

PA Vaccine Conversations on Twitter

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Vaccine Hesitancy Project Update based on October 21, 2022 – October 27, 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 October 21 – October 27

- ❑ Children, Masks, Mandates, Boosters, are trending this week, also Thrombosis, Race, Children, Mandates, Employee Mandates trending this week over the last;
- ❑ Trending stories: [Vaccines.gov](https://www.vaccines.gov) Find a COVID-19 vaccine near you; [wsj.com/articles/the-cdc-pushes-to-vaccinate-toddlers-again-advisory-committee-children-schedule-covid-19-fda-risks-shot-evidence-public-health-11666529146](https://www.wsj.com/articles/the-cdc-pushes-to-vaccinate-toddlers-again-advisory-committee-children-schedule-covid-19-fda-risks-shot-evidence-public-health-11666529146) The CDC Pushes to Vaccinate Toddlers, Again; [montcopa.org/Archive/ViewFile/Item/767](https://www.montcopa.org/Archive/ViewFile/Item/767) MONTGOMERY COUNTY State school immunization deadline approaching; Students face suspension if not fully vaccinated; [wsj.com/articles/pfizer-targets-covid-vaccine-price-of-at-least-110-a-dose-11666306202](https://www.wsj.com/articles/pfizer-targets-covid-vaccine-price-of-at-least-110-a-dose-11666306202) Pfizer Targets Covid Vaccine Price of at Least \$110 a Dose; [wvtn13.com/article/pfizer-covid-19-vaccine-will-cost-110-130-per-dose/41736850](https://www.wvtn13.com/article/pfizer-covid-19-vaccine-will-cost-110-130-per-dose/41736850) Pfizer: COVID-19 vaccine will cost \$110-\$130 per dose once government contracts end; [ncbi.nlm.nih.gov/pmc/articles/PMC8524235](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8524235) Myocarditis-induced Sudden Death after BNT162b2 mRNA COVID-19 Vaccination in Korea: Case Report Focusing on Histopathological Findings;
- ❑ Popular anti-vax tweets: "When I'm Governor, PA will NOT mandate the COVID vaccine-no matter what the CDC says." <https://t.co/QznX8Cew4k>; NY State Supreme Court reinstates all fired unvaccinated employees, orders backpay, says the state violated rights, acted arbitrary & capricious, notes: "Being vaccinated does not prevent an individual from contracting or transmitting Covid-19." <https://t.co/nv0sWfa56S> <https://t.co/WhH4wje2b0>; Every single Covid patient that I am treating in the hospital has been vaccinated, and most boosted too; OPINION: Here's why COVID vaccine belongs on CDC list of kids' scheduled vaccines <https://t.co/oWUW8bXrFb>; As long as I am Governor, in Florida there will not be a COVID-19 vaccine mandate for children in our schools. <https://t.co/oDXA13c4Oy>; A scary # of kids are dying after taking the Covid vax - from myocarditis among other injuries. HOW DARE THE CDC ADD THIS TO ITS LIST OF SCHOOL VACCINATIONS? Don't listen. Be v careful w/ your teenage boys in partic but girls too. These are not honest brokers. This is dangerous!

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Popular anti-vax stories October 21 – October 27

Anti-vax, disinformation, and vaccine hesitancy stories sorted by the number or shares:

