

PA Vaccine Conversations on Twitter

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Vaccine Hesitancy Project Update based on January 14, 2022 – January 20, 2022

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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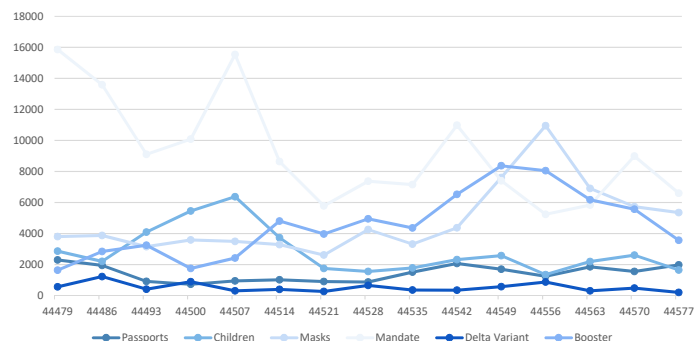
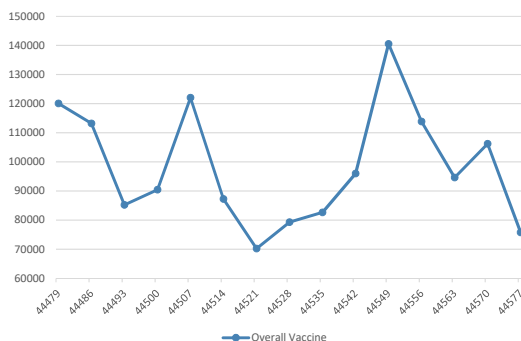
Report Overview January 14 – January 20

- ❑ This week's trending stories cover Mandates, Omicron, Myocarditis, Sports;
- ❑ Trending stories: <http://news.sky.com/story/boris-johnson-says-nobody-told-me-no-10-lockdown-garden-party-was-against-the-rules-12519115> Boris Johnson says 'nobody told me' Number 10 lockdown garden party was against the rules; <https://wapo.st/3Fqkr0t> Youngkin pick for medical adviser bucks trends on covid; <http://ow.ly/tfll50H9zwg> You will need to be fully vaccinated against COVID to enter any establishment that serves food in Philly; <https://whyw.org/articles/why-a-suburban-teen-went-to-philly-to-get-his-covid-19-vaccine/> Why a suburban teen went to Philly to get his COVID-19 vaccine; <https://www.thetimes.co.uk/article/live-by-the-pint-die-by-the-pint-dh0dqzftl> Live by the pint, die by the pint
- ❑ Anti-vax, disinformation, or vaccine hesitancy stories: <https://ift.tt/3fyt05> RT France: Pfizer has earned "about \$36 billion" since 2020, says CEO Albert Bourla; <https://unherd.com/thepost/israeli-vaccine-chief-we-have-made-mistakes/> Israeli vaccine advisor: "We have made mistakes"; <https://summit.news/2022/01/17/poll-finds-close-to-half-of-democratic-voters-want-covid-internment-camps-for-the-unvaccinated/> Poll Finds Close To Half Of Democratic Voters Want COVID Internment Camps For The Unvaccinated; <https://www.lifesitenews.com/blogs/horrifying-hidden-pfizer-data-show-unborn-babies-newborns-dying/> FOIA docs reveal Pfizer shot caused avalanche of miscarriages, stillborn babies; <https://twitter.com/ScooterCasterNY/status/1482233101036232706> "This is the civil rights movement again" - shouted one of the people arrested at Olive Garden restaurant in New York City after refusing to show vaccine cards and refusing to leave. Multiple people were arrested. Full video https://youtu.be/hO_34PKuUCQ; <https://rumble.com/vqw0cd-episode-20-naturally-infected-feat-rep-thomas-massie-firebrand-with-matt.html> Episode 20: Naturally Infected (feat. Rep. Thomas Massie) – Firebrand with Matt Gaetz

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Trends (tweets per week) January 14 – January 20



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High Level View by City January 14 – January 20

