

# PA Vaccine Conversations and Misinformation on Twitter

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Vaccine Hesitancy Project Update based on October 22 – October 28, 2021

The CMU centers for:

Informed DEMocracy And Social cyber-security

Computational Analysis of Social and Organizational Systems



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## PA Vaccine Conversation 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.
- ❑ The material contained in this report is a summary of social media content and does not represent a judgment or characterization of any individual.

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## Report Overview October 22 – October 28

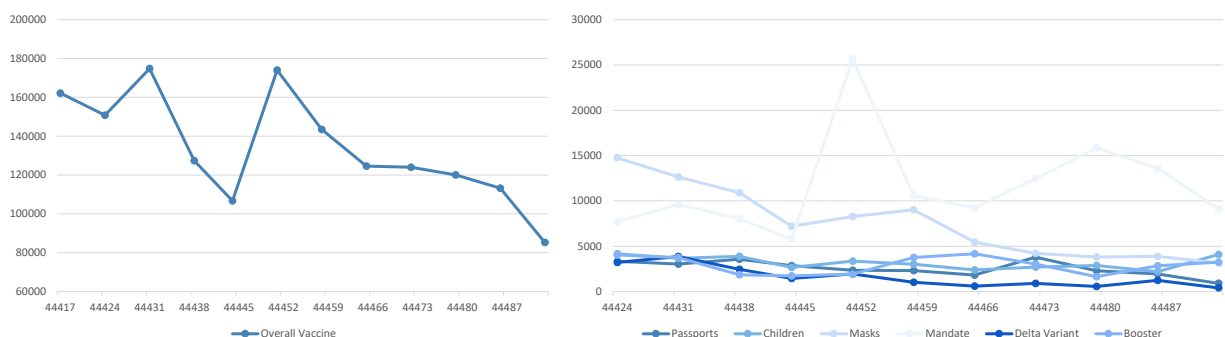
- ❑ This week's trending stories cover FDA approval for Pfizer vaccine for children, vaccination mandates, sports, boosters, police;
- ❑ A former NY Times reporter who was banned from social media platforms for posting COVID-19 misinformation has taken to a personal blog to spread the false claim that vaccinated people have a weaker immune response than unvaccinated people, even among those who have recovered from a COVID-19 infection. It's unclear how he has come to that conclusion, although the post misrepresents a recent Public Health England report to support the claim ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1027511/Vaccine-surveillance-report-week-42.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1027511/Vaccine-surveillance-report-week-42.pdf) COVID-19 vaccine surveillance report by UK Health Security Agency)
- ❑ A video of Seattle firefighters returning work boots as they quit over vaccine mandate went viral;
- ❑ Trending stories this week: <https://www.westernjournal.com/sweden-suspends-moderna-shot-indefinitely-vaxxed-patients-develop-crippling-heart-condition/> Sweden Suspends Moderna Shot Indefinitely After Vaxxed Patients Develop Crippling Heart Condition; <https://trib.al/5r19rBH> Ex-ESPNer Allison Williams: I walked away from 'largest contract' of career over vaccine mandate; <https://thecpatriot.com/insanity-fda-panel-votes-17-0-to-approve-vaccines-for-children-ages-5-11-were-never-gonna-learn-about-how-safe-the-vaccine-is-until-we-start-giving-it-thats-the-way-it-goes/> INSANITY: FDA PANEL VOTES 17-0 TO APPROVE VACCINES FOR CHILDREN AGES 5-11 "We're never gonna learn about how safe the vaccine is until we start giving it. That's the way it goes.";
- ❑ More trending stories about vaccination for children: <https://www.nytimes.com/2021/10/26/us/pfizer-fda-covid-vaccine-kids.html> Now that the FDA panel has recommended pediatric Covid shots, here's what happens next; <https://www.foxnews.com/health/pfizer-covid-19-vaccine-more-than-90-effective-kids> Pfizer says its COVID-19 vaccine more than 90% effective in kids;
- ❑ Story with the most popular hashtag #murphymandates from this week's trends: [http://nj1015.com/in-sting-videos-aides-say-murphy-plans-post-election-vax-mandate/?trackback=twitter\\_mobile](http://nj1015.com/in-sting-videos-aides-say-murphy-plans-post-election-vax-mandate/?trackback=twitter_mobile) In sting videos, aides say Murphy plans post-election vax mandate;
- ❑ Video from Vimeo with vaccine disinformation was deleted but still got a lot of attention from people on Twitter and was one of the most popular links <https://vimeo.com/638197470> (the video was deleted, but Google search says it was a video version of this story <https://www.thegatewaypundit.com/2021/10/concerned-mother-wants-air-tv-ad-pfizers-dangerous-vaccine-daughter-severely-permanently-damaged-comcast-refuses-ad-last-minute/>);
- ❑ #thedefender is one of the trending hashtags; also several stories from the Children's Health Defense are in trends this week such as <https://childrenshealthdefense.org/defender/teen-multisystem-inflammatory-syndrome-myocarditis-pfizer-vaccine/> 17-Year-Old Develops Multisystem Inflammatory Syndrome and Myocarditis After Pfizer Vaccine, Report Shows; <https://childrenshealthdefense.org/defender/fda-endorses-pfizer-covid-vaccine-children/> Breaking: FDA Panel Endorses Pfizer Shots for 5- to 11-Year-Olds, Experts Say Vaccine for Kids Is 'Unnecessary, Premature and Will Do More Harm Than Good';
- ❑ Story from a hashtag Utah is identified in trends: <https://twitter.com/RayArmat/status/1453169822863437829?s=20> Shocking testimony by #Utah scientist whose wife, a vax. trial volunteer, was severely injured, dropped from trial, like 265 others, her access deleted & her injury NOT described in the clinical trial report Dressen: "Please Don't Give This to kids!";
- ❑ Other disinformation stories: <https://www.snopes.com/fact-check/fauci-vaccine-experiment-beagles/> Did Fauci Spend Taxpayer Dollars on 'Cruel and Unnecessary' Test of Vaccine on Beagles?; <https://buff.ly/2XtyD9g> CDC Wants Your Vaccinated 5-Year-Old Masked Indefinitely; [https://odysee.com/@FrontlineCovid19CriticalCareAlliance:c/FLCCC-WEBINAR-102021\\_FINAL-8](https://odysee.com/@FrontlineCovid19CriticalCareAlliance:c/FLCCC-WEBINAR-102021_FINAL-8) Joe Rogan video about ivermectin

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## Trends (tweets per week) October 22 – October 28



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## High Level View by City October 22 – October 28

