

PA Vaccine Conversations on Twitter

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Vaccine Hesitancy Project Update based on September 16, 2022 – September 22, 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 September 16 – September 22

- ❑ Mandates, Masks, Employees, Boosters are trending this week;
- ❑ Trending stories: [cbsn.ws/3DDT4D9](https://www.cbsn.ws/3DDT4D9) President Joe Biden: The 2022 60 Minutes Interview; [latimes.com/opinion/story/2022-09-19/covid-vaccine-booster-biden-pandemic-is-over](https://www.latimes.com/opinion/story/2022-09-19/covid-vaccine-booster-biden-pandemic-is-over) Op-Ed: No, Mr. President, the pandemic isn't over; [mdpi.com/2227-9059/10/7/1538](https://www.mdpi.com/2227-9059/10/7/1538) Vaccine mRNA Can Be Detected in Blood at 15 Days Post-Vaccination; [npr.org/2022/09/19/1153811111](https://www.npr.org/2022/09/19/1153811111) J&J tried to block lawsuits from 40,000 cancer patients. A court wants answers; [nbcnews.com/health/covid-19/covid-19-cases-among-children-increase-as-school-starts-rcna123456](https://www.nbcnews.com/health/covid-19/covid-19-cases-among-children-increase-as-school-starts-rcna123456) Covid-19 cases among children increase as school starts;
- ❑ Popular anti-vax tweets: Tomi Lahren just said she is “proud” to be “unvaccinated.” Tomi is a Fox News employee. All employees at Fox News are legally required to be vaccinated, or they are not allowed in the Fox News studio to record. Tomi is lying for profit — as does every single anchor at Faux News; If I can work and be unvaccinated, then all of my brothers and sisters who are also unvaccinated should be able to do the same, without being discriminated against, vilified, or fired.
⊗ This enforced Vaccine/Pandemic is one the biggest violations of HUMAN RIGHTS in history; Biden declared the pandemic is over. So, when will he let those discharged from the military due to vax mandates return to protecting our country?; Not vaccinated and still alive



Popular anti-vax stories sorted by the number of retweets

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

- ❑ [theifstandard.com/vaccine-narrative-collapses-as-harvard-study-shows-jab-more-dangerous-than-covid](https://www.theifstandard.com/vaccine-narrative-collapses-as-harvard-study-shows-jab-more-dangerous-than-covid) Vaccine Narrative Collapses as Harvard Study Shows Jab More Dangerous than COVID
- ❑ [tmz.com/2022/09/20/kyrie-irving-covid-vaccine-mandate-pandemic-human-rights-violations-nba](https://www.tmz.com/2022/09/20/kyrie-irving-covid-vaccine-mandate-pandemic-human-rights-violations-nba) KYRIE IRVING On COVID-19 Vax Mandates: 'BIGGEST VIOLATIONS OF HUMAN RIGHTS'
- ❑ [dailysceptic.org/2022/09/14/cdc-admits-it-falsely-claimed-it-was-monitoring-vaccine-safety-but-still-wont-release-the-full-data](https://www.dailysceptic.org/2022/09/14/cdc-admits-it-falsely-claimed-it-was-monitoring-vaccine-safety-but-still-wont-release-the-full-data) CDC Admits it Falsely Claimed it Was Monitoring Vaccine Safety – But Still Won't Release the Full Data
- ❑ [theepochtimes.com/covid-19-vaccine-effectiveness-estimated-to-turn-negative-over-time-in-children-study_4730006.html](https://www.theepochtimes.com/covid-19-vaccine-effectiveness-estimated-to-turn-negative-over-time-in-children-study_4730006.html) COVID-19 Vaccine Effectiveness Estimated to Turn Negative Over Time in Children: Study
- ❑ [childrenshealthdefense.org/defender/biden-covid-pandemic-over-vaccine-mandates-federal-health-emergency](https://www.childrenshealthdefense.org/defender/biden-covid-pandemic-over-vaccine-mandates-federal-health-emergency) Biden Declares 'Pandemic Is Over,' Prompting Calls for End to 'Absurd' Vaccine Mandates, Federal Health Emergency