	Total PA	Philadelphia		Pittsburgh		Erie		Allentown/Bethlehem		Other	
Conversation	Tweets	Tweets	%	Tweets	%	Tweets	%	Tweets	%	Tweets	%
Overall Vaccine	64748	35913	55.5%	17030	26.3%	632	1.0%	8610	13.3%	2563	4.0%
Vaccine Passports	1951	1138	3.2%	360	2.1%	31	4.9%	378	4.4%	44	1.7%
FDA Approval	77	36	0.1%	18	0.1%	0	0.0%	22	0.3%	1	0.0%
Boosters	1924	1071	3.0%	432	2.5%	27	4.3%	294	3.4%	100	3.9%
Employees	1012	503	1.4%	180	1.1%	9	1.4%	269	3.1%	51	2.0%
"Experimental"	179	92	0.3%	47	0.3%	1	0.2%	29	0.3%	10	0.4%
Children	1251	636	1.8%	297	1.7%	24	3.8%	246	2.9%	48	1.9%
Myocarditis	551	313	0.9%	122	0.7%	3	0.5%	97	1.1%	16	0.6%
Heart	497	251	0.7%	140	0.8%	6	0.9%	81	0.9%	19	0.7%
Masks	5319	2987	8.3%	1069	6.3%	61	9.7%	861	10.0%	341	13.3%
Thrombosis/VITT	48	22	0.1%	10	0.1%	0	0.0%	13	0.2%	3	0.1%
Mandates	6571	3620	10.1%	1348	7.9%	89	14.1%	1234	14.3%	280	10.9%
Natural Immunity	598	361	1.0%	121	0.7%	6	0.9%	99	1.1%	11	0.4%
Efficacy	431	260	0.7%	88	0.5%	4	0.6%	73	0.8%	6	0.2%
Omicron	1702	927	2.6%	391	2.3%	20	3.2%	293	3.4%	71	2.8%
Delta Variant	200	117	0.3%	34	0.2%	2	0.3%	31	0.4%	16	0.6%
Race	1039	517	1.4%	280	1.6%	10	1.6%	171	2.0%	61	2.4%
Ivermectin	139	61	0.2%	38	0.2%	3	0.5%	27	0.3%	10	0.4%
Military	117	56	0.2%	32	0.2%	1	0.2%	21	0.2%	7	0.3%
Breakthrough	105	56	0.2%	28	0.2%	1	0.2%	17	0.2%	3	0.1%

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Trending conversations this week:

- Passports
- Myocarditis



High Level View by County January 14 – January 20

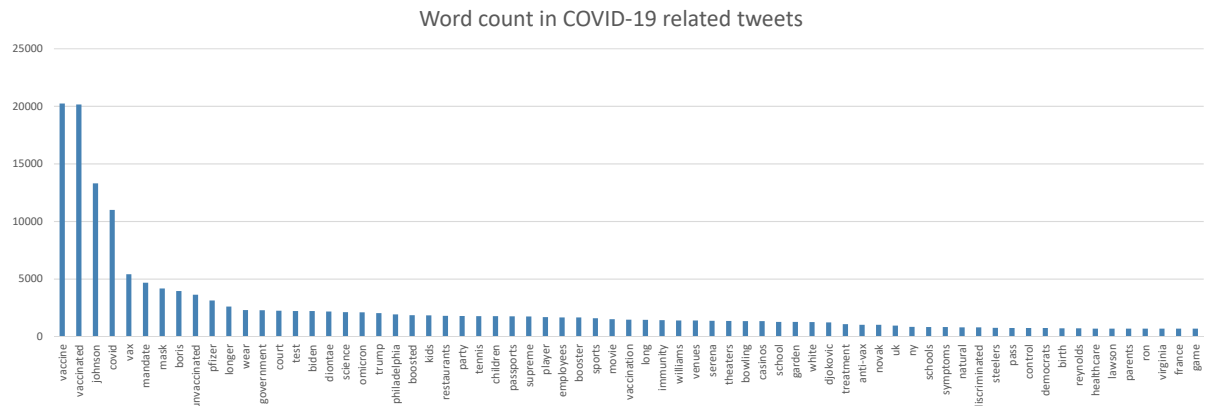
County	Allegheny	Beaver	Butler	Cambria	Fayette	Indiana	Somerset	Westmoreland
Overall Vaccine	17479	53	66	26	19	32	4	67
Vaccine Passports	363	4	1		2	1		4
FDA	18							
Boosters	450	3	2	1	1			3
Employees	186		4		2			4
"Experimental"	49							
Children	306		1		1	1		1
Myocarditis	123							
Heart	144		2					
Masks	1118	4	12	6	4	6	1	7
Thrombosis/VITT	10							
Mandates	1377	3	12		6	7		10
Natural Immunity	121	1						1
Efficacy	88					1		1
Omicron	402		3					1
Delta Variant	34				1			
Race	288	1	2				1	1
Ivermectin	41		1					
Military	36							
Breakthrough	28							