	Total PA	Philadelphia		Pittsburgh		Erie		Allentown/Bethlehem		Other	
Conversation	Tweets	Tweets	%	Tweets	%	Tweets	%	Tweets	%	Tweets	%
Overall Vaccine	69981	39295	56.2%	15934	22.8%	846	1.2%	11084	15.8%	2822	4.0%
Vaccine Passports	903	465	1.2%	168	1.1%	18	2.1%	228	2.1%	24	0.9%
FDA Approval	748	348	0.9%	161	1.0%	7	0.8%	207	1.9%	25	0.9%
Boosters	3205	1634	4.2%	734	4.6%	51	6.0%	578	5.2%	208	7.4%
Fetal Tissue	40	18	0.0%	13	0.1%			8	0.1%	1	0.0%
"Experimental"	318	163	0.4%	62	0.4%	10	1.2%	70	0.6%	13	0.5%
Children	3021	1434	3.6%	769	4.8%	41	4.8%	653	5.9%	124	4.4%
Myocarditis	399	177	0.5%	100	0.6%	3	0.4%	110	1.0%	9	0.3%
Heart	845	411	1.0%	193	1.2%	14	1.7%	206	1.9%	21	0.7%
Masks	3085	1603	4.1%	666	4.2%	52	6.1%	516	4.7%	248	8.8%
Thrombosis/VITT	215	122	0.3%	32	0.2%	3	0.4%	44	0.4%	14	0.5%
Mandates	9035	4779	12.2%	1798	11.3%	116	13.7%	2000	18.0%	342	12.1%
Natural Immunity	975	708	1.8%	140	0.9%	2	0.2%	119	1.1%	6	0.2%
Efficacy	337	159	0.4%	77	0.5%	2	0.2%	84	0.8%	15	0.5%
Spike Proteins	112	56	0.1%	32	0.2%	3	0.4%	15	0.1%	6	0.2%
Delta Variant	667	326	0.8%	144	0.9%	9	1.1%	143	1.3%	45	1.6%
Race	1584	747	1.9%	508	3.2%	38	4.5%	246	2.2%	45	1.6%
Ivermectin	184	96	0.2%	33	0.2%	2	0.2%	48	0.4%	5	0.2%
Military	191	103	0.3%	39	0.2%	11	1.3%	34	0.3%	4	0.1%
Breakthrough	298	169	0.4%	62	0.4%	5	0.6%	49	0.4%	13	0.5%

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Trending conversations:

- Boosters
- FDA Approval
- Children

"Fetal Tissue" conversation dropped precipitously from previous week, again



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## High Level View by County October 22 – October 28

County	Allegheny	Beaver	Butler	Cambria	Fayette	Indiana	Somerset	Westmoreland
Overall Vaccine	16362	17	56	15	53	12	8	56
Vaccine Passports	169	1			1			
FDA	168		1					
Boosters	762	1		1	2		1	8
Fetal Tissue	13							
"Experimental"	64							
Children	787		1		2			2
Myocarditis	102	1						
Heart	196		1		1			
Masks	705	1	3	4	2	2	1	4
Thrombosis/VITT	33							
Mandates	1848	2	5		6	2	1	3
Natural Immunity	142							
Efficacy	77		1					
Spike Proteins	34							
Delta Variant	151	1	1					1
Race	513		3		1			1
Ivermectin	34							
Military	39			1				
Breakthrough	66							

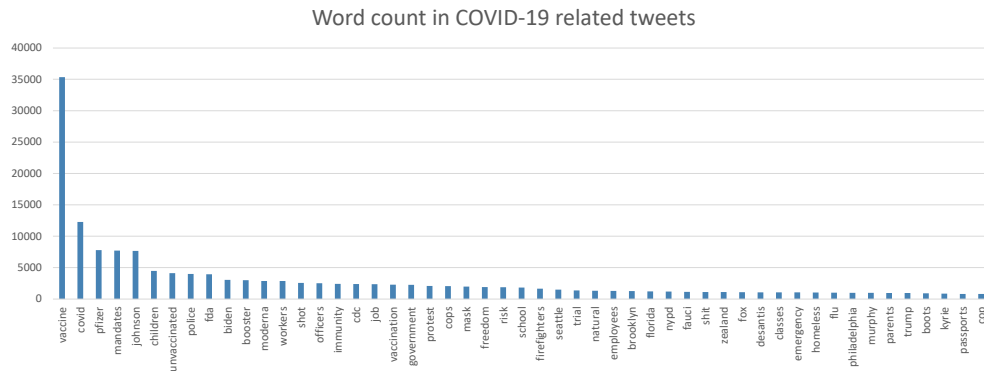
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- Tweets counted here if there is a county location attached
- Race: pulled by one of the vaccine keywords plus at least one other term in ("Black", "African American", "of color", "Latin", "Hispanic", "brown", "eugenic")



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## Top Words Used per Week October 22 – October 28



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## Top Hashtags by County October 22 – October 28

- ❑ 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	Cambria	Fayette	West Moreland
covid19 (348)	browns (2)	maskup (2)	covid19 (1)	boosters (1)
browns (168)	covid (1)	booster (1)	murphymandates (1)	browns (1)
murphymandates (162)	covid19vaccines (1)	getvaccinated (1)	tweetiatrician (1)	covid19 (1)
vaccine (132)	getvaccinated (1)	moderna (1)	vaccinated (1)	infectiousdiseases (1)
dodgers (79)	washingtonstate (1)	vaccination (1)	vaccineswork (1)	novaccinemandates (1)

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## Top Hashtags by City October 22 – October 28

- ❑ 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 (752)	covid19 (147)	covid19 (153)	covid19 (339)	browns (25)	covid19 (242)	covid19 (72)
murphymandates (240)	murphymandates (73)	murphymandates (60)	browns (165)	covid19 (13)	murphymandates (159)	vaccine (54)
vaxupphilly (233)	vaxupphilly (25)	vaccine (39)	murphymandates (157)	demvoice1 (10)	vaccine (66)	eagles (26)
covid (212)	utah (21)	peoplesvaccine (17)	dodgers (79)	denvscl (5)	thedefender (30)	getvaccinated (21)
vaccine (200)	children (20)	pzifer (17)	unfiltered (58)	thedefender (5)	novaccinepassports (26)	murphymandates (21)

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## Top URLs by County October 22 – October 28