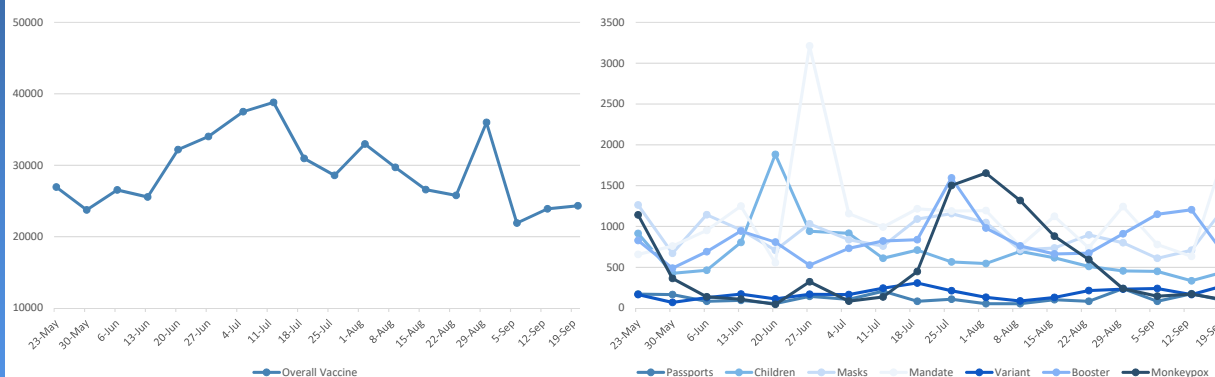
Countering disinformation September 16 – September 22

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

- ❑ Fact Check-Germany has not halted administration of all COVID-19 vaccines
<https://www.reuters.com/article/factcheck-germany-vaccines-idUSL1N30M0SH>
- ❑ Fact Check-Vaccine-effectiveness study does not show 'negative immunity' or harm to the immune system
<https://www.reuters.com/article/factcheck-covidvaccine-nejm-study-idUSL1N30N1GB>
- ❑ Fact check: Misinterpretation leads to false claim about Pfizer's COVID-19 vaccine and pregnancy
<https://www.usatoday.com/story/news/factcheck/2022/09/22/fact-check-false-claim-pfizers-covid-19-vaccine-and-pregnancy/10427057002/>;
- ❑ Posts continue to misrepresent VAERS COVID-19 vaccine data <https://apnews.com/article/fact-check-covid-vaers-data-misrepresented-734354810823>;
- ❑ Q&A on Omicron-Updated COVID-19 Boosters <https://www.factcheck.org/2022/09/scicheck-qa-on-omicron-updated-covid-19-boosters/>



Trends (tweets per week in PA) September 16 – September 22



High Level View by City September 16 – September 22

	Total PA	Philadelphia		Pittsburgh		Erie		Allentown/Bethlehem		Other	
Conversation	Tweets	Tweets	%	Tweets	%	Tweets	%	Tweets	%	Tweets	%
Overall Vaccine	21214	9852	46.4%	7418	35.0%	207	1.0%	2661	12.5%	1076	5.1%
Vaccine Passports	88	49	0.5%	27	0.4%	2	1.0%	7	0.3%	3	0.3%
FDA Approval	17	6	0.1%	5	0.1%			5	0.2%	1	0.1%
Boosters	622	324	3.3%	155	2.1%	10	4.8%	84	3.2%	49	4.6%
Employees	823	246	2.5%	503	6.8%	5	2.4%	52	2.0%	17	1.6%
"Experimental"	72	31	0.3%	25	0.3%			15	0.6%	1	0.1%
Children	321	167	1.7%	77	1.0%	4	1.9%	59	2.2%	14	1.3%
Myocarditis	123	66	0.7%	33	0.4%			22	0.8%	2	0.2%
Heart	243	114	1.2%	53	0.7%	5	2.4%	60	2.3%	11	1.0%
Masks	1246	395	4.0%	613	8.3%	10	4.8%	137	5.1%	91	8.5%
Thrombosis/VITT	5	2	0.0%	2	0.0%			1	0.0%		
Mandates	1943	907	9.2%	602	8.1%	24	11.6%	343	12.9%	67	6.2%
Natural Immunity	166	141	1.4%	21	0.3%			4	0.2%		
Efficacy	132	118	1.2%	7	0.1%			6	0.2%	1	0.1%
Omicron	281	194	2.0%	56	0.8%			24	0.9%	7	0.7%
Delta Variant	39	22	0.2%	8	0.1%			4	0.2%	5	0.5%
Race	498	270	2.7%	147	2.0%	1	0.5%	68	2.6%	12	1.1%
Ivermectin	19	8	0.1%	5	0.1%	1	0.5%	4	0.2%	1	0.1%
Military	688	233	2.4%	313	4.2%	11	5.3%	117	4.4%	14	1.3%
Breakthrough	6	3	0.0%					2	0.1%	1	0.1%