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



Top Words Used per Week January 14 – January 20



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Top Hashtags by County January 14 – January 20

❑ 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	Indiana	Somerset	West Moreland
steelers (452)	covidvaccine (4)	wearecc (2)	lockdown (1)	sistersinlaw (1)	voterizer (1)	boycottstarbucks (1)
covid19 (248)	covid (2)	herewego (1)	microdosing (1)		votingrightsforthepeople (1)	covid (1)
nfl (95)	omicron (2)		podcast (1)			nfl (1)
vaccine (79)	australiahasfallen (1)		vaccine (1)			supremecourt (1)
nfl (70)	steelers (1)		vaccinemandate (1)			trumprally (1)

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Top Hashtags by City January 14 – January 20

- ❑ 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 (327)	covid19 (198)	covid19 (292)	steelers (446)	covid19 (13)	covid19 (109)	covid19 (48)
omicron (255)	novaccinepassports (150)	novaccinepassports (199)	covid19 (240)	steelers (5)	crimesagainsthumanity (51)	vaccine (31)
vaccinemandate (198)	demvoice1 (17)	moderna (64)	herewego (216)	cdnpoli (3)	vaccine (32)	fauci (15)
mandates (182)	omicron (14)	pfizer (64)	nhl (95)	cervicalhealthawarenessmonth (2)	omicron (22)	steelers (15)
protest (179)	cholesterol (11)	vaccineinjuries (56)	vaccine (78)	demvoice1 (2)	boycottstarbucks (19)	eagles (13)

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Top URLs by County January 14 – January 20

