

# PA Vaccine Conversations on Twitter

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Vaccine Hesitancy Project Update based on March 18, 2022 – March 24, 2022

The CMU centers for:

Informed DEMocracy And Social cyber-security

Computational Analysis of Social and Organizational Systems



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1

## 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.

4/5/2022



2

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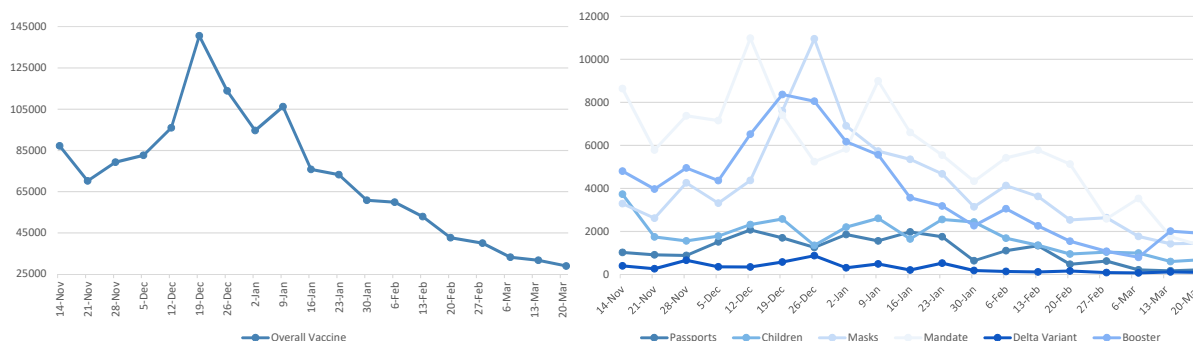
## Report Overview March 18 – March 24

- ❑ This week's trending stories cover Boosters, Masks, Mandates, Side effects from vaccine, Breakthrough infections, Ivermectin, Children, Passports;
- ❑ Trending stories: [washingtonpost.com/health/2022/03/22/funding-fourth-vaccine-doses/](https://www.washingtonpost.com/health/2022/03/22/funding-fourth-vaccine-doses/) White House officials say U.S. has exhausted funds to buy potential fourth vaccine dose for all Americans; [wsj.com/articles/ivermectin-didnt-reduce-covid-19-hospitalizations-in-largest-trial-to-date-11647601200](https://www.wsj.com/articles/ivermectin-didnt-reduce-covid-19-hospitalizations-in-largest-trial-to-date-11647601200) Ivermectin Didn't Reduce Covid-19 Hospitalizations in Largest Trial to Date; [thestar.com/news/investigations/2022/03/19/how-vaccination-status-might-predict-views-on-the-russian-invasion-of-ukraine.html](https://www.thestar.com/news/investigations/2022/03/19/how-vaccination-status-might-predict-views-on-the-russian-invasion-of-ukraine.html) How vaccination status might predict views on the Russian invasion of Ukraine; [apnews.com/GRs2XWY](https://apnews.com/GRs2XWY) Moderna says its low-dose COVID shots work for kids under 6;
- ❑ Anti-vax, disinformation, and vaccine hesitancy stories: trending tweet "Whoops, we counted too many deaths as COVID deaths." "Whoops, the vaccine doesn't stop the spread." "Whoops, it also wears off in about 15 minutes." "Whoops, other treatments might actually work." None of this was an accident. Don't buy any of this "whoops" crap; discussion around Marjorie Taylor Greene: "JUST IN: Marjorie Taylor Greene just went on the House floor to attack COVID vaccines by claiming she has "never seen the CDC" recommend a 2nd and 3rd shot for polio. Actually, the CDC recommends FOUR doses of the polio vaccine — at 2 months, 4 months, 6-18 months, and 4-6 years;" [news.yahoo.com/rep-marjorie-taylor-greene-makes-090922615.html](https://news.yahoo.com/rep-marjorie-taylor-greene-makes-090922615.html) Rep. Marjorie Taylor Greene Makes Her Most Ignorant Vaccine Claim Yet

4/5/2022



## Trends (tweets per week) March 18 – March 24



4/5/2022



## High Level View by City March 18 – March 24

	Total PA	Philadelphia		Pittsburgh		Erie		Allentown/Bethlehem		Other	
Conversation	Tweets	Tweets	%	Tweets	%	Tweets	%	Tweets	%	Tweets	%
Overall Vaccine	24248	11962	49.3%	8102	33.4%	211	0.9%	2788	11.5%	1185	4.9%
Vaccine Passports	216	111	0.9%	61	0.8%	1	0.5%	36	1.3%	7	0.6%
FDA Approval	57	30	0.3%	11	0.1%	2	0.9%	9	0.3%	5	0.4%
Boosters	905	473	4.0%	219	2.7%	4	1.9%	143	5.1%	66	5.6%
Employees	173	83	0.7%	72	0.9%			7	0.3%	11	0.9%
"Experimental"	68	30	0.3%	23	0.3%	1	0.5%	12	0.4%	2	0.2%
Children	505	279	2.3%	122	1.5%	4	1.9%	58	2.1%	42	3.5%
Myocarditis	77	42	0.4%	20	0.2%			14	0.5%	1	0.1%
Heart	346	189	1.6%	83	1.0%	3	1.4%	59	2.1%	12	1.0%
Masks	1414	739	6.2%	321	4.0%	23	10.9%	192	6.9%	139	11.7%
Thrombosis/VITT	49	35	0.3%	5	0.1%			8	0.3%	1	0.1%
Mandates	1169	667	5.6%	320	3.9%	4	1.9%	109	3.9%	69	5.8%
Natural Immunity	133	76	0.6%	34	0.4%			18	0.6%	5	0.4%
Efficacy	71	36	0.3%	13	0.2%	1	0.5%	17	0.6%	4	0.3%
Omicron	195	97	0.8%	43	0.5%	3	1.4%	35	1.3%	17	1.4%
Delta Variant	87	44	0.4%	19	0.2%			12	0.4%	12	1.0%
Race	530	253	2.1%	170	2.1%	7	3.3%	69	2.5%	31	2.6%
Ivermectin	111	46	0.4%	30	0.4%	1	0.5%	26	0.9%	8	0.7%
Military	68	29	0.2%	29	0.4%			10	0.4%		
Breakthrough	94	63	0.5%	14	0.2%			14	0.5%	3	0.3%