Conversation topics trending this week over last:

- Mandates
 - Employee
 - Military
- Masking
- Efficacy



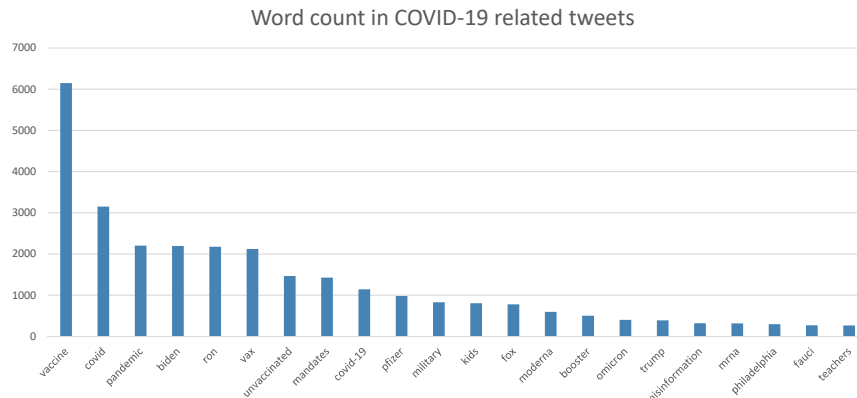
High Level View by County September 16 – September 22

County	Allegheny	Beaver	Butler	Cambria	Fayette	Indiana	Somerset	Westmoreland
Overall Vaccine	7616	24	23	13	22	8	6	52
Vaccine Passports	27					2		
FDA	5							
Boosters	167		2	1	1		1	3
Employees	506							
"Experimental"	25							
Children	82					1		
Myocarditis	34							
Heart	55							
Masks	626	1	3	1	3			3
Thrombosis/VITT	2							
Mandates	615	1	3	1		3		1
Natural Immunity	21							
Efficacy	8							
Omicron	57							
Delta Variant	10							
Race	150	2	1					1
Ivermectin	6							
Military	316							2
Breakthrough								

- 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 September 16 – September 22



Top Hashtags by County September 16 – September 22

□ 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	Cambria	Indiana
covid19 (92)	maskup (1)	novaccinemandates (2)
vaccine (28)		novaccinepassports (2)
trudeauhasgottogo (25)		vaxxmandates (1)
pfizer (18)		
fauci (16)		



Top Hashtags by City September 16 – September 22

- ❑ 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 (107)	covid19 (8)	trudeaumustgo (42)	covid19 (92)	covid19 (4)	covid19 (51)	covid19 (9)
endthemandates (99)	fauci (5)	wecandothis (22)	vaccine (28)	trudeaumustgo (4)	wecandothis (23)	trudeaumustgo (6)
trudeaumustgo (92)	pfizer (4)	covid19 (17)	trudeauhasgottogo (25)	proudblue22 (3)	vaccine (14)	abortion (2)
vaccinesideeffects (41)	iamnotmisinformati on (3)	biotech (14)	pfizer (18)	bluevoices (2)	iamnotmisinformati on (12)	covidisnotover (2)
pandemic (35)	trudeauhasgottogo (3)	fauci (9)	fauci (16)	wisen (2)	pfizer (12)	novaccinemandates (2)