- ❑ [fxn.ws/3DhhyI](https://www.fxnews.com/3DhhyI) Here's why COVID vaccine belongs on CDC list of kids' scheduled vaccines;
- ❑ [rumble.com/v1o00py-pfizer-did-not-look-at-transmission-dr-mike-yeadon-on-the-failure-of-the-p.html](https://www.rumble.com/v1o00py-pfizer-did-not-look-at-transmission-dr-mike-yeadon-on-the-failure-of-the-p.html) Pfizer did not look at transmission: Dr. Mike Yeadon on the failure of the public health function
- ❑ [youtu.be/cF73gk4ex4](https://www.youtube.com/watch?v=cF73gk4ex4) Vaxxed U.K. Cardiologist: Suspend mRNA Product Now
- ❑ [dailysceptic.org/2022/10/20/one-in-every-500-small-children-who-receive-the-pfizer-vaccine-are-hospitalised-by-it-study-finds](https://www.dailysceptic.org/2022/10/20/one-in-every-500-small-children-who-receive-the-pfizer-vaccine-are-hospitalised-by-it-study-finds) One in Every 500 Small Children Who Receive the Pfizer Vaccine are Hospitalised By It, Study Finds
- ❑ [dailysignal.com/2022/10/19/gop-lawmakers-call-biden-admin-reverse-covid-19-vaccine-mandate-u-s-coast-guard](https://www.dailysignal.com/2022/10/19/gop-lawmakers-call-biden-admin-reverse-covid-19-vaccine-mandate-u-s-coast-guard) GOP Lawmakers Call on Biden Administration to Reverse COVID-19 Vaccine Mandate as 'American Hero' Faces Discharge
- ❑ [trib.al/30vKLMQ](https://www.trib.al/30vKLMQ) The Nightmare COVID Variant That Beats Our Immunity Is Finally Here
- ❑ [voiceforscienceandsolidarity.org/scientific-blog/unvaccinated-children-are-our-only-hope-in-generating-herd-immunity-vaccine-expert](https://www.voiceforscienceandsolidarity.org/scientific-blog/unvaccinated-children-are-our-only-hope-in-generating-herd-immunity-vaccine-expert) Unvaccinated Children Are 'Our Only Hope' in Generating Herd Immunity: Vaccine Expert

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Countering disinformation October 21 – October 27

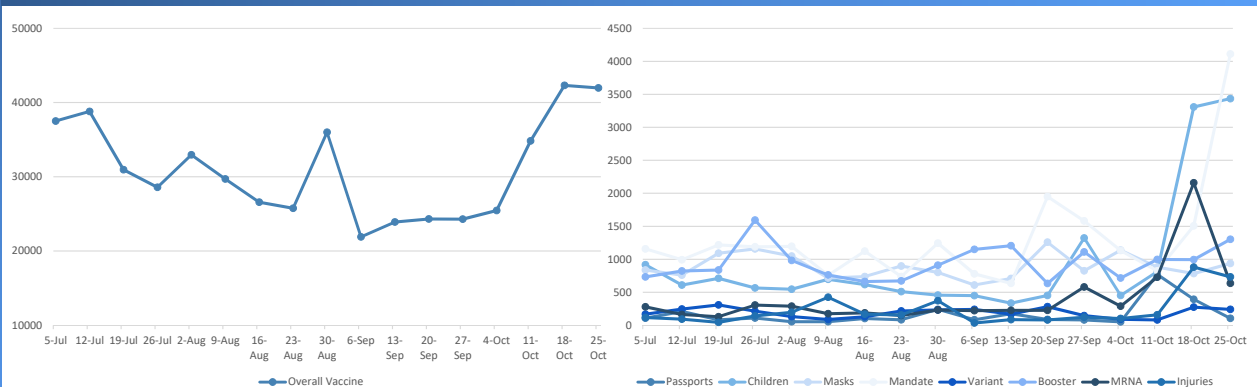
Articles and fact-checking stories debunking disinformation for the last week:

- ❑ UK cardiologist misleads on Covid-19 vaccine safety <https://factcheck.afp.com/doc.afp.com.32L483D>;
- ❑ It's Not News, Nor 'Scandalous,' That Pfizer Trial Didn't Test Transmission <https://www.factcheck.org/2022/10/scicheck-its-not-news-nor-scandalous-that-pfizer-trial-didnt-test-transmission/>;
- ❑ COVID strain developed in lab less lethal than original virus <https://apnews.com/article/fact-check-pandemic-covid-omicron-health-science-365183938782>;
- ❑ Posts Distort Misleading Analysis of COVID-19 Vaccine Safety Data <https://www.factcheck.org/2022/10/scicheck-posts-distort-misleading-analysis-of-covid-19-vaccine-safety-data/>;
- ❑ Facebook post linking Covid-19 vaccines with report about cancer in the under-50s is misleading <https://fullfact.org/health/covid-vaccines-epidemic-cancer/>

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Trends (tweets per week in PA) October 21 – October 27



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High Level View by City October 21 – October 27