4/5/2022

- Conversation topics trending this week over last
  - Breakthrough infections
  - Ivermectin
  - Children
  - Passports



## High Level View by County March 18 – March 24

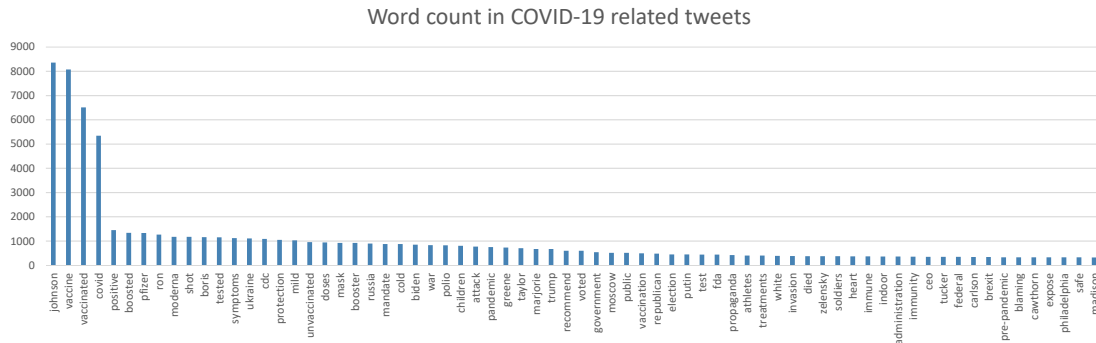
County	Allegheny	Beaver	Butler	Cambria	Fayette	Indiana	Somerset	Westmoreland
Overall Vaccine	8380	19	18	7	11	7	2	26
Vaccine Passports	61							1
FDA	13							
Boosters	235	1						6
Employees	80							2
"Experimental"	24							
Children	139	1			1			1
Myocarditis	21							
Heart	85	1						
Masks	347		1	6	1	1		5
Thrombosis/VITT	5							
Mandates	348	1						4
Natural Immunity	35		1					
Efficacy	14							
Omicron	48							
Delta Variant	22					2		
Race	176							
Ivermectin	30	1	1		1	1		
Military	29							
Breakthrough	14							

4/5/2022

- 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 March 18 – March 24



4/5/2022



## Top Hashtags by County March 18 – March 24

- ❑ 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	Fayette	West Moreland
russianronjohnson (293)	russianronjohnson (1)	talonsup (1)	russianronjohnson (1)	fauciliedpeople died (1)
covid19 (116)	science (1)			grownish (1)
springstatement (56)	marchmadness (1)			pittsburgh (1)
pfizer (35)	mustbethemask (1)			
vaccinesideeffects (28)				

4/5/2022



## Top Hashtags by City March 18 – March 24

- ❑ 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 (153)	notoforcedvaccinesfor gatherings (58)	pmqs (38)	russianronjohnson (292)	russianronjohnson (7)	russianronjohnson (56)	covid19 (28)
russianronjohnson (122)	russianronjohnson (14)	covid19 (29)	covid19 (101)	bills (3)	covid19 (47)	russianronjohnson (14)
longcovid (79)	pfizer (13)	partygate (19)	steelers (94)	democratsdeliver (3)	pfizer (14)	pghtransit (11)
vaxupphilly (47)	vaccine (13)	russianronjohnson (19)	springstatement (56)	ukraine (3)	bills (13)	vaccine (11)
vaccineequity (46)	bioweapon (8)	energycrisis (14)	nfl (54)	billsmafia (2)	longcovid (12)	pfizer (8)