Top URLs by County September 16 – September 22

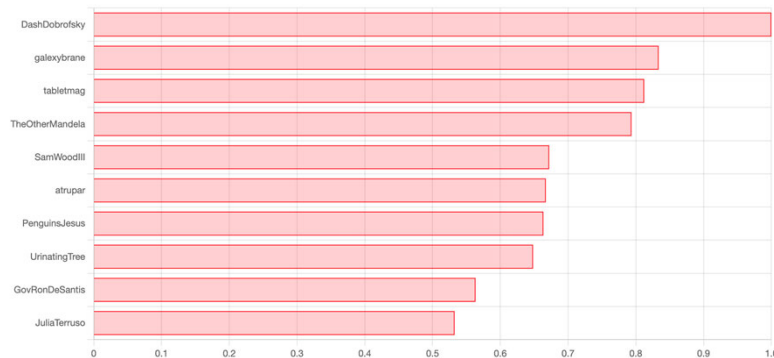
Allegheny	Beaver + Butler	Cambria	Indiana	Somerset	Moreland
chsn.ws/3DDT4D9 President Joe Biden: The 2022 60 Minutes Interview (86)	foxnews.com/politics/members-congress-demand-answers-austin-blanket-denial-religious-vaccine-accommodations Members of Congress demand answers from Austin over 'blanket denial' of religious vaccine accommodations (1)	thepostmillennial.com/us-marines-quietly-stop-punishing-troops-that-refuse-covid-vaccine US Marines quietly stop punishing troops that refuse Covid vaccine (1)	jeremyhammond.com/2022/09/19/the-alarming-consequences-of-covid-19-vaccines-for-children The Alarming Consequences of COVID-19 Vaccines for Children (1)	inquirer.com/philly/health/addiction/Dr-Oz-at-Phillys-heroin-encampments-I-just-walked-into-hell.html Dr. Oz at Philly's heroin encampments: 'I just walked into hell' (1)	fortune.com/well/2022/09/20/bf-7-new-covid-subvariant-rising-in-united-states-us-omicron-centaurus Just in time for fall, there's a brand-new COVID variant making headway in the U.S. (1)
latimes.com/opinion/story/2022-09-19/covid-vaccine-booster-biden-pandemic-is-over Op-Ed: No, Mr. President, the pandemic isn't over (66)	rawstory.com/ron-johnson-white-supremacy Ron Johnson accidentally says 'I condone' white supremacy in 'all-time Freudian slip' (1)		stripes.com/covid/2022-09-20/national-guard-recruiting-coronavirus-benefits-7409163.html National Guard could lose up to 14,000 soldiers in next two years because of COVID vaccine mandate (1)	mn.gov/covid19/vaccine/find-vaccine/community-vaccination-program/index.jsp COVID-19 Community Vaccination Program (1)	kidshealth.org/en/parents/immune.html Immune System (1)
theistandard.com/vaccine-narrative-collapses-as-harvard-study-shows-jab-more-dangerous-than-covid Vaccine Narrative Collapses as Harvard Study Shows Jab More Dangerous than COVID (45)	foxhalthmore.com/news/nation-world/scientists-want-to-study-people-who-havent-contracted-covid-19-yet-coronavirus-pandemic-disease-illness-super-dodger-symptoms-cough-headache-fever-shortness-of-breath-infection-fighting-cells Scientists want to study people who have yet to get COVID-19 (1)		trib.al/3agW5LJ NYC fires another 850 teachers and teaching aides after they failed to get the COVID vaccine by September 5 deadline - bringing total to 1,950 terminated by department of education since vaccine mandate took effect (1)	washingtonexaminer.com/restoring-america/fairness-justice/defund-the-police-aftermath-fewer-officers-across-us 'Defund the police' aftermath means fewer officers on job across US (1)	nejm.org/doi/full/10.1056/nejmoa2110475 Safety of the BNT162b2 mRNA Covid-19 Vaccine in a Nationwide Setting (1)
theepochtimes.com/covid-19-vaccine-effectiveness-estimated-to-turn-negative-over-time-in-children-study-4730006.html COVID-19 Vaccine Effectiveness Estimated to Turn Negative Over Time in Children: Study (39)					vaccines.gov Find a COVID-19 vaccine near you (1)
tmz.com/2022/09/20/kyrie-irving-covid-vaccine-mandate-pandemic-human-rights-violations-nba KYRIE IRVING On COVID-19 Vax Mandates: 'BIGGEST VIOLATIONS OF HUMAN RIGHTS' (28)					