	Total PA	Philadelphia		Pittsburgh		Erie		Allentown/Bethlehem		Other	
Conversation	Tweets	Tweets	%	Tweets	%	Tweets	%	Tweets	%	Tweets	%
Overall Vaccine	35225	16842	47.8%	11315	32.1%	280	0.8%	5200	14.8%	1588	4.5%
Vaccine Passports	106	53	0.3%	23	0.2%			25	0.5%	5	0.3%
FDA Approval	38	15	0.1%	9	0.1%			9	0.2%	5	0.3%
Boosters	908	463	2.7%	226	2.0%	12	4.3%	149	2.9%	58	3.7%
Employees	388	159	0.9%	109	1.0%	8	2.9%	91	1.8%	21	1.3%
"Experimental"	127	47	0.3%	44	0.4%	2	0.7%	30	0.6%	4	0.3%
Children	2241	1226	7.3%	364	3.2%	10	3.6%	567	10.9%	74	4.7%
Myocarditis	330	174	1.0%	76	0.7%	1	0.4%	69	1.3%	10	0.6%
Heart	300	143	0.8%	80	0.7%	4	1.4%	58	1.1%	15	0.9%
Masks	922	406	2.4%	220	1.9%	7	2.5%	151	2.9%	138	8.7%
Thrombosis/VITT	41	17	0.1%	17	0.2%			6	0.1%	1	0.1%
Mandates	4106	1912	11.4%	1201	10.6%	33	11.8%	864	16.6%	96	6.0%
Natural Immunity	70	45	0.3%	8	0.1%			16	0.3%	1	0.1%
Efficacy	107	46	0.3%	15	0.1%			39	0.8%	7	0.4%
Omicron	139	82	0.5%	31	0.3%	3	1.1%	14	0.3%	9	0.6%
Delta Variant	61	28	0.2%	13	0.1%			5	0.1%	15	0.9%
Race	1112	645	3.8%	297	2.6%	7	2.5%	112	2.2%	51	3.2%
Ivermectin	32	13	0.1%	8	0.1%			11	0.2%		
Military	76	44	0.3%	14	0.1%			11	0.2%	7	0.4%
Breakthrough	10	6	0.0%	2	0.0%					2	0.1%

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Conversation topics trending this week over last:

- Thrombosis
- Racism
- Children
- Mandates
- Employee Mandates



High Level View by County October 21 – October 27

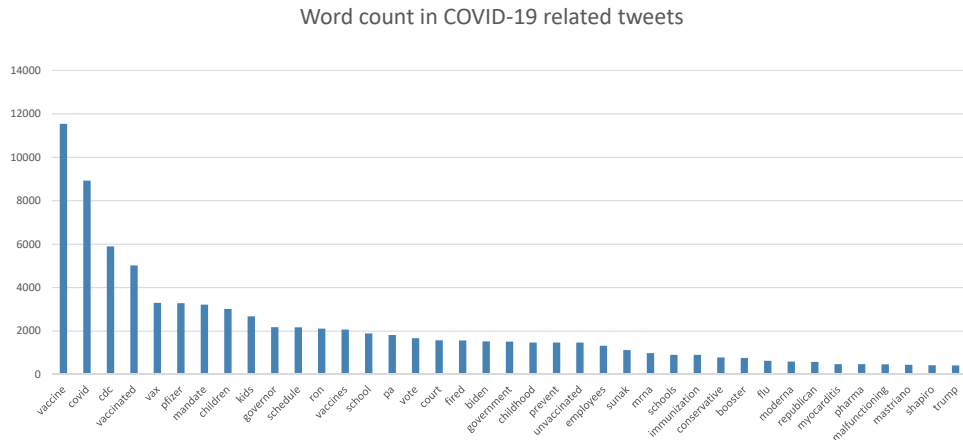
County	Allegheny	Beaver	Butler	Cambria	Fayette	Indiana	Somerset	Westmoreland
Overall Vaccine	11567	34	28	14	17	9	3	52
Vaccine Passports	25					2		1
FDA	9							
Boosters	235		3					1
Employees	112			2				
"Experimental"	46							
Children	377			1				1
Myocarditis	77		1					
Heart	82							
Masks	239	2	2	2	2	1		8
Thrombosis/VITT	17							
Mandates	1213	1	3	1		3	1	4
Natural Immunity	8							
Efficacy	16		1					
Omicron	33							
Delta Variant	18			1				
Race	302		2		1			
Ivermectin	8							
Military	16							
Breakthrough	3		1					