4/5/2022



## Top URLs by County March 18 – March 24

Allegheny	Butler + Beaver	Fayette	Indiana	West Moreland
<a href="https://www.thetimes.co.uk/article/boris-johnson-sorry-comparing-ukraine-war-brexit-vote-rishi-sunak-lhhwjccm">thetimes.co.uk/article/boris-johnson-sorry-comparing-ukraine-war-brexit-vote-rishi-sunak-lhhwjccm</a> Johnson doesn't think Ukraine is comparable to Brexit, insists Rishi Sunak (32)	<a href="https://bit.ly/3ldwPuy">bit.ly/3ldwPuy</a> Support and Information for Those Newly Diagnosed with Metastatic Breast Cancer (1)	<a href="https://newsandguts.com/wsi-anti-parasitic-drug-didnt-reduce-covid-19-hospitalizations">newsandguts.com/wsi-anti-parasitic-drug-didnt-reduce-covid-19-hospitalizations</a> WSJ: Anti-Parasitic Drug Didn't Reduce COVID-19 Hospitalizations (1)	<a href="https://news.sky.com/story/crackdown-on-lawfare-from-oligarchs-and-super-rich-promised-by-boris-johnson-12567998">news.sky.com/story/crackdown-on-lawfare-from-oligarchs-and-super-rich-promised-by-boris-johnson-12567998</a> Crackdown on 'lawfare' from oligarchs and super-rich promised by Boris Johnson (1)	<a href="https://bit.ly/3lrWas">bit.ly/3lrWas</a> Port Authority workers protest vaccine mandate, cite religious exemptions (1)
<a href="https://www.washingtonpost.com/health/2022/03/22/funding-fourth-vaccine-doses">washingtonpost.com/health/2022/03/22/funding-fourth-vaccine-doses</a> White House officials say U.S. has exhausted funds to buy potential fourth vaccine dose for all Americans (26)	<a href="https://nyti.ms/3ws23nh">nyti.ms/3ws23nh</a> Moderna will seek emergency authorization of its vaccine for young children (1)	<a href="https://theguardian.com/politics/2022/mar/17/alan-johnson-accidentally-ate-the-queens-corgis-biscuits-book-reveals">theguardian.com/politics/2022/mar/17/alan-johnson-accidentally-ate-the-queens-corgis-biscuits-book-reveals</a> Alan Johnson accidentally ate the Queen's corgis' biscuits, book reveals (1)	<a href="https://pharmaciststeve.com/pfizer-recalls-bp-drugs-because-of-potential-carcinogen">pharmaciststeve.com/pfizer-recalls-bp-drugs-because-of-potential-carcinogen</a> Pfizer Recalls BP Drugs Because of Potential Carcinogen (1)	<a href="https://pittsburgh.cbslocal.com/2022/03/18/port-authority-vaccine-mandate-protest">pittsburgh.cbslocal.com/2022/03/18/port-authority-vaccine-mandate-protest</a> "We Are Against Being Mandated To Do So." Unvaccinated Port Authority Employees Speak Out (1)
<a href="https://www.wsj.com/articles/ivermectin-didnt-reduce-covid-19-hospitalizations-in-largest-trial-to-date-11647601200">wsj.com/articles/ivermectin-didnt-reduce-covid-19-hospitalizations-in-largest-trial-to-date-11647601200</a> Ivermectin Didn't Reduce Covid-19 Hospitalizations in Largest Trial to Date (26)	<a href="https://www.instagram.com/p/CbMM_IIAzW/">instagram.com/p/CbMM_IIAzW/</a> When you actually like a picture of yourself 🤔 #mustbethemask (1)		<a href="https://secure.actblue.com/donate/russianon">secure.actblue.com/donate/russianon</a> Help Air This Ad On TV in Wisconsin (1)	<a href="https://pittsburgh.cbslocal.com/2022/03/22/demonstrators-protest-port-authority-vaccine-mandate-in-downtown-pittsburgh">pittsburgh.cbslocal.com/2022/03/22/demonstrators-protest-port-authority-vaccine-mandate-in-downtown-pittsburgh</a> Demonstrators Protest Port Authority's Vaccine Mandate In Downtown Pittsburgh (1)
<a href="https://www.thestar.com/news/investigations/2022/03/19/how-vaccination-status-might-predict-views-on-the-russian-invasion-of-ukraine.html">thestar.com/news/investigations/2022/03/19/how-vaccination-status-might-predict-views-on-the-russian-invasion-of-ukraine.html</a> How vaccination status might predict views on the Russian invasion of Ukraine (25)	<a href="https://news.yahoo.com/rep-marjorie-taylor-greene-makes-090922615.html">news.yahoo.com/rep-marjorie-taylor-greene-makes-090922615.html</a> Rep. Marjorie Taylor Greene Makes Her Most Ignorant Vaccine Claim Yet (1)		<a href="https://www.wsj.com/articles/ivermectin-didnt-reduce-covid-19-hospitalizations-in-largest-trial-to-date-11647601200">wsj.com/articles/ivermectin-didnt-reduce-covid-19-hospitalizations-in-largest-trial-to-date-11647601200</a> Ivermectin Didn't Reduce Covid-19 Hospitalizations in Largest Trial to Date (1)	<a href="https://www.trialsitenews.com/stanford-study-spike-protein-persists-in-patients-blood-weeks-after-pfizer-covid-vaccination">trialsitenews.com/stanford-study-spike-protein-persists-in-patients-blood-weeks-after-pfizer-covid-vaccination</a> Stanford Study: Spike Protein Persists in Patients' Blood Weeks After Pfizer COVID Vaccination (1)
<a href="https://www.thetimes.co.uk/article/boris-johnson-was-at-tory-fundraiser-with-russian-donor-on-night-of-invasion-zwmg2snir">thetimes.co.uk/article/boris-johnson-was-at-tory-fundraiser-with-russian-donor-on-night-of-invasion-zwmg2snir</a> Boris Johnson was at Tory fundraiser with Russian donor on night of Ukraine invasion (23)	<a href="https://www.wsj.com/articles/ivermectin-didnt-reduce-covid-19-hospitalizations-in-largest-trial-to-date-11647601200">wsj.com/articles/ivermectin-didnt-reduce-covid-19-hospitalizations-in-largest-trial-to-date-11647601200</a> Ivermectin Didn't Reduce Covid-19 Hospitalizations in Largest Trial to Date (1)			