Top URLs by City September 16 – September 22

Philadelphia	Chester	Norristown	Pittsburgh	Erie	Allentown/ Bethlehem	Other
twitter.com/leezeldin/status/1570929432944324609 Kathy Hochul gave a no-bid contract worth over \$600M to a top campaign donor and paid twice the price for the COVID tests. This needs to be investigated. Her campaign donor was the middle man on the deal, but there was no need for a middle man with a massively marked up cost. (76)	nbcnews.to/3qmwQhk Covid-19 cases among children increase as school starts (12)	theifstandard.com/vaccine-narrative-collapses-as-harvard-study-shows-jab-more-dangerous-than-covid Vaccine Narrative Collapses as Harvard Study Shows Jab More Dangerous than COVID (33)	chsn.ws/3DDT4D9 President Joe Biden: The 2022 60 Minutes Interview (86)	goerie.com/story/news/coronavirus/2022/09/16/covid-19-cases-stable-erie-county-new-vaccine-boosters-available/69491540007 COVID-19 case totals remain stubbornly stable in Erie County, though few get seriously ill (3)	theepochtimes.com/covid-19-vaccine-effectiveness-estimated-to-turn-negative-over-time-in-children-study-4730006.html COVID-19 Vaccine Effectiveness Estimated to Turn Negative Over Time in Children: Study (30)	theifstandard.com/vaccine-narrative-collapses-as-harvard-study-shows-jab-more-dangerous-than-covid Vaccine Narrative Collapses as Harvard Study Shows Jab More Dangerous than COVID (6)
theifstandard.com/vaccine-narrative-collapses-as-harvard-study-shows-jab-more-dangerous-than-covid Vaccine Narrative Collapses as Harvard Study Shows Jab More Dangerous than COVID (51)	tmz.com/2022/09/20/kylie-irving-covid-vaccine-mandate-pandemic-human-rights-violations-nba KYRIE IRVING On COVID-19 Vax Mandates: BIGGEST VIOLATIONS OF HUMAN RIGHTS' (12)	chsn.ws/3DDT4D9 President Joe Biden: The 2022 60 Minutes Interview (13)	latimes.com/opinion/story/2022-09-19/covid-vaccine-boosters-biden-pandemic-is-over Op-Ed: No, Mr. President, the pandemic isn't over (66)	theifstandard.com/vaccine-narrative-collapses-as-harvard-study-shows-jab-more-dangerous-than-covid Vaccine Narrative Collapses as Harvard Study Shows Jab More Dangerous than COVID (3)	theifstandard.com/vaccine-narrative-collapses-as-harvard-study-shows-jab-more-dangerous-than-covid Vaccine Narrative Collapses as Harvard Study Shows Jab More Dangerous than COVID (27)	evanhospital.com/virus Coronavirus Update (5)
tmz.com/2022/09/20/kylie-irving-covid-vaccine-mandate-pandemic-human-rights-violations-nba KYRIE IRVING On COVID-19 Vax Mandates: BIGGEST VIOLATIONS OF HUMAN RIGHTS' (51)	dailyseptic.org/2022/09/14/dc-admits-it-falsely-claimed-it-was-monitoring-vaccine-safety-but-still-wont-release-the-full-data CDC Admits It Falsely Claimed it Was Monitoring Vaccine Safety – But Still Won't Release the Full Data (11)	mdpi.com/2227-9059/10/7/1538 Vaccine mRNA Can Be Detected in Blood at 15 Days Post-Vaccination (8)	theifstandard.com/vaccine-narrative-collapses-as-harvard-study-shows-jab-more-dangerous-than-covid Vaccine Narrative Collapses as Harvard Study Shows Jab More Dangerous than COVID (45)	bit.ly/3BFH42K Securing Adequate Polio Vaccine Supply Post Eradication Requires Action Now (2)	cnn.com/2022/09/18/politics/biden-pandemic-60-minutes/index.html Biden: The pandemic is over' (18)	theepochtimes.com/covid-19-vaccine-effectiveness-estimated-to-turn-negative-over-time-in-children-study-4730006.html COVID-19 Vaccine Effectiveness Estimated to Turn Negative Over Time in Children: Study (5)
mdpi.com/2227-9059/10/7/1538 Vaccine mRNA Can Be Detected in Blood at 15 Days Post-Vaccination (44)	theifstandard.com/vaccine-narrative-collapses-as-harvard-study-shows-jab-more-dangerous-than-covid Vaccine Narrative Collapses as Harvard Study Shows Jab More Dangerous than COVID (10)	t.me/unvaccinatedfreedom Telegram group (8)	theepochtimes.com/covid-19-vaccine-effectiveness-estimated-to-turn-negative-over-time-in-children-study-4730006.html COVID-19 Vaccine Effectiveness Estimated to Turn Negative Over Time in Children: Study (39)	childrenshealthdefense.org/debater/biden-covid-pandemic-over-vaccine-mandates-federal-health-emergency Biden Declares 'Pandemic Is Over,' Prompting Calls for End to 'Absurd' Vaccine Mandates, Federal Health Emergency (2)	latimes.com/opinion/story/2022-09-19/covid-vaccine-boosters-biden-pandemic-is-over Op-Ed: No, Mr. President, the pandemic isn't over (7)	tmz.com/2022/09/20/kylie-irving-covid-vaccine-mandate-pandemic-human-rights-violations-nba KYRIE IRVING On COVID-19 Vax Mandates: BIGGEST VIOLATIONS OF HUMAN RIGHTS' (5)
n.pr/3BTaP91 [J8] tried to block lawsuits from 40,000 cancer patients. A court wants answers (38)	vaccines.gov/ (5)	theepochtimes.com/covid-19-vaccine-effectiveness-estimated-to-turn-negative-over-time-in-children-study-4730006.html COVID-19 Vaccine Effectiveness Estimated to Turn Negative Over Time in Children: Study (8)	tmz.com/2022/09/20/kylie-irving-covid-vaccine-mandate-pandemic-human-rights-violations-nba KYRIE IRVING On COVID-19 Vax Mandates: BIGGEST VIOLATIONS OF HUMAN RIGHTS' (28)	rawstory.com/ron-johnson-white-supremacy Ron Johnson accidentally says 'I condone' white supremacy in 'all-time Freudian slip' (2)	openvaers.com/index.php VAERS system (7)	zerohedge.com/covid-19/us-marine-corps-quietly-drops-punishments-refusing-covid-19-vaccine US Marine Corps Quietly Drops Punishments For Refusing Covid-19 Vaccine (3)