Allegheny	Butler + Beaver	Indiana	Fayette	West Moreland
<a href="https://vimeo.com/638197470">https://vimeo.com/638197470</a> (video was deleted but Google search says it was a video version of this story)	<a href="https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/102751/19vaccine-surveillance-report-week-42.pdf">https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/102751/19vaccine-surveillance-report-week-42.pdf</a> COVID-19 vaccine surveillance report by UK Health Security Agency (3)	<a href="http://hill.cm/txC9xRf">http://hill.cm/txC9xRf</a> 'Fully vaccinated' definition could change in future, CDC director says (1)	<a href="https://www.snopes.com/fact-check/fauci-vaccine-experiment-beagles/">https://www.snopes.com/fact-check/fauci-vaccine-experiment-beagles/</a> Did Fauci Spend Taxpayer Dollars on 'Cruel and Unnecessary' Test of Vaccine on Beagles? (2)	<a href="http://hill.cm/XvZT6DE">http://hill.cm/XvZT6DE</a> Unvaccinated people should expect to catch COVID-19 every 16 months (1)
<a href="https://www.thegatewaypundit.com/2021/10/concerned-mother-wants-air-tv-ad-pfizers-dangerous-vaccine-daughter-severely-permanently-damaged-comcast-refuses-ad-last-minute/">https://www.thegatewaypundit.com/2021/10/concerned-mother-wants-air-tv-ad-pfizers-dangerous-vaccine-daughter-severely-permanently-damaged-comcast-refuses-ad-last-minute/</a> (90)	<a href="https://www.dailymail.co.uk/news/article-10124957/Australian-actress-Melle-Stewart-suffers-stroke-getting-AstraZeneca-Covid-vaccine.html">https://www.dailymail.co.uk/news/article-10124957/Australian-actress-Melle-Stewart-suffers-stroke-getting-AstraZeneca-Covid-vaccine.html</a> Australian actress fighting for life after suffering a stroke caused by AstraZeneca Covid vaccine's extremely rare blood-clotting side effect (1)	<a href="https://trib.al/QuK0Xyn">https://trib.al/QuK0Xyn</a> How did Florida end up with one of the best COVID-19 case and death rates in the US despite Gov Ron DeSantis refusing to implement mask or vaccine mandates? (1)	<a href="https://apnews.com/article/the-facebook-papers-covid-vaccine-misinformation-c8bhc569be7cc2ca583dadb4236a0613">https://apnews.com/article/the-facebook-papers-covid-vaccine-misinformation-c8bhc569be7cc2ca583dadb4236a0613</a> Facebook froze anti-vaccine comments swarmed users (1)	<a href="https://nvpost.com/2021/10/20/bill-de-blasio-to-announce-covid-19-vaccine-mandate-for-all-city-workers/">https://nvpost.com/2021/10/20/bill-de-blasio-to-announce-covid-19-vaccine-mandate-for-all-city-workers/</a> Mayor de Blasio announces COVID-19 vaccine mandate for all city workers (1)
<a href="https://trib.al/IRYlos3">https://trib.al/IRYlos3</a> Hundreds of NYPD cops get COVID-19 shot as vaccine deadline looms (66)	<a href="https://www.thegatewaypundit.com/2021/10/concerned-mother-wants-air-tv-ad-pfizers-dangerous-vaccine-daughter-severely-permanently-damaged-comcast-refuses-ad-last-minute/">https://www.thegatewaypundit.com/2021/10/concerned-mother-wants-air-tv-ad-pfizers-dangerous-vaccine-daughter-severely-permanently-damaged-comcast-refuses-ad-last-minute/</a> (1)	<a href="https://twitter.com/foxnews/status/1451546734593822730">https://twitter.com/foxnews/status/1451546734593822730</a> Pfizer says its COVID-19 vaccine more than 90% effective in kids (1)	<a href="https://thecpatriot.com/boeing-tells-125000-workers-get-vaccinated-or-get-fired-by-dec-8/">https://thecpatriot.com/boeing-tells-125000-workers-get-vaccinated-or-get-fired-by-dec-8/</a> Boeing Tells 125,000 Workers Get Vaccinated or Get FIRED by Dec 8! (1)	<a href="https://trib.al/5r19r8H">https://trib.al/5r19r8H</a> Ex-ESP Ner Allison Williams: I walked away from 'largest contract' of career over vaccine mandate (1)
<a href="https://trib.al/5r19r8H">https://trib.al/5r19r8H</a> Ex-ESP Ner Allison Williams: I walked away from 'largest contract' of career over vaccine mandate (55)	<a href="https://www.nytimes.com/2021/10/26/us/politics/fda-covid-vaccine-kids.html">https://www.nytimes.com/2021/10/26/us/politics/fda-covid-vaccine-kids.html</a> Now that the F.D.A. panel has recommended pediatric Covid shots, here's what happens next (1)	<a href="https://www.bloomberg.com/opinion/articles/2021-10-26/mandates-desantis-elevates-vaccine-antics-to-theater-of-the-absurd?srnd=premium">https://www.bloomberg.com/opinion/articles/2021-10-26/mandates-desantis-elevates-vaccine-antics-to-theater-of-the-absurd?srnd=premium</a> DeSantis Elevates Vaccine Antics to Theater of the Absurd (1)	<a href="https://www.foxbusiness.com/economy/skywest-cancels-100-saturday-flights-american-delta-united-alaska-airlines-impacted-by-dec-8/">https://www.foxbusiness.com/economy/skywest-cancels-100-saturday-flights-american-delta-united-alaska-airlines-impacted-by-dec-8/</a> SkyWest cancels more than 100 Saturday flights: American, Delta, United, Alaska airlines impacted (1)	<a href="https://www.foxnews.com/media/florida-gov-desantis-vaccine-mandates-will-wreak-havoc-on-the-economy">https://www.foxnews.com/media/florida-gov-desantis-vaccine-mandates-will-wreak-havoc-on-the-economy</a> DeSantis: We are actively recruiting out-of-state police officers out of job due to vaccine mandates (1)
<a href="https://thecpatriot.com/insanity-fda-panel-votes-17-0-to-approve-vaccines-for-children-ages-5-11-were-never-gonna-learn-about-how-safe-the-vaccine-is-until-we-start-giving-it-thats-the-way-it-goes/">https://thecpatriot.com/insanity-fda-panel-votes-17-0-to-approve-vaccines-for-children-ages-5-11-were-never-gonna-learn-about-how-safe-the-vaccine-is-until-we-start-giving-it-thats-the-way-it-goes/</a> INSANITY: FDA PANEL VOTES 17-0 TO APPROVE VACCINES FOR CHILDREN AGES 5-11 "We're never gonna learn about how safe the vaccine is until we start giving it. That's the way it goes." (48)	<a href="https://buff.ly/2XryD9g">https://buff.ly/2XryD9g</a> CDC Wants Your Vaccinated 5-Year-Old Masked Indefinitely (1)	<a href="https://www.foxnews.com/health/pfizer-covid-19-vaccine-more-than-90-effective-kids">https://www.foxnews.com/health/pfizer-covid-19-vaccine-more-than-90-effective-kids</a> Pfizer says its COVID-19 vaccine more than 90% effective in kids (1)	<a href="https://www.foxnews.com/politics/dozens-ge-employees-walk-out-south-carolina-plant-vaccine-mandate-protest">https://www.foxnews.com/politics/dozens-ge-employees-walk-out-south-carolina-plant-vaccine-mandate-protest</a> Dozens of GE employees walk out of South Carolina plant in vaccine mandate protest (1)	<a href="https://www.cnn.com/2021/10/21/the-delta-variant-has-a-mutation-what-we-know-so-far.html">https://www.cnn.com/2021/10/21/the-delta-variant-has-a-mutation-what-we-know-so-far.html</a> The delta variant has a mutation that's worrying experts: Here's what we know so far (1)

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## Top URLs by City October 22 – October 28