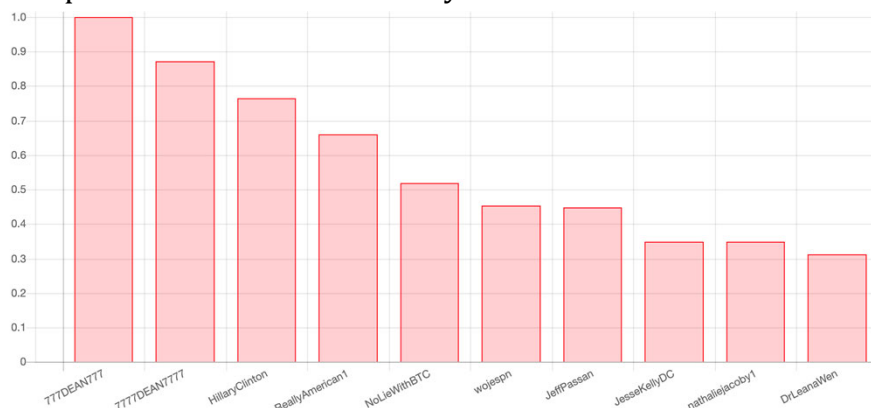
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## Top URLs by City March 18 – March 24

Philadelphia	Chester	Norristown	Pittsburgh	Erie	Allentown/ Bethlehem	Other
<a href="https://www.washingtonpost.com/health/2022/03/22/funding-fourth-vaccine-doses/">washingtonpost.com/health/2022/03/22/funding-fourth-vaccine-doses/</a> White House officials say U.S. has exhausted funds to buy potential fourth vaccine dose for all Americans (50)	<a href="https://www.bbc.com/news/health-61369670">bit.ly/3pnE2J8</a> Rates of laboratory-confirmed COVID-19 hospitalizations by vaccination status (25)	<a href="https://www.wsj.com/articles/ivermectin-didnt-reduce-covid-19-hospitalizations-in-largest-trial-to-date-11647601200">wsj.com/articles/ivermectin-didnt-reduce-covid-19-hospitalizations-in-largest-trial-to-date-11647601200</a> Ivermectin Didn't Reduce Covid-19 Hospitalizations in Largest Trial to Date (20)	<a href="https://www.thetimes.co.uk/article/boris-johnson-sorry-comparing-ukraine-war-brexit-vote-rishi-sunak-lhwwjv">thetimes.co.uk/article/boris-johnson-sorry-comparing-ukraine-war-brexit-vote-rishi-sunak-lhwwjv</a> Johnson doesn't think Ukraine is comparable to Brexit, insists Rishi Sunak (32)	<a href="https://erie.gov/vax">erie.gov/vax</a> Clinic Schedule and Registration (3)	<a href="https://www.wsj.com/articles/ivermectin-didnt-reduce-covid-19-hospitalizations-in-largest-trial-to-date-11647601200">wsj.com/articles/ivermectin-didnt-reduce-covid-19-hospitalizations-in-largest-trial-to-date-11647601200</a> Ivermectin Didn't Reduce Covid-19 Hospitalizations in Largest Trial to Date (23)	<a href="https://apnews.com/G8r2XWVY">apnews.com/G8r2XWVY</a> Moderna says its low-dose COVID shots work for kids under 6 (10)
<a href="https://petition.parliament.uk/petitions/609388">petition.parliament.uk/petitions/609388</a> Hold a public inquiry into Russian interference in UK politics (25)	<a href="https://www.washingtonpost.com/politics/2022/03/07/sen-ron-johnson-obamacare-repeal-pop-majority-midterms-2024/">washingtonpost.com/politics/2022/03/07/sen-ron-johnson-obamacare-repeal-pop-majority-midterms-2024</a> Sen. Ron Johnson says Obamacare should be repealed if GOP wins power back (8)	<a href="https://www.ballsandstrikes.org/nominations/ken-anji-brown-jackson-vote-republicans-hmm">ballsandstrikes.org/nominations/ken-anji-brown-jackson-vote-republicans-hmm</a> Here Are All the Republican Senators Who Previously Voted to Confirm Ketanji Brown Jackson (7)	<a href="https://www.washingtonpost.com/health/2022/03/22/funding-fourth-vaccine-doses/">washingtonpost.com/health/2022/03/22/funding-fourth-vaccine-doses/</a> White House officials say U.S. has exhausted funds to buy potential fourth vaccine dose for all Americans (26)	<a href="https://www.reuters.com/article/factcheck-polio-cdc-vaccines/fact-check-the-cdc-does-recommend-four-doses-for-the-childhood-polio-vaccine-idUSL2NZV1L84">reuters.com/article/factcheck-polio-cdc-vaccines/fact-check-the-cdc-does-recommend-four-doses-for-the-childhood-polio-vaccine-idUSL2NZV1L84</a> Fact Check: The CDC does recommend four doses for the childhood polio vaccine (3)	<a href="https://www.theshtar.com/news/investigations/2022/03/19/how-vaccination-status-might-predict-views-on-the-russian-invasion-of-ukraine.html">theshtar.com/news/investigations/2022/03/19/how-vaccination-status-might-predict-views-on-the-russian-invasion-of-ukraine.html</a> How vaccination status might predict views on the Russian invasion of Ukraine (14)	<a href="https://www.foxnews.com/media/lifting-sanctions-on-terrorists-will-not-prevent-iran-ignoring-nuclear-sen-ron-johnson">foxnews.com/media/lifting-sanctions-on-terrorists-will-not-prevent-iran-ignoring-nuclear-sen-ron-johnson</a> Lifting sanctions on terrorists will not prevent Iran 'from going nuclear': Sen Ron Johnson (7)
<a href="https://www.wsj.com/articles/ivermectin-didnt-reduce-covid-19-hospitalizations-in-largest-trial-to-date-11647601200">wsj.com/articles/ivermectin-didnt-reduce-covid-19-hospitalizations-in-largest-trial-to-date-11647601200</a> Ivermectin Didn't Reduce Covid-19 Hospitalizations in Largest Trial to Date (25)	<a href="https://www.bbc.com/news/health-61369670">bbc.in/36vfpj0</a> Boris Johnson compares Ukraine war to Brexit vote (6)	<a href="https://www.bit.ly/3pnE2J8">bit.ly/3pnE2J8</a> Rates of laboratory-confirmed COVID-19 hospitalizations by vaccination status (7)	<a href="https://www.wsj.com/articles/ivermectin-didnt-reduce-covid-19-hospitalizations-in-largest-trial-to-date-11647601200">wsj.com/articles/ivermectin-didnt-reduce-covid-19-hospitalizations-in-largest-trial-to-date-11647601200</a> Ivermectin Didn't Reduce Covid-19 Hospitalizations in Largest Trial to Date (26)	<a href="https://www.amp.theguardian.com/news/2022/mar/20/mosquito-nudist-colony-republican-ron-johnson-fauci-hunter-biden">amp.theguardian.com/news/2022/mar/20/mosquito-nudist-colony-republican-ron-johnson-fauci-hunter-biden</a> 'Mosquito in a