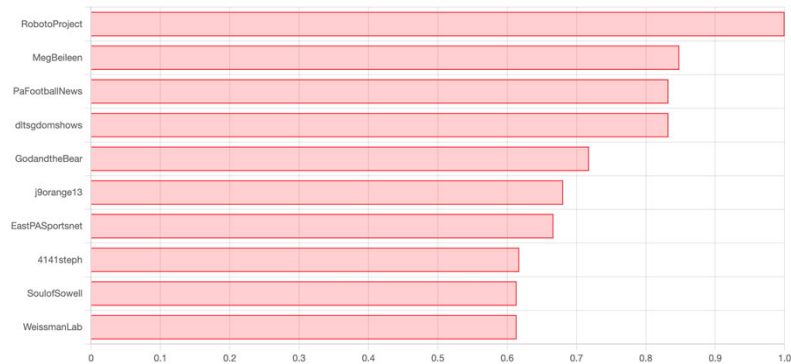
Analysis of Tweepers - Super Spreaders

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



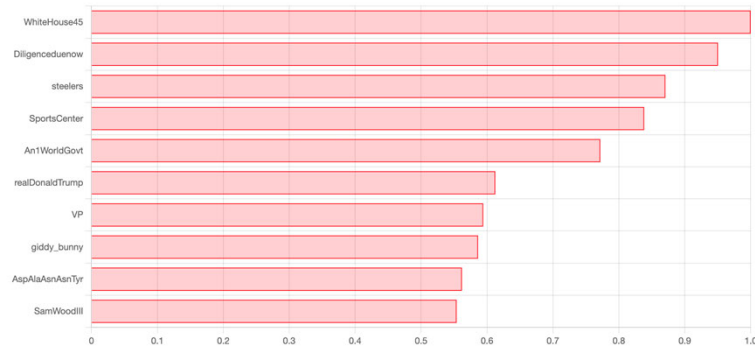
Analysis of Tweeters - Super Friends

- ❑ 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.