Allegheny	Butler + Beaver	Cambria	Indiana + Somerset	Fayette	West Moreland
https://ift.tt/3fyo05 RT France: Pfizer has earned "about \$36 billion" since 2020, says CEO Albert Bourla (163)	https://summitnews.com/2022/01/17/poll-finds-close-to-half-of-democratic-voters-want-covid-internment-camps-for-the-unvaccinated/ Poll Finds Close To Half Of Democratic Voters Want COVID Internment Camps For The Unvaccinated (1)	https://pittsburgh.cbslocal.com/2022/01/18/covid-19-hospitalizations-still-climbing-in-pennsylvania/ Majority Of Pennsylvania's COVID-19 Cases, Hospitalizations And Deaths In 2021 Among Unvaccinated (1)	https://politicon.podlink.to/sistersinlaw/#SistersInLaw (1)	https://bbc.in/351ihix Nobody warned me drinks event was against rules - Boris Johnson (1)	https://www.nytimes.com/2022/01/10/opinion/boris-johnson-britain-bills.html Boris Johnson Is Revealing Who He Really Is (2)
https://rumble.com/vw90cd-episode-20-naturally-infected-feat-rep-thomas-massie-firebrand-with-matt-gaetz.html Episode 20: Naturally Infected (feat. Rep. Thomas Massie) - Firebrand with Matt Gaetz (84)	https://wapo.st/3Fokr0t Youngkin pick for medical adviser bucks trends on covid (1)		https://vm.tiktok.com/ZMLe3pdPN/ No beds means no beds #icunurse #omicron (1)	https://apple.news/AWib3JhYgQaCv9tizU Law enforcement skeptical of Biden's 'ill-timed' pivot to executive orders on police reform: 'Not sustainable' (1)	https://greatgameindia.com/fully-vaccinated-die-covid/ Fully Vaccinated More Likely To Die From COVID Than Unvaccinated Shows Shocking Scottish Report (1)
http://news.sky.com/story/boris-johnson-says-nobody-told-me-no-10-lockdown-garden-party-was-against-the-rules-12519115 Boris Johnson says 'nobody told me' Number 10 lockdown garden party was against the rules (63)	https://www.lifesitenews.com/blogs/horrifying-hidden-pfizer-data-show-unborn-babies-newborns-dying/ FOIA docs reveal Pfizer shot caused avalanche of miscarriages, stillborn babies (1)		https://www.bloomberg.com/opinion/articles/2022-01-13/supreme-court-block-of-biden-s-vaccine-mandate-sows-trouble No, Supreme Court, States Alone Can't Manage Pandemics (1)	https://trib.al/gRyd3P0 Man claims he has lost 1.5 inches from length of his penis after COVID caused him severe vascular damage - and doctors have told him it's irreversible (1)	https://trib.al/7ZS9mDj Nearly 4-in-10 Illegal Aliens Refusing Coronavirus Vaccine as Americans Hit with Mandates (1)
https://unherd.com/the-post/israeli-vaccine-chief-we-have-made-mistakes/ Israeli vaccine advisor: 'We have made mistakes' (48)	https://n.pr/31RaU54 West Virginia Gov. Jim Justice 'extremely unwell' after testing positive for COVID-19 (1)		https://www.mirror.co.uk/news/politics/boris-johnsons-wine-time-fridays-25951853 Boris Johnson's 'wine time Fridays' - No10 staff held drinks EVERY week during pandemic (1)	https://www.clayandbuck.com/shock-poll-what-democrats-want-to-do-to-the-unvaxxed/ Shock Poll: What Dem Voters Want To Do To The Unvaxxed (1)	https://trib.al/x41ALhQ Cannabis Compounds Prevented Covid Infection in Laboratory Study (1)
https://wapo.st/3Fokr0t Youngkin pick for medical adviser bucks trends on covid (47)	https://www.nytimes.com/2022/01/15/opinion/omicron-children-parents.html Here's Some (Slightly) Less Worrisome Covid-and-Kids News (1)		https://www.theatlantic.com/ideas/archive/2022/01/hidden-worker-vaccine-mandate-scotus-osha-standard/621249/ The Culture War Has Warped The Supreme Court's Judgment (1)	https://www.dailymkos.com/stories/2022/1/14/20224744/-Parody-is-dead-Fox-News-put-out-a-cocktail-guide-for-urine?pm_source=story&pm_medium=web&pm_campaign=recommended Parody is dead: Fox News actually published a cocktail guide for urine (1)	https://www.cnn.com/2022/01/13/omicron-hidden-deploys-military-medical-personnel-to-hospitals-in-six-states.html Biden deploys military medical teams to hospitals in six states as omicron disrupts essential services (1)