nudist colony': Republican Ron Johnson targets Fauci and Hunter Biden (2)	<a href="https://www.cnbc.com/news/2022/03/10/moderna-ceos-golden-parachute-soared-by-hundreds-of-millions-over-the-pandemic.html">cnbc.com/news/2022/03/10/moderna-ceos-golden-parachute-soared-by-hundreds-of-millions-over-the-pandemic.html</a> Moderna CEO Bancel's \$ millions parachute soared by hundreds of millions over the pandemic (10)	<a href="https://www.theshtar.com/news/investigations/ons/2022/03/19/how-vaccination-status-might-predict-views-on-the-russian-invasion-of-ukraine.html">theshtar.com/news/investigations/ons/2022/03/19/how-vaccination-status-might-predict-views-on-the-russian-invasion-of-ukraine.html</a> How vaccination status might predict views on the Russian invasion of Ukraine (6)
<a href="https://www.theshtar.com/news/investigations/2022/03/19/how-vaccination-status-might-predict-views-on-the-russian-invasion-of-ukraine.html">theshtar.com/news/investigations/2022/03/19/how-vaccination-status-might-predict-views-on-the-russian-invasion-of-ukraine.html</a> How vaccination status might predict views on the Russian invasion of Ukraine (24)	<a href="https://www.theshtar.com/news/investigations/ons/2022/03/19/how-vaccination-status-might-predict-views-on-the-russian-invasion-of-ukraine.html">theshtar.com/news/investigations/ons/2022/03/19/how-vaccination-status-might-predict-views-on-the-russian-invasion-of-ukraine.html</a> How vaccination status might predict views on the Russian invasion of Ukraine (6)	<a href="https://www.igorchudov.substack.com/p/uk-uk-hide-vaccinated-cases-and-uk-will-hide">igorchudov.substack.com/p/uk-uk-hide-vaccinated-cases-and-uk-will-hide</a> Vaccinated Cases and UK will HIDE Vaccinated Cases and Deaths (6)	<a href="https://www.theshtar.com/news/investigations/2022/03/19/how-vaccination-status-might-predict-views-on-the-russian-invasion-of-ukraine.html">theshtar.com/news/investigations/2022/03/19/how-vaccination-status-might-predict-views-on-the-russian-invasion-of-ukraine.html</a> How vaccination status might predict views on the Russian invasion of Ukraine (25)	<a href="https://www.erienewsnow.com/story/46133223/?h=where-covid-19-stands-in-erie-county">erienewsnow.com/story/46133223/?h=where-covid-19-stands-in-erie-county</a> Where Covid-19 Stands in Erie County (2)	<a href="https://www.washingtonpost.com/politics/2022/03/07/sen-ron-johnson-obamacare-repeal-pop-majority-midterms-2024/">washingtonpost.com/politics/2022/03/07/sen-ron-johnson-obamacare-repeal-pop-majority-midterms-2024</a> Sen. Ron Johnson says Obamacare should be repealed if GOP wins power back (9)	<a href="https://www.wsj.com/articles/ivermectin-didnt-reduce-covid-19-hospitalizations-in-largest-trial-to-date-11647601200">wsj.com/articles/ivermectin-didnt-reduce-covid-19-hospitalizations-in-largest-trial-to-date-11647601200</a> Ivermectin Didn't Reduce Covid-19 Hospitalizations in Largest Trial to Date (6)
<a href="https://www.reuters.com/article/factcheck-polio-cdc-vaccines/fact-check-the-cdc-does-recommend-four-doses-for-the-childhood-polio-vaccine-idUSL2NZV1L84">reuters.com/article/factcheck-polio-cdc-vaccines/fact-check-the-cdc-does-recommend-four-doses-for-the-childhood-polio-vaccine-idUSL2NZV1L84</a> Fact Check: The CDC does recommend four doses for the childhood polio vaccine (23)	<a href="https://www.nytimes.com/live/2022/03/18/world/covid-19-mandates-cases-vaccine/china-covid-delta">nytimes.com/live/2022/03/18/world/covid-19-mandates-cases-vaccine/china-covid-delta</a> Covid News: China Reports Its First Deaths From the Coronavirus in Over a Year (4)	<a href="https://www.theshtar.com/news/investigations/2022/03/19/how-vaccination-status-might-predict-views-on-the-russian-invasion-of-ukraine.html">theshtar.com/news/investigations/2022/03/19/how-vaccination-status-might-predict-views-on-the-russian-invasion-of-ukraine.html</a> How vaccination status might predict views on the Russian invasion of Ukraine (6)	<a href="https://www.thetimes.co.uk/article/boris-johnson-was-at-donor-fundraiser-with-russian-donor-on-night-of-invasion-zwmg25nir">thetimes.co.uk/article/boris-johnson-was-at-donor-fundraiser-with-russian-donor-on-night-of-invasion-zwmg25nir</a> Boris Johnson was at a donor fundraiser with Russian donor on night of Ukraine invasion (23)	<a href="https://www.washingtonpost.com/politics/2022/03/07/sen-ron-johnson-obamacare-repeal-pop-majority-midterms-2024/">washingtonpost.com/politics/2022/03/07/sen-ron-johnson-obamacare-repeal-pop-majority-midterms-2024</a> Sen. Ron Johnson says Obamacare should be repealed if GOP wins power back (2)	<a href="https://www.hustnews.com/government/corruption-sen-ron-johnson-secret-service-missing-hunter-biden">hustnews.com/government/corruption-sen-ron-johnson-secret-service-missing-hunter-biden</a> 'Incompetence or corruption': Sen. Ron Johnson on Secret Service missing Hunter Biden emails (6)	<a href="https://www.evanhospital.com/virus">evanhospital.com/virus</a> COVID-19 Vaccine Information (6)

