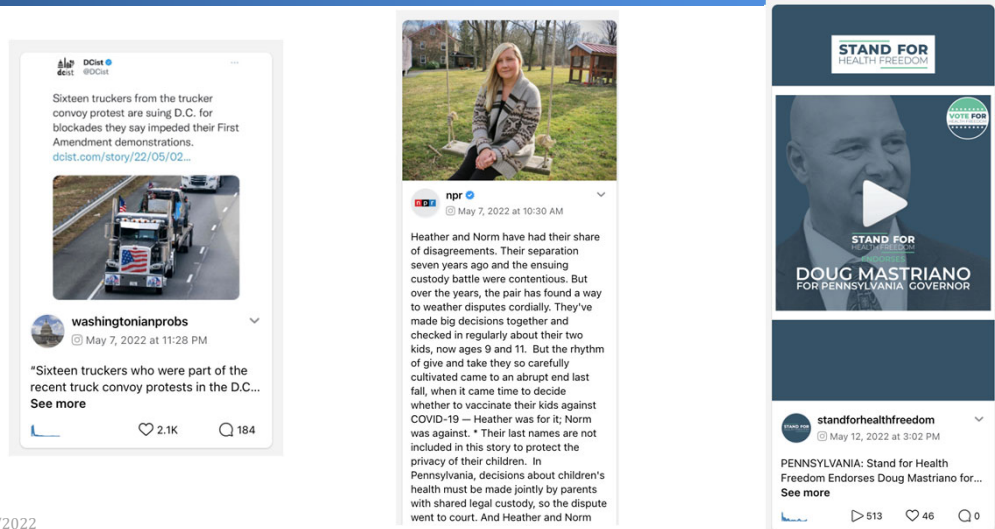
Trending Posts on Facebook May 6 – May 12



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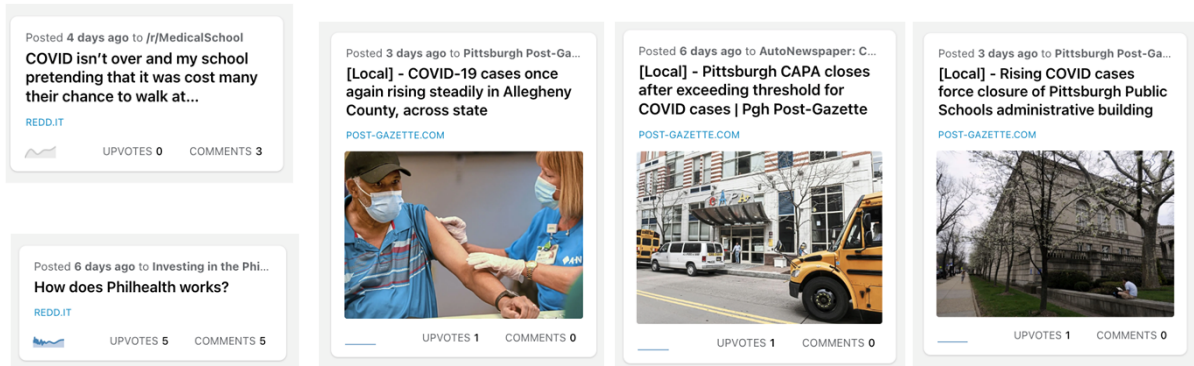
Trending Posts on Instagram May 6 – May 12



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Trending Posts on Reddit May 6 – May 12



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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](https://www.facebook.com/IDEasCMU)
- ☐ Twitter: [@IDeaSCMU](https://twitter.com/IDeaSCMU)
- ☐ YouTube: [IDeaS Center](https://www.youtube.com/IDeaS-Center)
- ☐ Ask to be on our Email-Distro Lists

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