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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 October 21 – October 27



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Top Hashtags by County October 21 – October 27

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	Indiana + Somerset
covid19 (76)	novaccinemandates (2)
generalelectionnow (59)	novaccinepassports (2)
vaccine (36)	
nycleaks (35)	
pfizer (35)	

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Top Hashtags by City October 21 – October 27

- 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 (173)	covid19 (15)	partygate (47)	covid19 (76)	covid19 (3)	covid19 (42)	covid19 (16)
stoptheshots (101)	stoptheshots (12)	covid19 (32)	generalelectionnow (59)	nycleaks (2)	nycleaks (27)	nycleaks (4)
endthemandates (92)	vote (9)	stoptheshots (17)	vaccine (36)	partygate (2)	pfizer (20)	vaccine (3)
justiceforsean (88)	answers4sean (8)	vote (17)	nycleaks (35)	vaccinations (2)	covid (19)	bringbackmasks (2)
vaccine (46)	endthemandates (8)	endthemandates (14)	pfizer (35)	bigpharma (1)	vaccine (17)	fauxcine (2)

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Top URLs by County October 21 – October 27

Allegheny	Beaver + Butler	Cambria	Indiana
fxn.ws/3Dhhy1 Here's why COVID vaccine belongs on CDC list of kids' scheduled vaccines (106)	bit.ly/3eH64xl State Vaccination Requirements (1)	twitter.com/i/broadcasts/1MnxpAMbZiGO President Biden receives his updated COVID-19 vaccine and delivers remarks on the ongoing fight against the virus. (1)	pubmed.ncbi.nlm.nih.gov/34293683/ Acute autoimmune-like hepatitis with atypical anti-mitochondrial antibody after mRNA COVID-19 vaccination: A novel clinical entity? (1)
Vaccines.gov Find a COVID-19 vaccine near you (101)	reuters.com/3EIJNWK Fact Check-Preventing transmission never required for COVID vaccines' initial approval; Pfizer vax did reduce transmission of early variants (1)	Vaccines.gov Find a COVID-19 vaccine near you (1)	
wvtm13.com/article/pfizer-covid-19-vaccine-will-cost-110-130-per-dose/41736850 Pfizer: COVID-19 vaccine will cost \$110-\$130 per dose once government contracts end (49)	wvtm13.com/article/pfizer-covid-19-vaccine-will-cost-110-130-per-dose/41736850 Pfizer: COVID-19 vaccine will cost \$110-\$130 per dose once government contracts end (1)		
youtu.be/cF73gk4ex4 Vaxxed U.K. Cardiologist: Suspend mRNA Product Now (34)			
dailysceptic.org/2022/10/20/one-in-every-500-small-children-who-receive-the-pfizer-vaccine-are-hospitalised-by-it-study-finds One in Every 500 Small Children Who Receive the Pfizer Vaccine are Hospitalised By It, Study Finds (27)			

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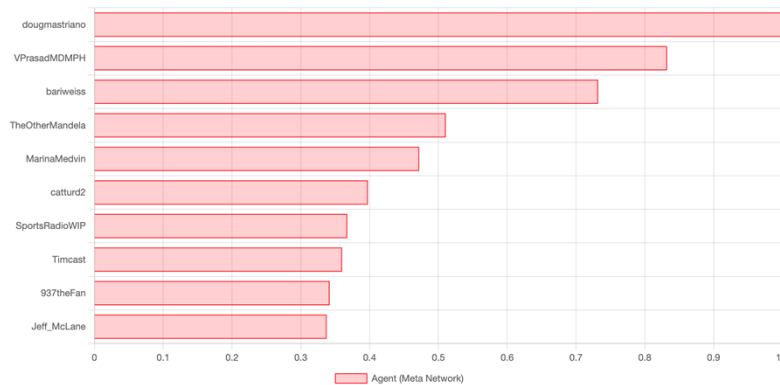