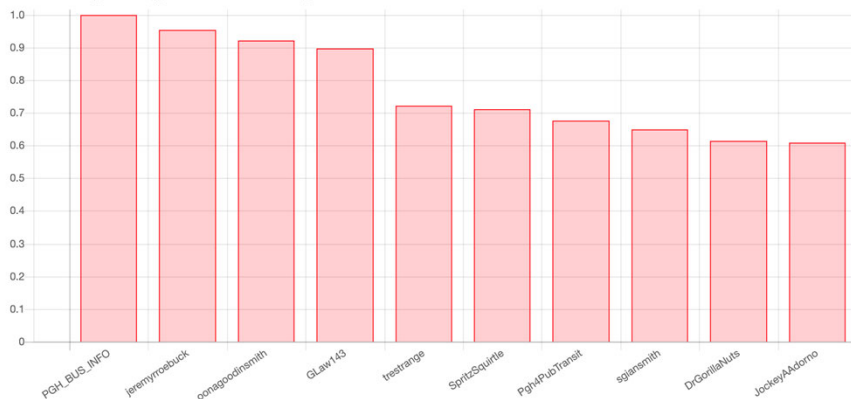
## Analysis of Tweeters - Super Spreaders

- ❑ 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.

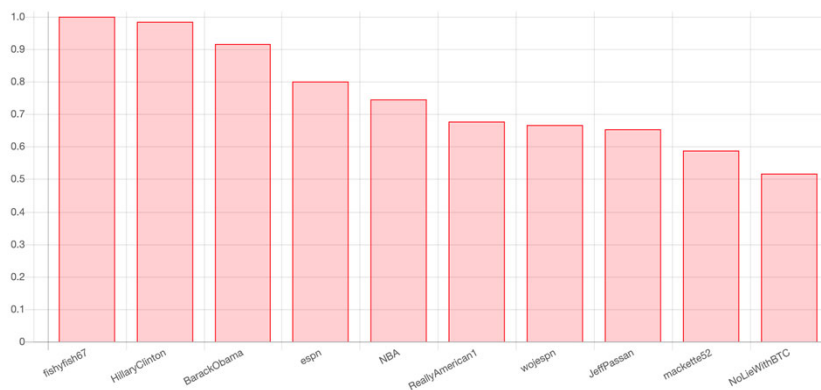


4/5/2022



## 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.



4/5/2022



## 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
HillaryClinton[+]	649
ReallyAmerican1	483
NoLieWithBTC[+]	428
nathaliejacoby1	336
JesseKellyDC[+]	300
Chicago1Ray	209
lavern_spicer[+]	200
pfizer	184
DrLeanaWen[+]	181
HoopMixOnly	178