Philadelphia	Chester	Norristown	Pittsburgh	Erie	Allentown/ Bethlehem	Other
<a href="https://www.b.com/content/1157838a-24d2-40d5-b314-2d8345a6e001">https://www.b.com/content/1157838a-24d2-40d5-b314-2d8345a6e001</a> Medics and science advisers have accused the government of bungling the rollout of Covid-19 boosters and school vaccinations in England (185)	<a href="https://www.westernjournal.com/sweden-suspends-moderna-shot-indefinitely-vaxxed-patients-develop-crippling-heart-condition/">https://www.westernjournal.com/sweden-suspends-moderna-shot-indefinitely-vaxxed-patients-develop-crippling-heart-condition/</a> Sweden Suspends Moderna Shot Indefinitely After Vaxxed Patients Develop Crippling Heart Condition (20)	<a href="https://legalinsurrection.com/2021/10/the-constitutional-conservative-argument-for-state-level-bans-on-businesses-vaccine-mandates/">https://legalinsurrection.com/2021/10/the-constitutional-conservative-argument-for-state-level-bans-on-businesses-vaccine-mandates/</a> The Constitutional Conservative Argument For State-Level Bans On Businesses' Vaccine Mandates (43)	<a href="https://vimeo.com/638197470">https://vimeo.com/638197470</a> (video was deleted but Google search says it was a video version of this story <a href="https://www.thegatewaypundit.com/2021/10/concerned-mother-wants-air-tv-ad-pfizers-dangerous-vaccine-daughter-severely-permanently-damaged-comcast-refuses-ad-last-minute/">https://www.thegatewaypundit.com/2021/10/concerned-mother-wants-air-tv-ad-pfizers-dangerous-vaccine-daughter-severely-permanently-damaged-comcast-refuses-ad-last-minute/</a> ) (89)	<a href="https://www.gerie.com/story/news/politics/elections/2021/10/21/brenton-davis-erie-county-republican-nominee-military-record-covid-vaccine-status-questio/8519517002/?fbclid=IwAR1TsF80T_E_Je8RvZ112KP0GvXp4dE1ealGuacGdQDQ183v1435ilts">https://www.gerie.com/story/news/politics/elections/2021/10/21/brenton-davis-erie-county-republican-nominee-military-record-covid-vaccine-status-questio/8519517002/?fbclid=IwAR1TsF80T_E_Je8RvZ112KP0GvXp4dE1ealGuacGdQDQ183v1435ilts</a> GOP nominee Brenton Davis' military record, COVID-19 vaccination claims under scrutiny (7)	<a href="https://trib.al/5r19rBH">https://trib.al/5r19rBH</a> Ex-ESPNer Allison Williams: I walked away from 'largest contract' of career over vaccine mandate (52)	<a href="http://hill.cm/OFR1xf">http://hill.cm/OFR1xf</a> Pfizer says testing shows booster restores full protection against COVID-19 (15)
<a href="https://www.theatlantic.com/health/archive/2021/10/mix-match-booster-covid-vaccine/620395/">https://www.theatlantic.com/health/archive/2021/10/mix-match-booster-covid-vaccine/620395/</a> Should You Mix and Match Your Booster Shot? (151)	<a href="https://twitter.com/RayArmat/status/1453169822863437829?s=20">https://twitter.com/RayArmat/status/1453169822863437829?s=20</a> Shocking testimony by #Utah scientist whose wife, a vax. trial volunteer, was severely injured, dropped from trial, like 265 others, her access deleted & her injury NOT described in the clinical report DRESS: "Please Don't Give This to kids!" (15)	<a href="http://nj1015.com/in-sting-videos-aides-say-murphy-plans-post-election-vax-mandate/?vackback=twitter_mobile">http://nj1015.com/in-sting-videos-aides-say-murphy-plans-post-election-vax-mandate/?vackback=twitter_mobile</a> In sting videos, aides say Murphy plans post-election vax mandate (39)	<a href="https://childrenshealthdefense.org/defender/teen-multisystem-inflammatory-syndrome-myocarditis-pfizer-vaccine/">https://childrenshealthdefense.org/defender/teen-multisystem-inflammatory-syndrome-myocarditis-pfizer-vaccine/</a> 17-Year-Old Develops Multisystem Inflammatory Syndrome and Myocarditis After Pfizer Vaccine, Report Shows (68)	<a href="http://www.erie.gov/vax">http://www.erie.gov/vax</a> (6)	<a href="https://bit.ly/3s5twWJ">https://bit.ly/3s5twWJ</a> Children's Health Defense (34)	<a href="https://trib.al/5r19rBH">https://trib.al/5r19rBH</a> Ex-ESPNer Allison Williams: I walked away from 'largest contract' of career over vaccine mandate (13)
<a href="https://trib.al/5r19rBH">https://trib.al/5r19rBH</a> Ex-ESPNer Allison Williams: I walked away from 'largest contract' of career over vaccine mandate (144)	<a href="https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1027511/Vaccine-surveillance-report-week-42.pdf">https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1027511/Vaccine-surveillance-report-week-42.pdf</a> COVID-19 vaccine surveillance report by UK Health Security Agency (14)	<a href="https://ny1.ms/3GqwmNN">https://ny1.ms/3GqwmNN</a> My Kid Is Afraid of Shots. How Can We Prepare for the Covid Vaccine? (23)	<a href="https://trib.al/RY1o63">https://trib.al/RY1o63</a> Hundreds of NYPD cops get COVID-19 shot as vaccine deadline looms (66)	<a href="https://bit.ly/3s5twWJ">https://bit.ly/3s5twWJ</a> Children's Health Defense (5)	<a href="https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1027511/Vaccine-surveillance-report-week-42.pdf">https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1027511/Vaccine-surveillance-report-week-42.pdf</a> COVID-19 vaccine surveillance report by UK Health Security Agency (28)	<a href="https://odysee.com/@FromLineCovid19CriticalCareAlliance-c/F1CCC-WEBINAR-102021-FINAL-6">https://odysee.com/@FromLineCovid19CriticalCareAlliance-c/F1CCC-WEBINAR-102021-FINAL-6</a> Joe Rogan video about Ivermectin (11)
<a href="https://www.mediamatters.org/fox-news/fox-news-contributor-says-she-not-getting-vaccinated-giant-middle-finger-joe-bidens">https://www.mediamatters.org/fox-news/fox-news-contributor-says-she-not-getting-vaccinated-giant-middle-finger-joe-bidens</a> Fox News contributor says she is not getting vaccinated "as a giant middle finger to Joe Biden's tyranny" (116)	<a href="https://bit.ly/3s5twWJ">https://bit.ly/3s5twWJ</a> Children's Health Defense (14)	<a href="https://pubmed.ncbi.nlm.nih.gov/33113270/">https://pubmed.ncbi.nlm.nih.gov/33113270/</a> Informed consent disclosure to vaccine trial subjects of risk of COVID-19 vaccines worsening clinical disease (20)	<a href="https://trib.al/5r19rBH">https://trib.al/5r19rBH</a> Ex-ESPNer Allison Williams: I walked away from 'largest contract' of career over vaccine mandate (53)	<a href="https://forward.ny.gov/daily-hospitalization-summary-region">https://forward.ny.gov/daily-hospitalization-summary-region</a> DAILY HOSPITALIZATION SUMMARY BY REGION (4)	<a href="https://www.westernjournal.com/sweden-suspends-moderna-shot-indefinitely-vaxxed-patients-develop-crippling-heart-condition/">https://www.westernjournal.com/sweden-suspends-moderna-shot-indefinitely-vaxxed-patients-develop-crippling-heart-condition/</a> Sweden Suspends Moderna Shot Indefinitely After Vaxxed Patients Develop Crippling Heart Condition (26)	<a href="https://pubmed.ncbi.nlm.nih.gov/34687421/">https://pubmed.ncbi.nlm.nih.gov/34687421/</a> New-onset Evans syndrome associated with systemic lupus erythematosus after BNT162b2 mRNA COVID-19 vaccination (9)
<a href="https://why.org/articles/just-1-in-10-philly-cops-reported-their-vaccination-status-but-city-still-says-no-to-stricter-vaccine-mandate/">https://why.org/articles/just-1-in-10-philly-cops-reported-their-vaccination-status-but-city-still-says-no-to-stricter-vaccine-mandate/</a> Just 1 in 10 Philly cops reported their vaccination status, but city still says no to stricter vaccine mandate (94)	<a href="https://www.thesun.co.uk/health/16528509/rare-ulcers-new-complication-covid-vaccine/">https://www.thesun.co.uk/health/16528509/rare-ulcers-new-complication-covid-vaccine/</a> RARE CASE: Vaginal ulcers could be new but extremely rare complication of Covid jabs, doctors claim (14)	<a href="https://cnn.it/3nvcac7">https://cnn.it/3nvcac7</a> FDA vaccine advisers vote to recommend Pfizer's Covid-19 vaccine for children 5 to 11 (16)	<a href="https://thedepatriot.com/insanity-fda-panel-votes-17-0-to-approve-vaccines-for-children-ages-5-11-were-never-gonna-learn-about-how-safe-the-vaccine-is-until-we-start-giving-it-thats-the-way-it-goes/">https://thedepatriot.com/insanity-fda-panel-votes-17-0-to-approve-vaccines-for-children-ages-5-11-were-never-gonna-learn-about-how-safe-the-vaccine-is-until-we-start-giving-it-thats-the-way-it-goes/</a> INSANITY: FDA PANEL VOTES 17-0 TO APPROVE VACCINES FOR CHILDREN AGES 5-11 "We're never gonna learn about how safe the vaccine is until we start giving it. That's the way it goes." (48)	<a href="https://vimeo.com/638197470">https://vimeo.com/638197470</a> (3)	<a href="https://www.zerohedge.com/covid-19/white-house-details-plan-to-quickly-vaccinate-28m-children-ages-5-11">https://www.zerohedge.com/covid-19/white-house-details-plan-to-quickly-vaccinate-28m-children-ages-5-11</a> White House Details Plan To "Quickly" Vaccinate 28 Million Children Age 5-11 (21)	<a href="https://childrenshealthdefense.org/defender/fda-endorses-pfizer-covid-vaccine-children/">https://childrenshealthdefense.org/defender/fda-endorses-pfizer-covid-vaccine-children/</a> Breaking: FDA Panel Endorses Pfizer Shots for 5- to 11-Year-Olds, Experts Say Vaccine for Kids Is 'Unnecessary, Premature and Will Do More Harm Than Good' (8)