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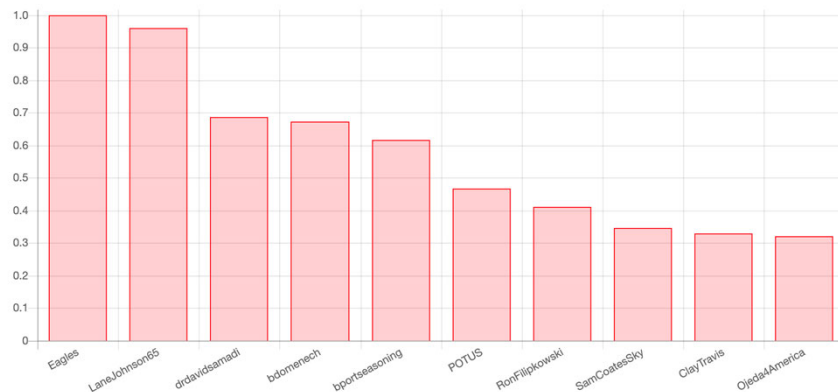
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http://ow.ly/ftlI50H9ewg You will need to be fully vaccinated against COVID to enter any establishment that serves food in Philly (97)	https://news.co.uk/news/politics/all-the-tory-mps-calling-for-boris-johnson-to-resign-and-the-two-ministers-who-have-openly-criticised-the-pm-1407551 All the Tory MPs calling for Boris Johnson to resign and the two ministers who have openly criticised the PM (19)	https://twitter.com/ied_mercurio/status/1483419587542761472 Critical video about Boris Johnson and his parties during quarantine(44)	https://rumble.com/vqwo0cd-episode-20-naturally-infected-feat-rep-thomas-massie-firebrand-with-matt.html Episode 20: Naturally Infected (feat. Rep. Thomas Massie) – Firebrand with Matt Gaetz (84)	https://buff.ly/3GwVemC vaccination clinic (5)	https://www.lifesitenews.com/blogs/horrifying-hidden-pfizer-data-show-unborn-babies-newborns-dying/ FOIA docs reveal Pfizer shot caused avalanche of miscarriages, stillborn babies (36)	https://www.lifesitenews.com/blogs/horrifying-hidden-pfizer-data-show-unborn-babies-newborns-dying/ FOIA docs reveal Pfizer shot caused avalanche of miscarriages, stillborn babies (7)
https://why.org/articles/why-a-suburban-teen-went-to-philly-to-get-his-covid-19-vaccine/ Why a suburban teen went to Philly to get his COVID-19 vaccine (80)	https://twitter.com/kelly_carlin/status/1429299277721815117s=21 Hate to tell ya buddy, he'd have been first in line for the vaccine. (15)	https://www.medrxiv.org/content/10.1101/2022.01.13.22269243v1 Limited cross-variant immunity after infection with the SARS-CoV-2 Omicron variant without vaccination (28)	http://news.sky.com/story/boris-johnson-says-nobody-told-me-no-10-lockdown-garden-party-was-against-the-rules-12519115 Boris Johnson says 'nobody told me' Number 10 lockdown garden party was against the rules (63)	https://vmas.com/intelligence/2022/01/ron-desantis-2024-president-campaign-trump-covid-lockdown-booster-vaccine.html DeSantis 2024: If You Think Trump Was Too Sane and Honest About COVID The Florida governor sets up a contrast to Trump's right on the pandemic. (3)	https://rumble.com/vqwo0cd-episode-20-naturally-infected-feat-rep-thomas-massie-firebrand-with-matt.html Episode 20: Naturally Infected (feat. Rep. Thomas Massie) – Firebrand with Matt Gaetz (29)	https://www.theatlantic.com/ideas/archive/2022/01/novak-djokovic-vaccine-australia-special-treatment/621270/ The Selfishness of Novak Djokovic (7)
https://www.nytimes.com/2022/01/15/health/mrna-vaccine.html Halting Progress and Happy Accidents: How mRNA Vaccines Were Made (76)	https://rumble.com/vqwo0cd-episode-20-naturally-infected-feat-rep-thomas-massie-firebrand-with-matt.html Episode 20: Naturally Infected (feat. Rep. Thomas Massie) – Firebrand with Matt Gaetz (12)	https://morningconsult.com/global-vaccine-tracking/ Across the Globe, Rates of Vaccine Skepticism Have Stalled (25)	https://unherd.com/thepost/israel-vaccine-chief-we-have-made-mistakes/ Israel vaccine advisor: "We have made mistakes" (48)	https://www.alberta.ca/stats/covid-19-alberta-statistics.htm#vaccine-outcomes COVID-19 Alberta statistics (27)	https://www.alberta.ca/stats/covid-19-alberta-statistics.htm#vaccine-outcomes COVID-19 Alberta statistics (27)	https://why.org/articles/why-a-suburban-teen-went-to-philly-to-get-his-covid-19-vaccine/ Why a suburban teen went to Philly to get his COVID-19 vaccine (6)
https://rumble.com/vqwo0cd-episode-20-naturally-infected-feat-rep-thomas-massie-firebrand-with-matt.html Episode 20: Naturally Infected (feat. Rep. Thomas Massie) – Firebrand with Matt Gaetz (61)	https://www.nature.com/articles/s41423-021-00329-3 Comprehensive investigations revealed consistent pathophysiological alterations after vaccination with COVID-19 vaccines (11)	https://www.reuters.com/world/middle-east/israeli-study-shows-4th-shot-covid-19-vaccine-not-able-block-omicron-2022-01-17/ Israeli study shows 4th shot of COVID-19 vaccine less effective on Omicron (16)	https://wapo.st/3fqr0t Youngkin pick for medical adviser bucks trends on covid (47)	https://twitter.com/jordanschachtel/status/1473404932338470915?s=10 dossier.substack.com (3)	https://www.telegraph.co.uk/news/2022/01/12/migrants-will-stop-britains-population-falling-next-decade/ Migrants will stop Britain's population from falling during next decade (23)	https://www.alberta.ca/stats/covid-19-alberta-statistics.htm#vaccine-outcomes COVID-19 Alberta statistics (6)