4/5/2022



## Trending Tweets March 18 – March 24

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

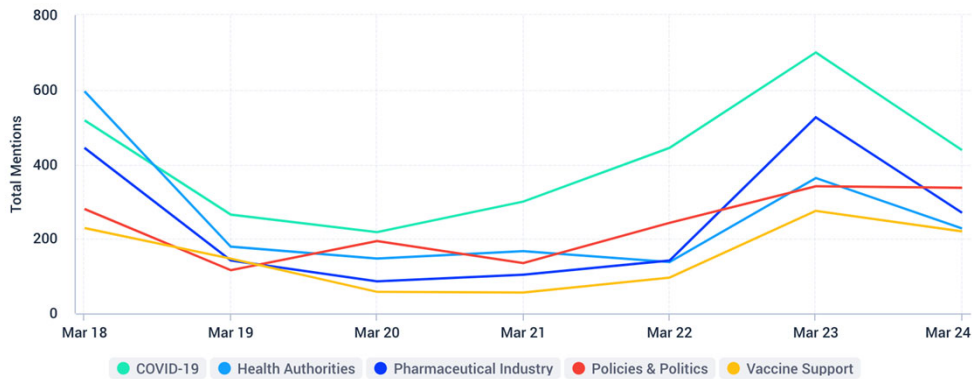
- ❑ Well, I've tested positive for COVID. I've got some mild cold symptoms but am feeling fine. I'm more grateful than ever for the protection vaccines can provide against serious illness. Please get vaccinated and boosted if you haven't already!
- ❑ JUST IN: Marjorie Taylor Greene just went on the House floor to attack COVID vaccines by claiming she has "never seen the CDC" recommend a 2nd and 3rd shot for polio. Actually, the CDC recommends FOUR doses of the polio vaccine — at 2 months, 4 months, 6-18 months, and 4-6 years.
- ❑ "Whoops, we counted too many deaths as COVID deaths." "Whoops, the vaccine doesn't stop the spread." "Whoops, it also wears off in about 15 minutes." "Whoops, other treatments might actually work." None of this was an accident. Don't buy any of this "whoops" crap.
- ❑ VIDEO: Ron Johnson admitted Russia interfered in the 2016 election, then backtracked after visiting Moscow on the 4th of July. He then voted against every election security bill. Now he's blaming Biden for Putins invasion of Ukraine. Retweet to expose #RussianRonJohnson  
<https://t.co/HMbu2Yr7Sw>
- ❑ Russian state TV is now broadcasting Madison Cawthorn calling Zelensky a thug. Whether it be Tucker Carlson, Trump, Ron Johnson or Madison Cawthorn, the biggest validator to Russian propaganda throughout this war has been the Republican Party.
- ❑ For those who don't agree that the vaccinated can return to pre-pandemic normal, I ask: What should we all do? Perpetual masking? Forever not dining out, avoiding large weddings & indoor gatherings, etc? Virtually everything has risk, and zero covid is not a viable strategy.
- ❑ Magic Johnson and his celebrity crew walking into the playoffs.. Coldest photo of all-time! <https://t.co/bmcGcNkglr>
- ❑ Sources: Brooklyn Nets star Kyrie Irving will be cleared for home games as New York City will on Thursday change private sector vaccine mandate to allow exemption for athletes and entertainers in workplace. Unvaccinated Yankees and Mets players also now eligible for home games.
- ❑ My husband wants us to go out to dinner with his friend and his wife, who are both anti-vaxxers. I told him I am not comfortable doing that because they did not get the Covid vaccine. Do YOU feel comfortable being around people you know who have NOT been vaccinated?
- ❑ Why y'all not posting "I got vax'd" selfies anymore???

4/5/2022





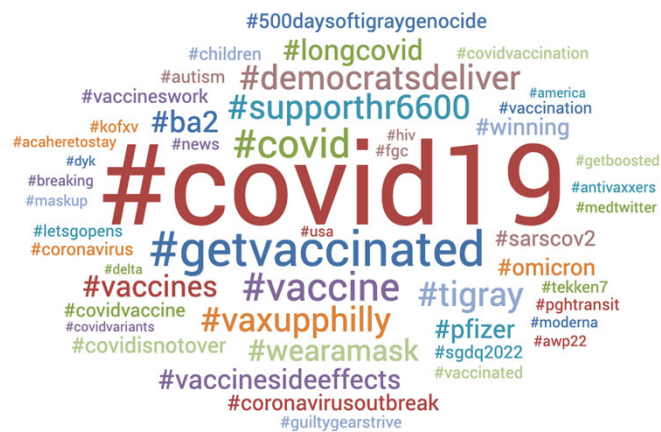
## General PA Conversation March 18 – March 24