Top URLs by City October 21 - October 27

Philadelphia	Chester	Norristown	Pittsburgh	Erie	Allentown/ Bethlehem	Other
Vaccines.gov Find a COVID-19 vaccine near you (132)	wsi.com/articles/the-cdc-pushes-to-vaccinate-toddlers-again-advisory-committee-children-schedule-covid-19-risks-shot-evidence-public-health-11666529146 The CDC Pushes to Vaccinate Toddlers, Again (57)	Vaccines.gov Find a COVID-19 vaccine near you (42)	fxn.ws/3DhhhyI Here's why COVID vaccine belongs on CDC list of kids' scheduled vaccines (106)	pfizer.com/news/press-release/press-release-announce-vaccine-candidate-against-pfizer-and-biontech-announce-vaccine-candidate-against-covid-19-achieved-success-in-first-interim-analysis-from-phase-3-study-4	Vaccines.gov Find a COVID-19 vaccine near you (52)	Vaccines.gov Find a COVID-19 vaccine near you (16)
rumble.com/v1o00py-pfizer-did-not-look-at-transmission-dr-mike-yeardon-on-the-failure-of-the-p.html Pfizer did not look at transmission: Dr. Mike Yeardon on the failure of the public health function (56)	bit.ly/3eH64xl State Vaccination Requirements (25)	montcopa.org/Archive/ViewFile/Item/767 MONTGOMERY COUNTY State school immunization deadline approaching; Students face suspension if not fully vaccinated (39)	Vaccines.gov Find a COVID-19 vaccine near you (101)	theglobeandmail.com/canada/alberta/article-alberta-premier-danjelle-smith-urges-businesses-to-drop-vaccine Alberta Premier Danielle Smith urges businesses to drop vaccine policies ahead of planned change to human rights law (6)	fxn.ws/3DhhhyI Here's why COVID vaccine belongs on CDC list of kids' scheduled vaccines (36)	evanhospital.com/virus Coronavirus Update (5)
wsj.com/articles/pfizer-targets-covid-vaccine-price-of-at-least-110-a-dose-11666506203 Pfizer Targets Covid Vaccine Price of at Least \$110 a Dose (55)	Vaccines.gov Find a COVID-19 vaccine near you (17)	fxn.ws/3DhhhyI Here's why COVID vaccine belongs on CDC list of kids' scheduled vaccines (29)	wvtm13.com/article/pfizer-covid-19-vaccine-will-cost-110-130-per-dose-41736850 Pfizer: COVID-19 vaccine will cost \$110-\$130 per dose once government contracts end (49)	montcopa.org/Archive/ViewFile/Item/767 MONTGOMERY COUNTY State school immunization deadline approaching; Students face suspension if not fully vaccinated (2)	voiceforscienceandsolidarity.org/scientific-blog/unvaccinated-children-are-our-only-hope-in-generating-herd-immunity-vaccine-expert Unvaccinated Children Are 'Our Only Hope' in Generating Herd Immunity: Vaccine Expert (32)	bit.ly/3eH64xl State Vaccination Requirements (4)
wvtm13.com/article/pfizer-covid-19-vaccine-will-cost-110-130-per-dose-41736850 Pfizer: COVID-19 vaccine will cost \$110-\$130 per dose once government contracts end (54)	youtu.be/cF73gk4ex4 Vaxxed U.K. Cardiologist: Suspend mRNA Product Now (9)	dailysignal.com/2022/10/19/gop-lawmakers-call-biden-admin-reverse-covid-19-vaccine-mandate-us-coast-guard GOP Lawmakers Call on Biden Administration to Reverse COVID-19 Vaccine Mandate as 'American Hero' Faces Discharge (11)	youtu.be/cF73gk4ex4 Vaxxed U.K. Cardiologist: Suspend mRNA Product Now (34)	msn.com/en-us/health/medical/pfizer-plans-to-sell-covid-19-vaccines-for-up-to-130-per-dose-because-of-its-value/ar-AA13fduI Pfizer plans to sell COVID-19 vaccines for up to \$130 per dose because of its 'value' (2)	bit.ly/3eH64xl State Vaccination Requirements (28)	forbes.com/sites/brucelee/2022/10/19/tucker-carlson-incorrectly-claims-cdc-mandating-kids-get-covid-19-vaccine-for-school Tucker Carlson Incorrectly Claims CDC Mandating Kids Get Covid-19 Vaccine For School (4)
ncbi.nlm.nih.gov/pmc/articles/PMC8524235 Myocarditis-induced Sudden Death after BNT162b2 mRNA COVID-19 Vaccination in Korea: Case Report Focusing on Histopathological Findings (39)	dailysceptic.org/2022/10/20/one-in-every-500-small-children-who-receive-the-pfizer-vaccine-are-hospitalised-by-it-study-finds One in Every 500 Small Children Who Receive the Pfizer Vaccine are Hospitalised By It, Study Finds (8)	youtu.be/cF73gk4ex4 Vaxxed U.K. Cardiologist: Suspend mRNA Product Now (9)	dailysceptic.org/2022/10/20/one-in-every-500-small-children-who-receive-the-pfizer-vaccine-are-hospitalised-by-it-study-finds One in Every 500 Small Children Who Receive the Pfizer Vaccine are Hospitalised By It, Study Finds (27)	trib.al/30vKLMO The Nightmare COVID Variant That Beats Our Immunity Is Finally Here (2)	youtu.be/cF73gk4ex4 Vaxxed U.K. Cardiologist: Suspend mRNA Product Now (28)	axios.com/2022/10/21/pfizer-hike-cost-covid-shot-pfizer-to-charge-110-130-a-dose-for-covid-vaccines-3