11

## Top Influencers by County October 22 – October 28

❑ The top 5 influencers\* for each region related to COVID19/vaccines are as follows:

Allegheny	Butler	Cambria	Fayette	West Moreland	Beaver	Indiana
djlange	TheDanKingerski	rumbunter	LaBelle50 (high bot score)	MartyGriffinKD	colin_dunlap	IUPIceHockeyD3
Jimmy_Jeans	TaylorHaasePGH	mleblond1	Kwontana24 (high bot score)	erjmanlasvegas	TribLiveHSSN	shugarsljo (high bot score)
iTamaraLoves45	M_jopink	Antagonizer11	ShariseJMoore	MeghanKDKA	PghSportsNow	SysterJeff (high bot score)
KDKA	DeniseSmith67	HayHayneil	irishpatriot386 (high bot score)	AJWPAL	warriors_cv	WilsonSomerlyn
ENirenberg	Emilycaryn	ConemaughHealth	Gigi419 (high bot score)	teddyevangelo	thompson5devel	bri_clari

\*influencers are defined as accounts with tweets often spread by others (ordered by out-degree centrality)

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## Top Influencers by City October 22 – October 28

❑ The top 5 influencers\* for each region related to COVID19/vaccines are as follows:

Philadelphia	Chester	Norristown	Pittsburgh	Erie	Allentown/Bethlehem	Other
FoxNews	CortesSteve	GovernorTomWolf	djlang	yaneerbaryam	PAHealthDept	disclosetv
catturd2	drccraigwax	aginnt	Jimmy_Jeans	ECDOH	crazyjo43424351	KatieDavisCourt
RubinReport	DrsMeena	NotAlexSheppard	iTamaraLoves45	Kristy4PA	SenBobCasey	EmeraldRobinson
patriottakes		TODAYshow	KDKA	GoErie	ScooterCasterNY	Chicago1Ray
DragonflyJonez	MobyKat6969	factcheckdotorg	ENirenberg	davisforerie	44MagnumBlue1	RWMaloneMD

\*influencers are defined as accounts with tweets often spread by others (ordered by out-degree centrality)

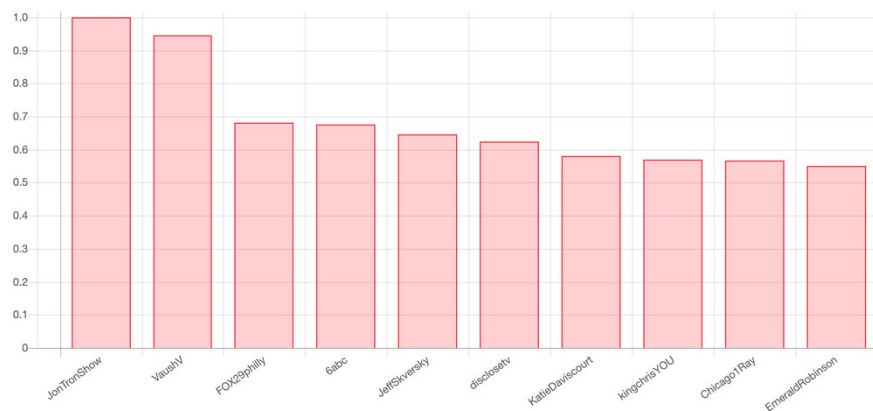
1/11/2022



13

## Analysis of Tweeters - Super Spreaders

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



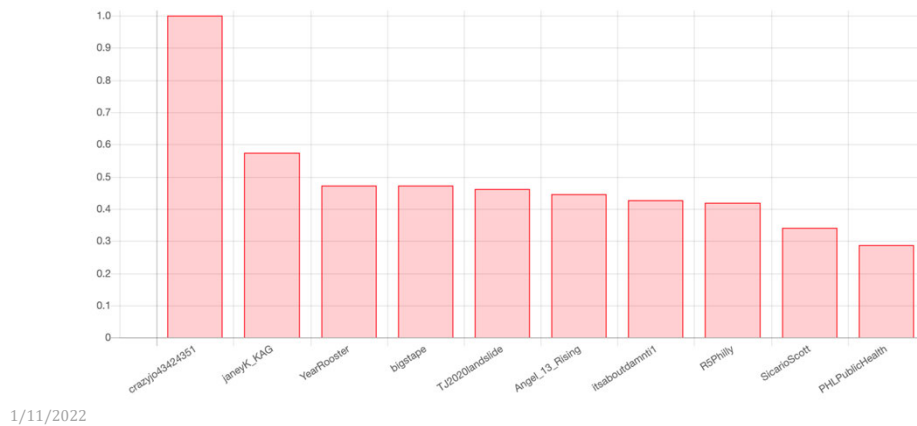
1/11/2022



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## Analysis of Tweeters - Super Friends

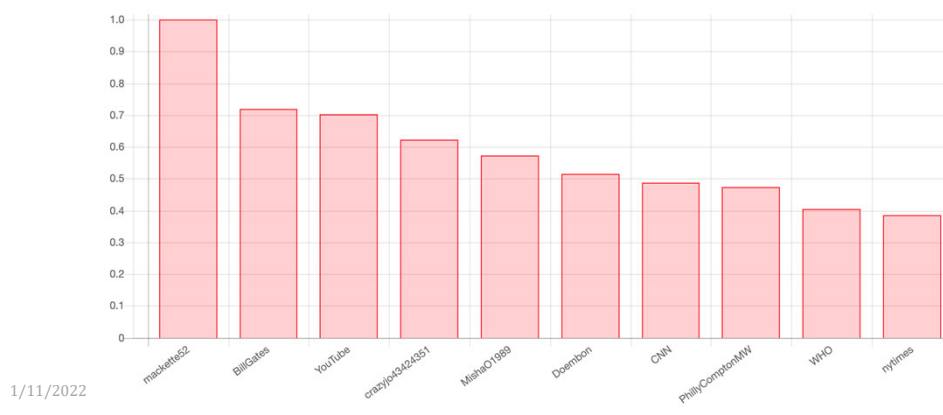
- Super Friends are users that exhibit frequent two-way communication, facilitating large or strong communication networks.