4/5/2022



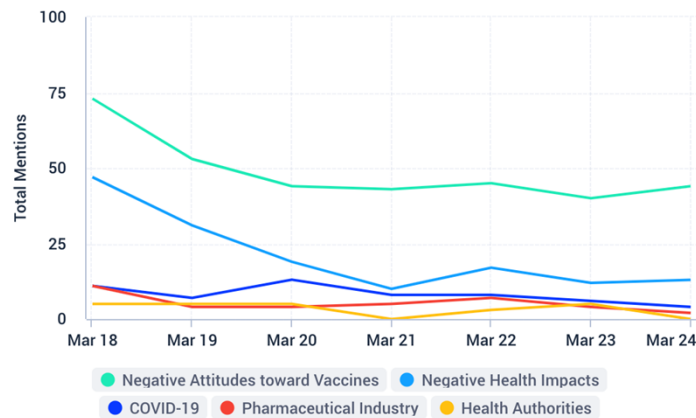
## PA Hashtag Cloud March 18 – March 24



4/5/2022



## Negative Attitudes March 18 – March 24



4/5/2022



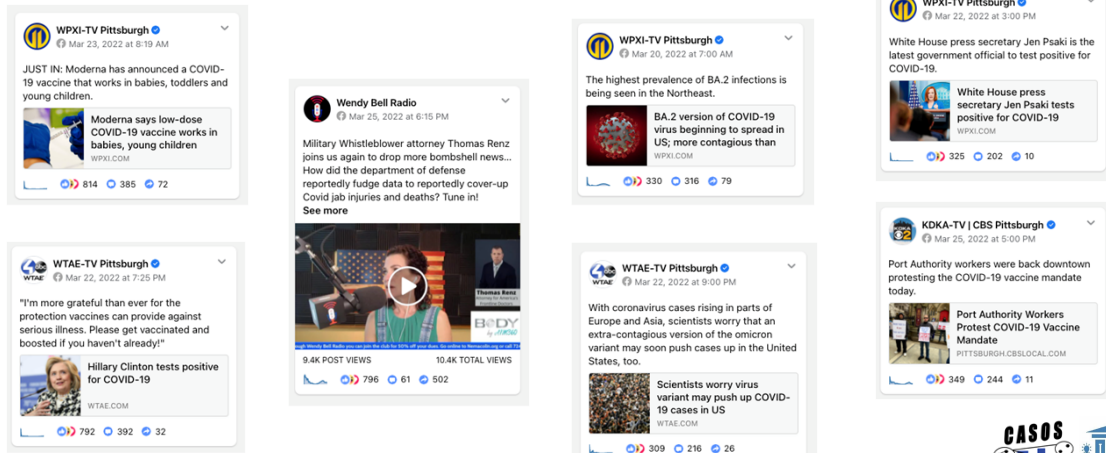
## Negative Hashtag Cloud March 18 – March 24



4/5/2022



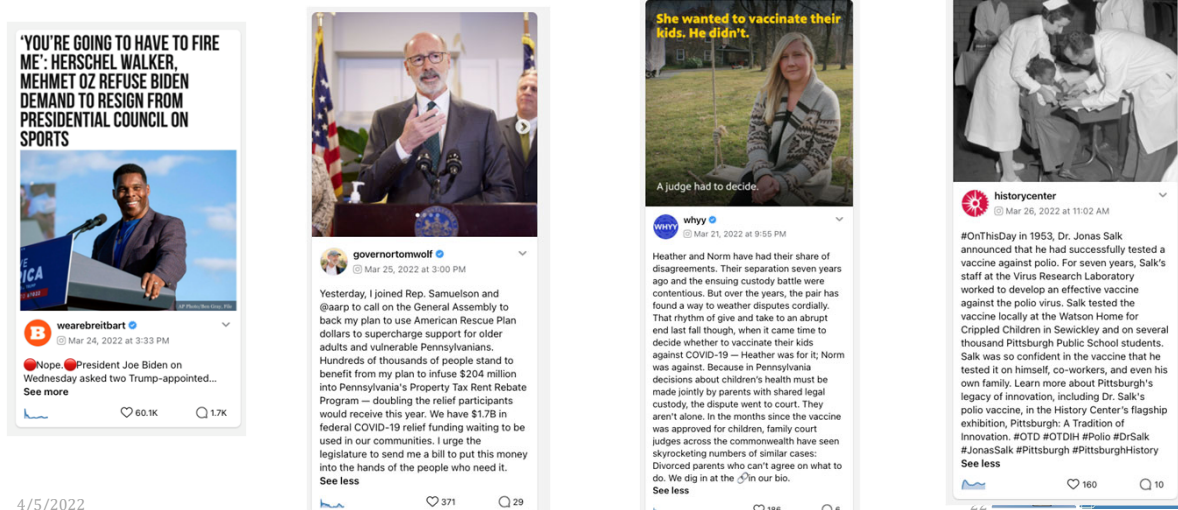
## Trending Posts on Facebook March 18 – March 24



4/5/2022



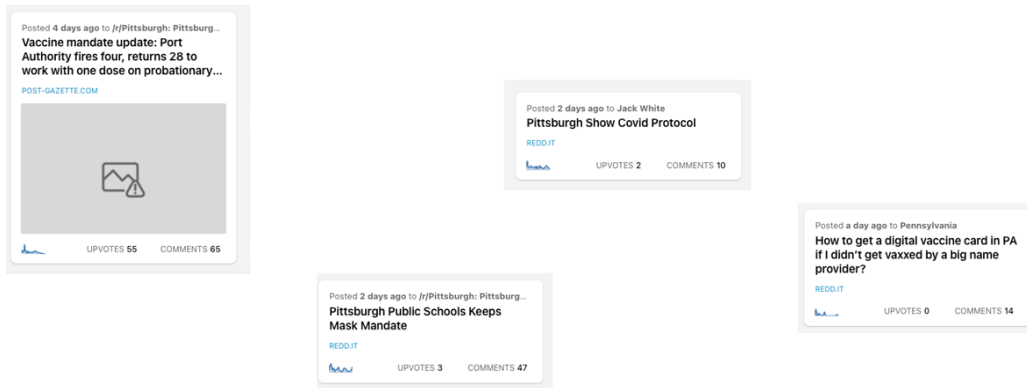
## Trending Posts on Instagram March 18 – March 24



4/5/2022

Carnegie Mellon University

## Trending Posts on Reddit March 18 – March 24



4/5/2022



## For More Information

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  - ❑ <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: [IDEaSCMU](https://www.youtube.com/IDEaSCMU)
- ❑ Ask to be on our Email-Distro Lists

4/5/2022

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