Analysis of Tweepers - Super Spreaders

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

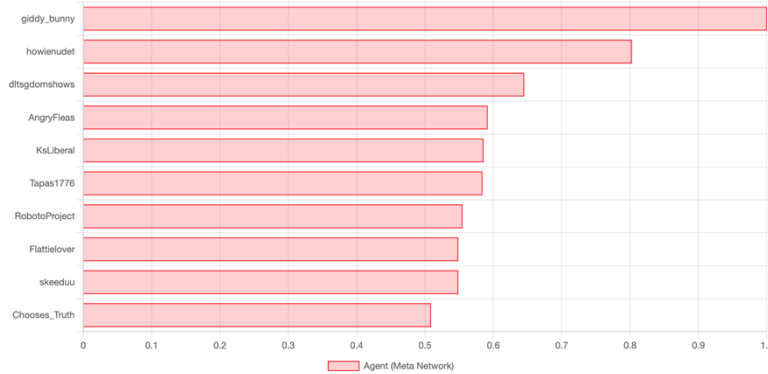


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Analysis of Tweeters - Super Friends

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

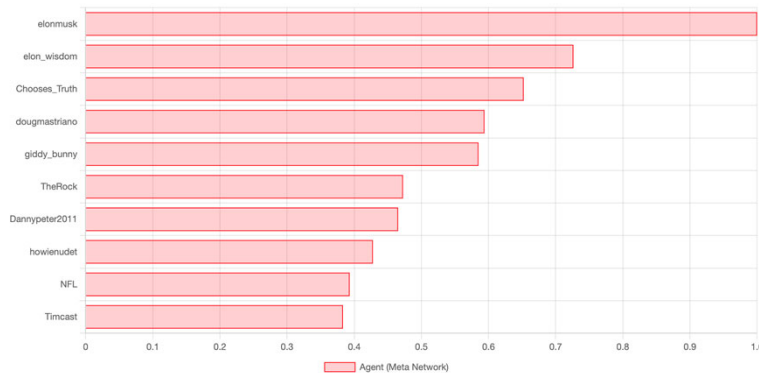


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Analysis of Tweeters - Other Influencers

❑ 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
Timcast	692
CDCgov	421
dougmastriano	376
JoshShapiroPA	345
pfizer	307
catturd2	272
POTUS	267
JackPosobiec	256
CDCDirector	229
RepThomasMassie	218
TheOtherMandela	174
bennyjohnson	167
RonJohnsonWI	164

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Trending Tweets October 21 – October 27

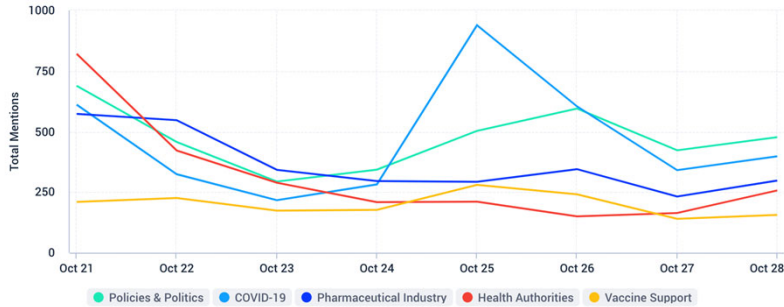
Tweets that are the most forwarded, either by retweet, reply, or quote:

- ❑ "When I'm Governor, PA will NOT mandate the COVID vaccine-no matter what the CDC says." <https://t.co/OznX8Cew4k>;
- ❑ NY State Supreme Court reinstates all fired unvaccinated employees, orders backpay, says the state violated rights, acted arbitrary & capricious, notes: "Being vaccinated does not prevent an individual from contracting or transmitting Covid-19." <https://t.co/nvOsWfa56S> <https://t.co/WhH4wje2bQ>;
- ❑ Has the Pfizer Katy Perry robot stopped malfunctioning yet?
- ❑ Every single Covid patient that I am treating in the hospital has been vaccinated, and most boosted too.
- ❑ OPINION: Here's why COVID vaccine belongs on CDC list of kids' scheduled vaccines <https://t.co/oWUW8bXrFb>;
- ❑ As long as I am Governor, in Florida there will not be a COVID-19 vaccine mandate for children in our schools. <https://t.co/oDXAj3c4Oy>;
- ❑ A scary # of kids are dying after taking the Covid vax - from myocarditis among other injuries. HOW DARE THE CDC ADD THIS TO ITS LIST OF SCHOOL VACCINATIONS? Don't listen. Be v careful w/ your teenage boys in partic but girls too. These are not honest brokers. This is dangerous!
- ❑ Respiratory viruses are on the rise across the United States. Take preventive actions to stop the spread of viruses like flu, RSV, and #COVID19: Get an updated COVID-19 vaccine & get your annual flu vaccine Stay home if you are sick Practice good hand hygiene;
- ❑ MASTRIANO STATEMENT ON CDC VACCINE MANDATE ON KIDS <https://t.co/Y8Sgh4iBcs>;
- ❑ JUST IN - CDC panel unanimously votes to add COVID-19 mRNA shots to the recommended childhood vaccine schedule in the United States. <https://t.co/D9BXgt1fqp>;
- ❑ BIDEN: "Not enough people are getting [vaccinated.] We've got to change that, so we can all have a safe and healthy holiday season." <https://t.co/TlllpDof9>;
- ❑ She got that Pfizer eye <https://t.co/KrGfQJSiHH>;
- ❑ BREAKING FOX NEWS Vaxed Cardiologist: Suspend mRNA Product Now 'I find it very difficult to believe that Pfizer executives didn't know this was going to cause significant harm' 'If this is the case then this is a global scandal' Interview here <https://t.co/SKhgD4FB4p> <https://t.co/3yj7niWTga>

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General PA Conversation October 21 – October 27

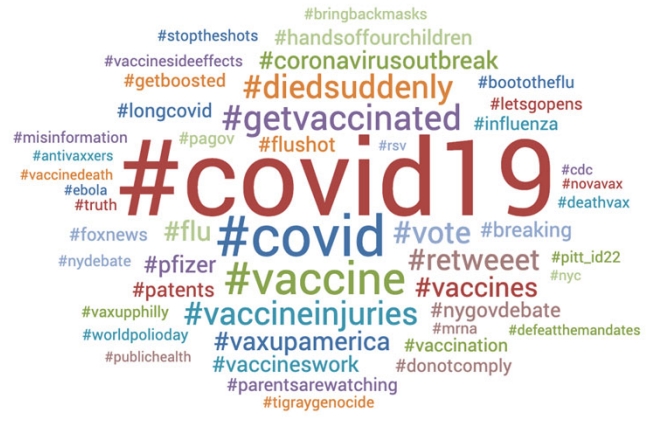


Source: VCTR Project Dashboard

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PA Hashtag Cloud October 21 – October 27