15

## 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.



16



## 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
<a href="#">GovMurphy</a>	705
<a href="#">memnus</a>	667
<a href="#">drdavidsamadi</a>	594
<a href="#">pfizer</a>	564
<a href="#">RWMaloneMD</a>	468
<a href="#">politicalwilli</a>	382
<a href="#">CDCgov</a>	336
<a href="#">GovernorTomWolf</a>	336
<a href="#">RubinReport</a>	333
<a href="#">GovMurphy</a>	705

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## Trending Tweets October 22 – October 28

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

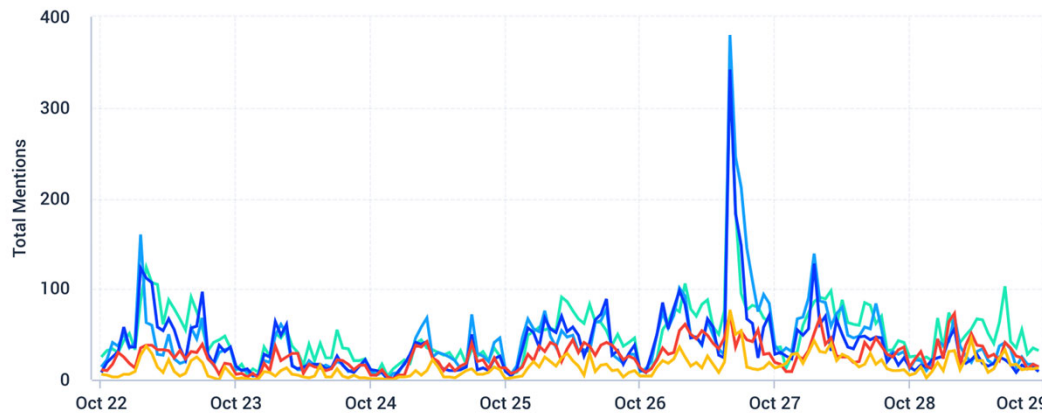
- ❑ NOW: Seattle firefighters and Seattle police officers that were fired for not complying with the vaccine mandate are out feeding the homeless. <https://t.co/33S42hg9Aa>
- ❑ BOOM...Just (1) in (10) Cops in Philadelphia are reporting their vaccine status... Pushback folks... freedom ain't free..
- ❑ The Prime Minister of New Zealand proudly admits that she has created two classes of people — the vaccinated and the unvaccinated. <https://t.co/RkwzPGAU04>
- ❑ The NYPD and other municipal workers just blocked traffic on the Brooklyn bridge, not to protest murders, but to protest vaccine mandates. <https://t.co/MAPQOCyaXV>
- ❑ Our contention should not be with whoever is or is not vaccinated. Our contention should be with the CCP, Fauci, and all the enablers.
- ❑ Choice is defined as an act of selecting or making a decision when faced with two or more possibilities. America gave us the choice to take the vaccine or not take the vaccine. As time moves on, that choice is gradually being stripped from us. <https://t.co/7F6RsWaDkL>
- ❑ Boots of firefighters and police officers who decided to lose their job instead of getting vaccinated. <https://t.co/FkLERRE11h>
- ❑ NOW - Seattle Fire and Police, discharged for noncompliance with the vaccine mandate, turn in their boots at the city hall. <https://t.co/O8ogfdaYTd>
- ❑ Journalist Alex Berenson just told the world: the vaccinated have LESS immunity to COVID than the unvaccinated. His source? The British government.
- ❑ FDA Voting Member: "We're never gonna learn about how safe the vaccine is until we start giving it." 📺 Video HT @politicalwilli <https://t.co/OMAp49Qow>

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## General PA Conversation October 22 – October 28

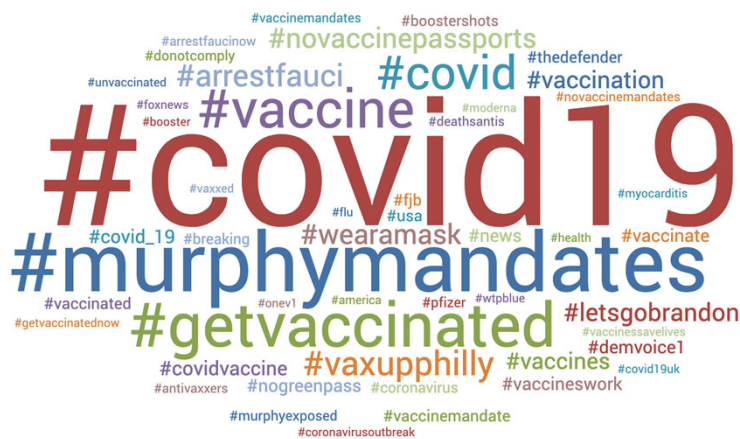


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## PA Hashtag Cloud October 22 – October 28



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## Trending PA links October 22 – October 28

- ❑ [yourlocalepidemiologist.substack.com](https://yourlocalepidemiologist.substack.com) - Vaccines for 5-11 year olds: FDA meeting cliff notes (77 Mentions)
- ❑ [westernjournal.com](https://westernjournal.com) - Sweden Suspends Moderna Shot Indefinitely After Vaxxed Patients Develop Crippling Heart Condition (60 Mentions)
- ❑ [vaccines.gov](https://vaccines.gov) - Find COVID-19 vaccine locations near you (50 Mentions)
- ❑ [childrenshealthdefense.org](https://childrenshealthdefense.org) - Sign Up for our Free News and Updates! (43 Mentions)
- ❑ [babylonbee.com](https://babylonbee.com) - Pfizer Claims Vaccine Will Reduce Average Daily Child COVID Deaths From Almost Zero To Almost Zero (40 Mentions)
- ❑ [alexberenson.substack.com](https://alexberenson.substack.com) - URGENT: Covid vaccines will keep you from acquiring full immunity EVEN IF YOU ARE INFECTED AND RECOVER (38 Mentions)
- ❑ [snopes.com](https://snopes.com) - Did Fauci Spend Taxpayer Dollars on 'Cruel and Unnecessary' Test of Vaccine on Beagles? (37 Mentions)

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## Trending PA tweets October 22 – October 28

Choice is defined as an act of selecting or making a decision when faced with two or more possibilities. America gave us the choice to take the vaccine or not take the vaccine. As time moves on, that choice is gradually being stripped from us.  
<https://t.co/7F6RsWaDkL>

**113**  
Retweets

I'm 53. I needed proof of vaccination to start Kindergarten in August 1973. 99% of parents complied as a matter of rote. This was NEVER an infringement upon one's liberty. America didn't cease to be free because I ensured I wasn't ground zero for measles. This is all BULLSHIT.

**93**  
Retweets

So vaccine mandates are an infringement of personal freedom, but abortion bans aren't?

**95**  
Retweets

BREAKING REPORT: City of Philadelphia Firefighters Union Local 22 Scores Big Win, "Philadelphia WILL NOT BE ENFORCING THE MANDATE this week or in the future." "... All Employees REGARDLESS OF VACCINATION STATUS should report to work..."

**93**  
Retweets

Update: I am still unvaccinated. I survived the greatest psychological fear campaign in human history. I choose to operate at a frequency above fear. I see our media and governments for what they are now: powerless without our incessant fear. The emperors have no clothes.


**94**  
Retweets

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


22


## Trending PA tweets October 22 – October 28


**veritastips@protonmail.com**  
 @ericsspracklen  
 BREAKING: Campaign Senior Advisor Reveals @GovMurphy to Impose State-Wide COVID Vax Mandate AFTER Re-Election "He [Murphy] is going to do it [COVID vaccine mandate], but he couldn't do it before the elections." #MurphyMandates <https://t.co/xnFnUSOQS6>


87 Retweets


**Catturd™**  
 @catturd2  
 I've noticed there's a shortage of almost everything in this country except COVID vaccines and booster shots.