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
SamWoodIII	435
TomCottonAR	423
pfizer	168
DrOz	157
RepThomasMassie	154
steelers	148
TheOtherMandela	144
POTUS	120
JustinTrudeau	119
NYCMayor	115
GovKathyHochul	111
hmsnofun	107
GovRonDeSantis	106



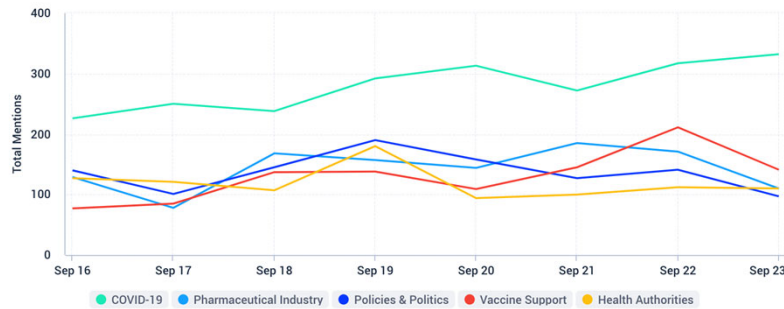
Trending Tweets September 16 – September 22

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

- ❑ Tomi Lahren just said she is “proud” to be “unvaccinated.” Tomi is a Fox News employee. All employees at Fox News are legally required to be vaccinated, or they are not allowed in the Fox News studio to record. Tomi is lying for profit — as does every single anchor at Faux News;
- ❑ quite the slip from Ron Johnson here <https://t.co/0zweRhruIX>;
- ❑ Oz is now in Kensington where he just picked up a needle as he talked about the drug crisis here with barber shop owner Jose Alicea-Muniz. <https://t.co/WglXHIQqAE>;
- ❑ Biden: “The pandemic is over.” <https://t.co/e06enYWqDq>;
- ❑ If I can work and be unvaccinated, then all of my brothers and sisters who are also unvaccinated should be able to do the same, without being discriminated against, vilified, or fired. © This enforced Vaccine/Pandemic is one the biggest violations of HUMAN RIGHTS in history;
- ❑ Biden declared the pandemic is over. So, when will he let those discharged from the military due to vax mandates return to protecting our country?
- ❑ How about: LGBTQ+ folks mobilized & demanded help We didn't sit around waiting for the government to get its shit together. We organized vaxx events at our *bars* we told our friends, many abstained from sex while waiting to get vaxxed just like we had to do in the 80s & 90s <https://t.co/19B7csXbHA>;
- ❑ Ron Johnson will not stand up and fight for marriage equality. So this November, we will vote Ron out.
- ❑ Is there a vaccine that prevents acute pedophilia?? <https://t.co/T6nuDlCKgY>;
- ❑ Not vaccinated and still alive;
- ❑ Vax niggas need to be careful with the preworkout or they gonna end up working out with the Queen;
- ❑ Because the vaccinated go to heavens? <https://t.co/7ThaNKwPXY>
- ❑ NEW: President Biden said he believes the Covid-19 pandemic is “over” during his 60 Minutes interview. Any remaining mask and vaccine mandate should be null and void immediately. Future vaccines, treatments, tests should undergo complete FDA review and not expedited under EUA.



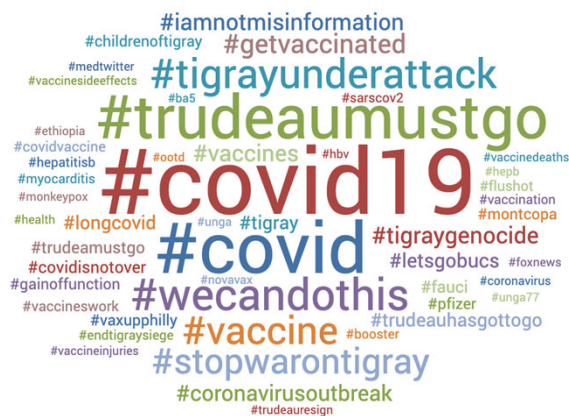
General PA Conversation September 16 – September 22