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Analysis of Tweeters - Super Spreaders

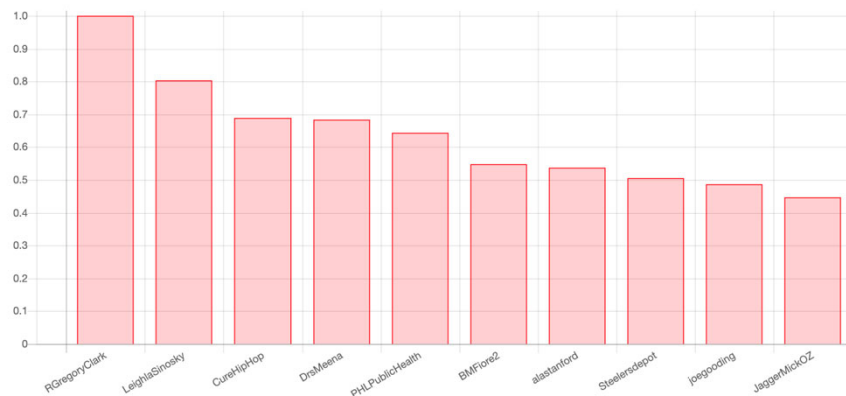
- ❑ Super Spreaders are users which generate content that is shared often, and hence spread information effectively.



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Analysis of Tweeters - Super Friends

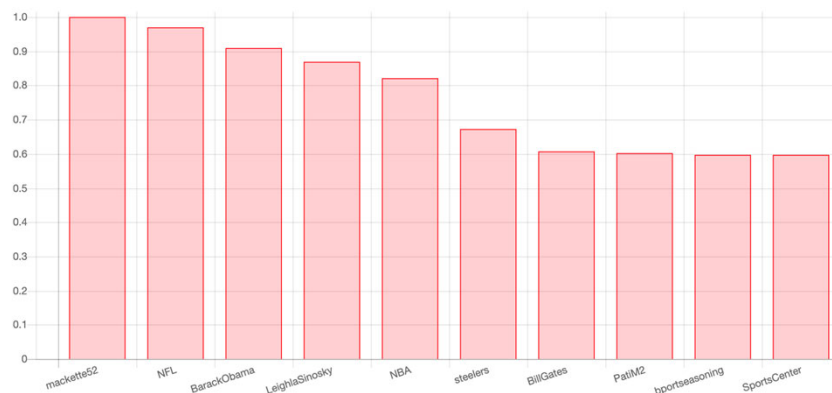
- Super Friends are users that exhibit frequent two-way communication, facilitating large or strong communication networks.



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Analysis of Tweeters - Other Influencers

- Other Influencers are users which have an active network presence, by tweeting often or mentioning users often, and operate in central parts of the conversation, such as by using important hashtags, or mentioning important users.



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Accounts Referenced by the Most Tweets

- ❑ This shows the tweeters that are most often referenced (e.g. mentioned) in PA tweets. Value is the number of tweets that reference the agent.

Agent Label	Value
bportseasoning	1326
GlennYoungkin	701
POTUS	538
8NEWS	448
pfizer	414
Juiceup_3	331
joerogan	256
Carhartt	253
Timcast	245
ClayTravis	241

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Trending Tweets January 14 – January 20