74 Retweets


**Liz Wheeler**  
 @liz\_wheeler  
 1/ BREAKING: I've obtained documents exposing the U.S. Navy's plan to issue blanket denial of religious exemptions to the COVID vaccine mandate, in violation of Navy policy.


84 Retweets


**Breaking911**  
 @breaking911  
 'HOLD THE LINE' - Thousands of NYPD, FDNY & other city workers march across Brooklyn Bridge in protest of city's vaccine mandate <https://t.co/dzvaFafXtb>

74 Retweets


**Occupy Democrats**  
 @occupydemocrats  
 BREAKING: In a BIG loss for Governor Abbott, a Texas judge sets a major legal precedent by green-lighting Southwest Airlines' pilot vaccine mandate, ruling that it "improves the safety of air travel" and "working conditions for ALL pilots." RT IF YOU SUPPORT THE JUDGE'S DECISION!

75 Retweets


 CASOS  
 Carnegie Mellon University

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## Top PA Twitter Authors October 22 – October 28

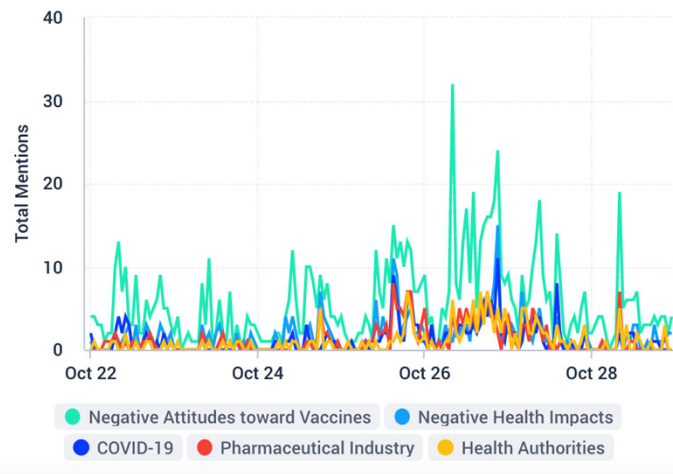
By mentions	By influence
@doembon	@malcolmnance
@kirkturner777	@fox29philly
@mishao1989	@accuweather
@iridescentashes	@nbcphiladelphia
@rliberalskiddin	@brithume
@erin_vmd	@phillyinquirer
@c3kenneth	@wpxi
@radajjoei	@cbsphilly
@cdale1	@kdka
@tsmarcella321	@pittsburghpg

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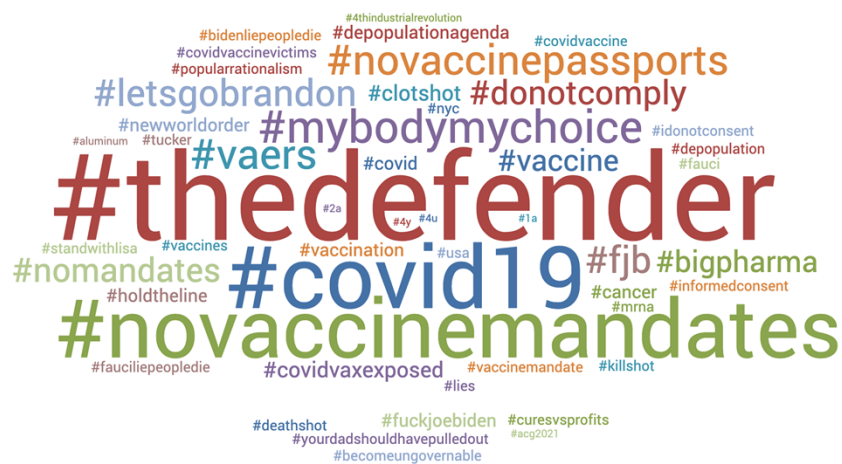
24

## Negative Attitudes October 22 – October 28



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## Negative Hashtag Cloud October 22 – October 28



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## Trending negative PA stories October 22 – October 28

- ❑ [childrenshealthdefense.org](https://childrenshealthdefense.org) - Sign Up for our Free News and Updates! (39 Mentions)
- ❑ [childrenshealthdefense.org](https://childrenshealthdefense.org) - CHD to Sue FDA for 'Recklessly Endangering' Children if Agency Authorizes Pfizer Vaccine for Children 5 to 11 Years Old (23 Mentions)
- ❑ [pubmed.ncbi.nlm.nih.gov](https://pubmed.ncbi.nlm.nih.gov) - Informed consent disclosure to vaccine trial subjects of risk of COVID-19 vaccines worsening clinical disease – PubMed (13 Mentions)
- ❑ [openvaers.com](https://openvaers.com) - COVID Vaccine Data (12 Mentions)
- ❑ [childrenshealthdefense.org](https://childrenshealthdefense.org) - 17-Year-Old Develops Multisystem Inflammatory Syndrome and Myocarditis After Pfizer Vaccine, Report Shows (16 Mentions)
- ❑ [trialsitenews.com](https://trialsitenews.com) - For the public record: Critical questions FDA must address about vaccine safety (9 Mentions)
- ❑ [childrenshealthdefense.org](https://childrenshealthdefense.org) - Michigan Woman Died From Blood Clots After Receiving J&J's COVID Vaccine, Autopsy Confirms (7 Mentions)

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## Trending Negative PA tweets October 22 – October 28

- 1 **Robert F. Kennedy Jr**  
@robertkennedyjr
- Yes, we will take legal action against FDA if the agency grants Emergency Use Authorization for Pfizer's vaccine for children aged 5-11. SIGN UP #TheDefender: <https://t.co/zL66EdwTnD>  
<https://t.co/CiCGeL3XmL>
- 23 Retweets
- What if we all just said no? No to arbitrary mandates; no to masks that our own infectious disease expert said don't work; no to experimental vaccines; no to medical tyranny; no to enriching billionaire globalists at the expense of working Americans. Then what?
- 11 Retweets
- This is Pfizer \*admitting\* it is seeking an EUA for 5-12 year olds to get injected with an \*experimental\* vaccine. Parents' children are not caged puppies in some Pfizer experiment. Lawmakers must get involved. Put a stop to this right now. ▼  
<https://t.co/MXWJw2KP2k>
- 11 Retweets
- Look. I am also against government overreach. Tell me WHY THIS VACCINE MANDATE is worse than all the vaccine mandates my schools had in place for the last half century. I could not go to school without. How are they any different? I AM SERIOUSLY ASKING.
- 10 Retweets
- 5 **Robert F. Kennedy Jr**  
@robertkennedyjr
- A peer-reviewed brief report in Acta Paediatrica describes case of multisystem inflammatory syndrome in a previously healthy 17-year-old male who developed fever, vomiting, myalgia + chest pain 5 days after his second dose of Pfizer vaccine. <https://t.co/KUdBMJBmal>
- 9 Retweets

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\*support for vaccines may appear in this section if the comments on that post were expressing criticism of that post.