Source: VCTR Project Dashboard



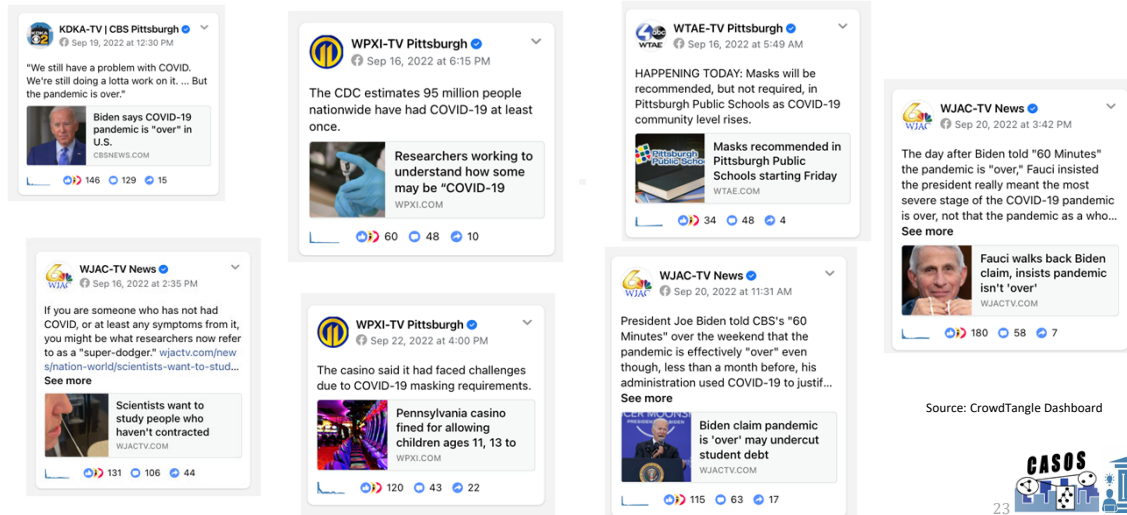
PA Hashtag Cloud September 16 – September 22



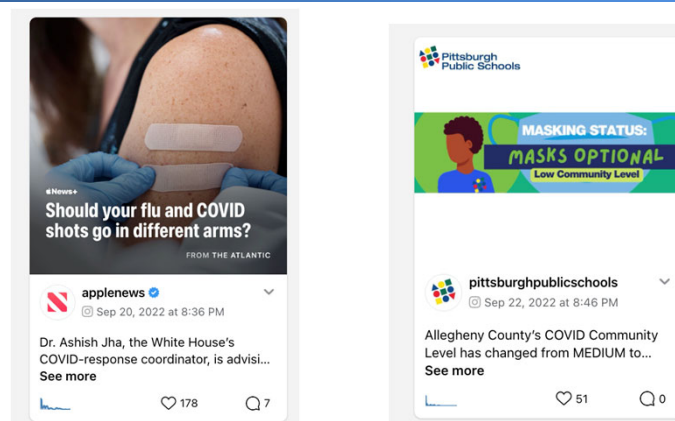
Source: VCTR Project Dashboard



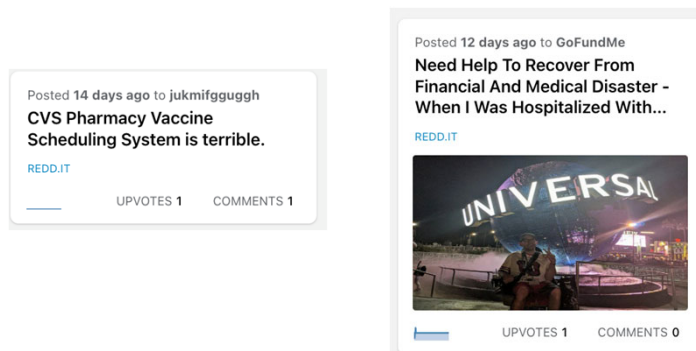
Trending Posts on September 16 – September 22



Trending Posts on Instagram September 16 – September 22



Trending Posts on Reddit September 16 – September 22



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.")



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.



For More Information

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- ❑ Social Cybersecurity Working Group - <http://social-cybersecurity.org>
- ❑ Facebook: [@IDEasCMU](https://www.facebook.com/IDEasCMU)
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- ❑ YouTube: [IDEaSCMU](https://www.youtube.com/IDEaSCMU)
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