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

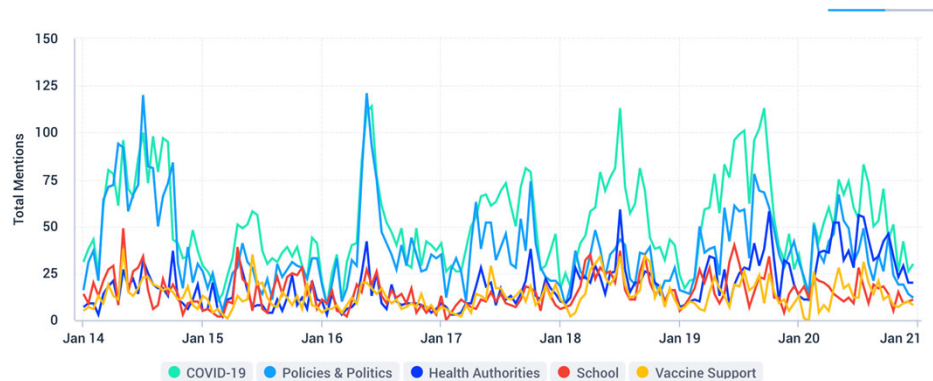
- ❑ "If they'll do that to the best tennis player in the world, what do you think they'll do to you?"
- ❑ In the city of Philadelphia you MUST be fully vaccinated to enter casinos, restaurants, movie theaters, bowling alleys and indoor sports venues. A negative test is no longer sufficient. Once again, what science is that?
- ❑ Trump says white people are being discriminated against on covid treatment: "If you're white, you don't get the vaccine or if you're white you don't get therapeutics .. In NY state, if you're white, you go to the back of the line if you want help." <https://t.co/QLgkC3VESk>
- ❑ Today Dominic Lawson in the Sunday Times challenges No10 claims that Boris Johnson didn't know that the 20/5/20 garden party organised by his PPS Martin Reynolds was anything more than a "work event" He claims the PM was challenged over the email twice <https://t.co/2igd2SdmwT> <https://t.co/L9On3Ezvwu>
- ❑ The Supreme Court says the Government can't make you wear a mask and get vaccinated but it can make you give birth???
- ❑ Boris Johnson's planning to freeze the TV licence fee for 3 years to improve the cost of living, bro that was never part of our cost of living
- ❑ BREAKING: @GlennYoungkin is signing 11 executive actions on his first day in office. They include banning critical race theory, ending the statewide school mask mandate & rescinding the vax mandate for state employees @8NEWS <https://t.co/ToQGjUDxbB>
- ❑ FRANCE - Regardless of your vaccine status, we must all stand together now. It's time to end mandates and vaccine passports. Citizen control isn't for your safety. You know that now. #NoVaccinePassports #COVID19 <https://t.co/3bSbomU7Lz>
- ❑ Day 6 of Covid. Now my wife and kids have it too. All of us vaxxed; wife and I both boosted not long ago. Everybody we know who has omicron was vaxxed; most also boosted. So I gotta ask: what's the point of vaccine passports now? Security theater? Prepping social credit system?
- ❑ NOW - UK PM Boris Johnson: "The government will no longer mandate the wearing of face masks anywhere."

<https://t.co/5gM3WnvUCf>

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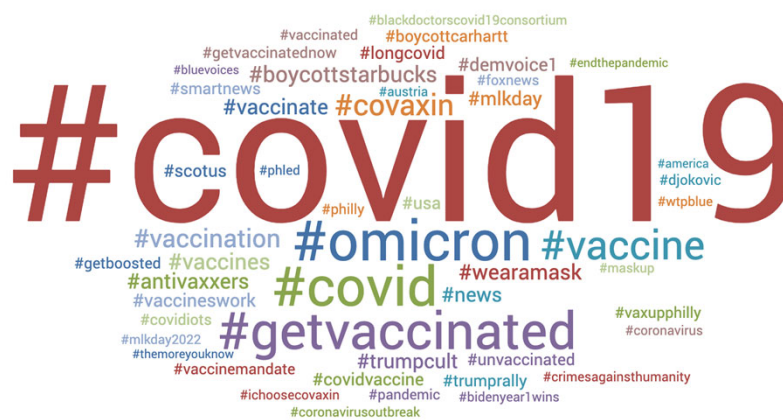
General PA Conversation January 14 – January 20