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## Trending Negative PA tweets October 22 – October 28

- 6  **MAGA MICHELLE GO TO HELL BIDEN!**  
@primaryallrino  
Over 4K people were injured by the Swine flu vaccine in 1976 & they filed a lawsuit for \$3.5 billion dollars...thus the program ended. Sadly we don't have that luxury. Nothing will stop these MONSTERS! 🤮  
9 Retweets
- 7  **Steve Kirsch**  
@stkirsch  
My VRBPAC testimony today. It gets really interesting after slide 30. We are vaccinating 28 million kids to maybe save 14 lives. <https://t.co/qwzSaiZqW7>  
9 Retweets
- 8  **Dr. Simone Gold**  
@drsimonegold  
In-N-Out responds to San Francisco after officials forced one of their restaurants to shut down over a discriminatory mandate that requires proof of vaccination in order to dine-in at restaurants. "This is clear government overreach and is intrusive, improper, and offensive." <https://t.co/ocVlslp75A>  
8 Retweets
- 9  **Dr. Doug Corrigan**  
@sciencewdoug  
How people who think the vaccine is safe must explain VAERS data. <https://t.co/q1fi7RdvoA>  
8 Retweets
- 10  **Robert F. Kennedy Jr**  
@robertkennedyjr  
Autopsy confirms 60-year-old Sandra Jacobs died from cerebral venous sinus thrombosis, a rare blood-clotting disorder, after receiving Johnson & Johnson's COVID vaccine. SIGN UP #TheDefender: <https://t.co/zL66Edfiw5>  
<https://t.co/1IM6mavDOI>  
7 Retweets

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## Top PA Negative Twitter Authors October 22 – October 28

By mentions	By influence
@mishao1989	@fox29philly
@jsm2334	@brithume
@kirkturner777	@cbs21news
@lifebiomedguru	@chris_1791
@radajjoei	@kocyildirim
@doembon	@joegooding
@jwetzels70	@leslibless
@bowerda222	@godandthebear
@lainiebel	@unclehotep
@c3kenneth	@mcent

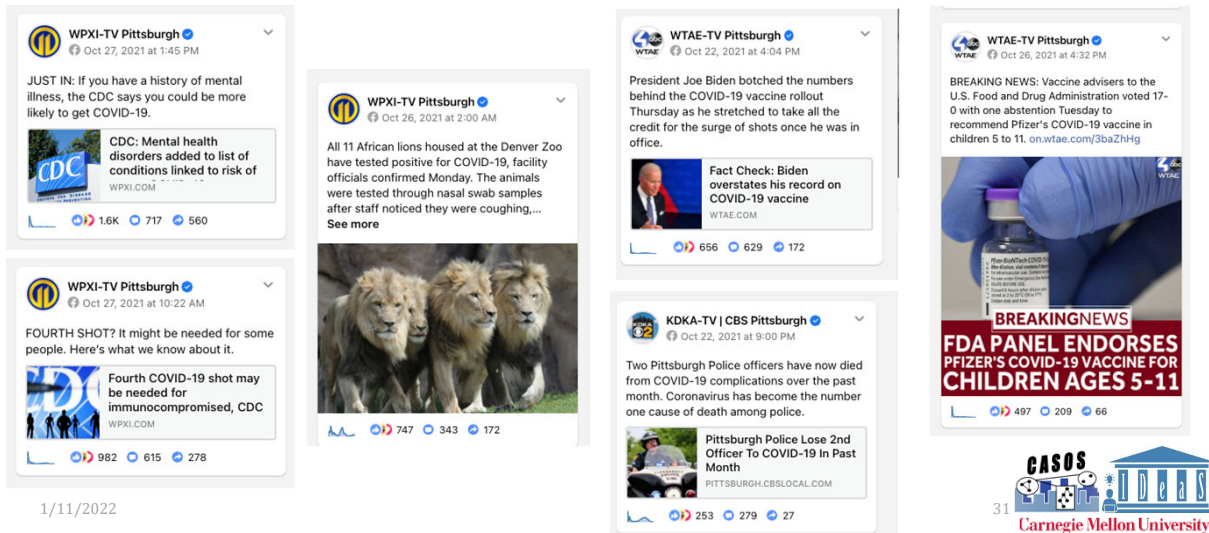
\*support for vaccines may appear in this section if the comments on that post were expressing criticism of that post.

1/11/2022



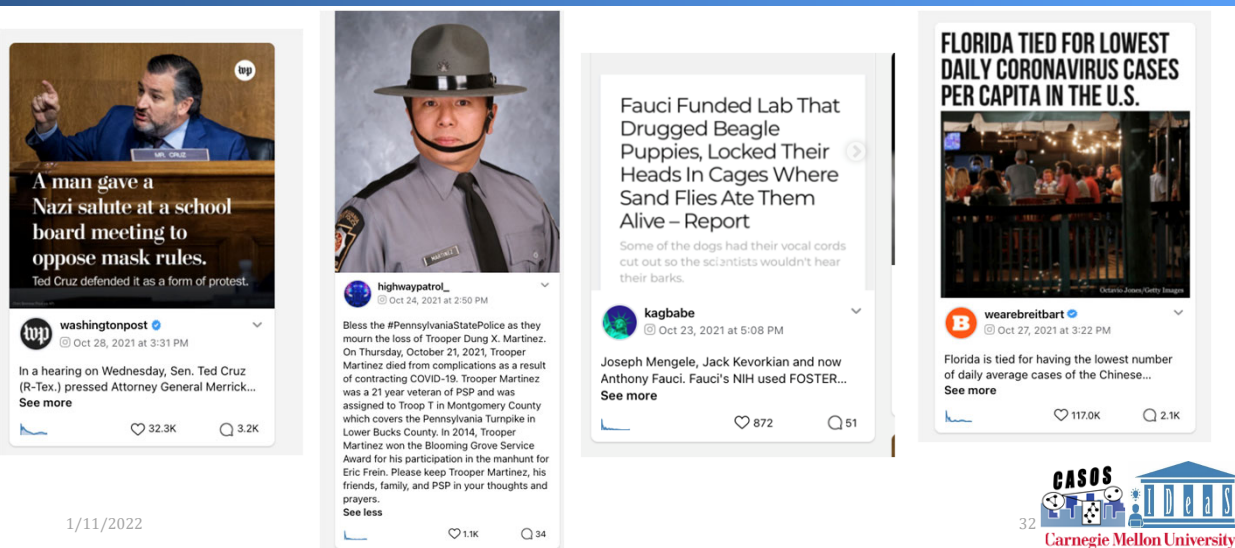
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## Trending Posts on Facebook October 22 – October 28



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## Trending Posts on Instagram October 22 – October 28



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## Trending Posts on Reddit October 22 – October 28

Posted 8 hours ago to Nursing for nurses and...

**I'm not a nurse but my husband refuses to get the vaccine.**

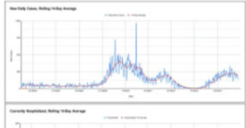
REDD.IT

UPVOTES 79 COMMENTS 137

Posted 4 days ago to Lancaster, PA

**Lancaster County COVID-19 Charts**

REDD.IT



UPVOTES 34 COMMENTS 2

Posted 7 days ago to People who actively act ...

**Taste of Italy in palmyra pa deadnames transgender doctor and skirts COVID regulations**

REDD.IT

"These stores are not worthy to carry my high quality product owned by a person with conviction to take a stand against a tyrannical Governor who does things that are UNCONSTITUTIONAL and then you have his very 'confused' sidekick who was born a man and made a man by God himself (that would be Richard) and this guy is making decisions about the health of PA residents lol, who's the one that's actually 'out there'????!!," Mangano writes.

In a statement to LebTown, Giant spokeswoman Ashley Flower said, "we are committed to being an inclusive place to work and shop, reflective of the diverse communities we are honored to serve. We are dedicated to providing a culture of inclusion and belonging for all team members, supplier partners, customers and..."

UPVOTES 134 COMMENTS 25

Posted 2 days ago to Lockdown Critical Left

**Now that vaccine is approved for children...**

REDD.IT

UPVOTES 47 COMMENTS 67

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

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