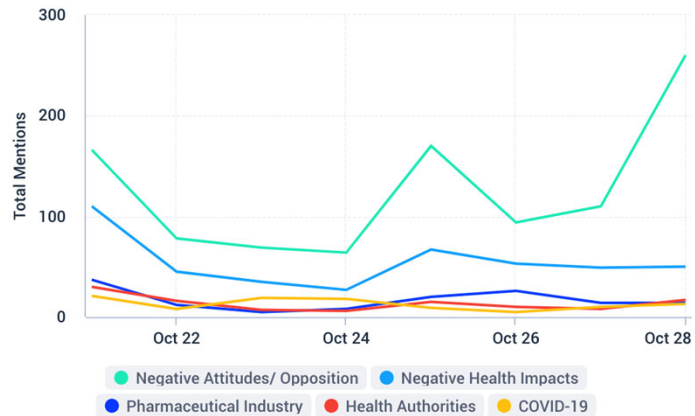


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Source: VCTR Project Dashboard



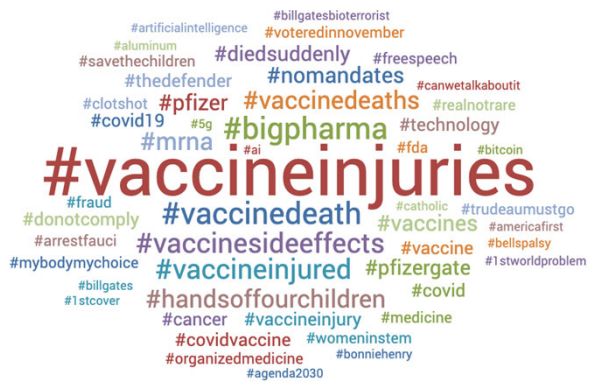
Negative Attitudes October 21 – October 27



11/14/2022 Source: VCTR Project Dashboard



Negative Hashtag Cloud October 21 – October 27



11/14/2022 Source: VCTR Project Dashboard



Trending Posts on Facebook October 21 – October 27

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Source: CrowdTangle Dashboard

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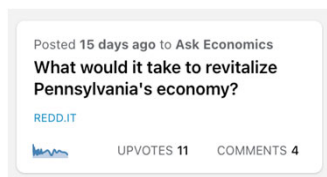
Trending Posts on Instagram October 21 – October 27

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Source: CrowdTangle Dashboard

Carnegie Mellon University

Trending Posts on Reddit October 21 – October 27



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Source: CrowdTangle Dashboard



Measures for countering health disinformation

- Anti-vaccine narratives are still pervasive on social media, while there are not that many counter-narratives about the positive effects of vaccines;
- There is a need for a reframing of social media as a medically and socially valuable resource and platform because of its high impact on society;
- Healthcare organizations need to implement social media strategies to create and expand conversations countering disinformation on social media;
- It would be helpful for health communicators to cooperate with local influencers who could spread pro-vaccination messages. Another strategy could be to motivate health practitioners to use social media as a channel for communication with the public;
- "Strategies focused on meaningfully and safely engaging HCPs on social media, promoting interconnectivity across the medical and public health communities on COVID-19 vaccine truths, and sustaining these messaging efforts across vaccine implementation stages will be our best hope of preventing any more missed doses and promoting "misinformation immunity" for all." (Hernandez et al. 2021. "The COVID-19 vaccine social media infodemic: healthcare providers' missed dose in addressing misinformation and vaccine hesitancy.")

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Measures for countering health disinformation

- ❑ As a trusted source of information on vaccines, family physicians play a crucial role in driving vaccine acceptance;
- ❑ Sharing stories, building trust with patients, addressing pain associated with vaccination, presenting vaccination as the default approach early on, focusing on the benefits of protection, and being honest about side effects could also help to promote pro-vaccination attitudes (Shen & Dubey 2019. “Addressing vaccine hesitancy: Clinical guidance for primary care physicians working with parents”);
- ❑ It is helpful to provide more information for the patients about the possible disinformation strategies they may deal with, such as manipulating emotions to promote misinformation and conspiracy theories to sow confusion and create division. Inoculation strategy may help to prepare the community by presenting counterarguments to misinformation and raising awareness of negative emotional appeals spread by anti-vaccine campaigns;
- ❑ Framing vaccination as a concrete, actionable strategy to reduce COVID-19 risk may help to address negative emotions, increase self-efficacy and ensure the feelings of control over reducing COVID-19 risk.

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