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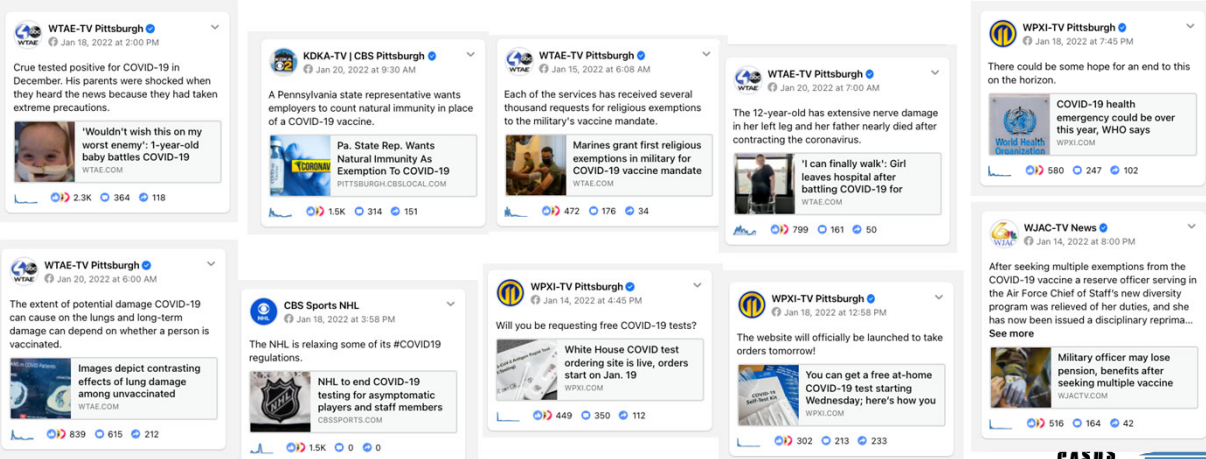
PA Hashtag Cloud January 14 – January 20



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Trending Posts on Facebook January 14 – January 20

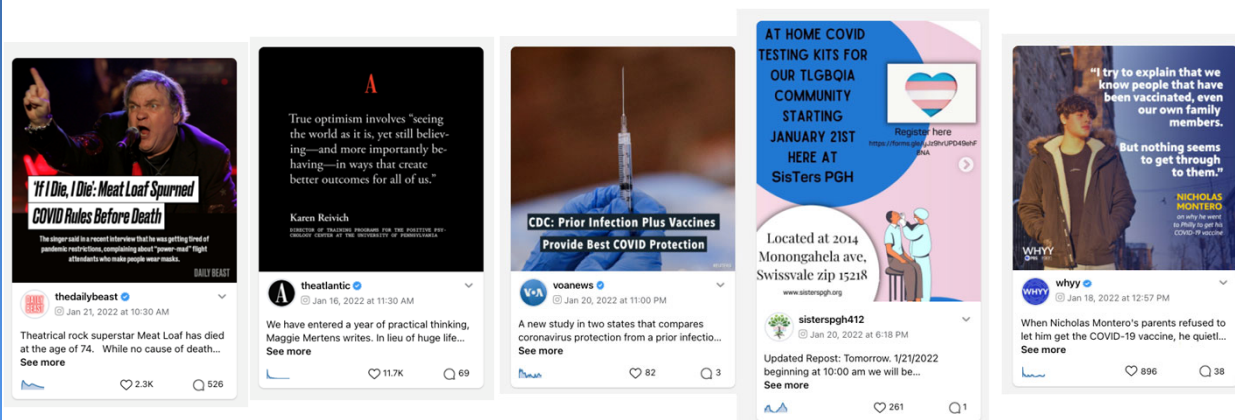


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Trending Posts on Instagram January 14 – January 20

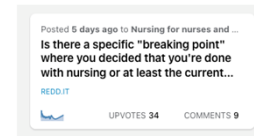
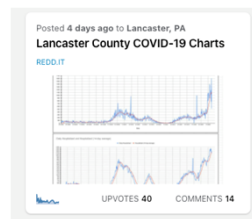
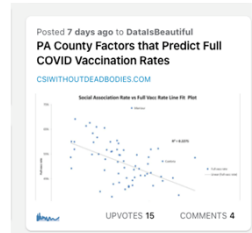
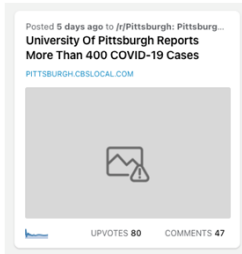


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