

PA Vaccine Conversations and Misinformation on Twitter

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Vaccine Hesitancy Project Update based on July 30 – August 5, 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.

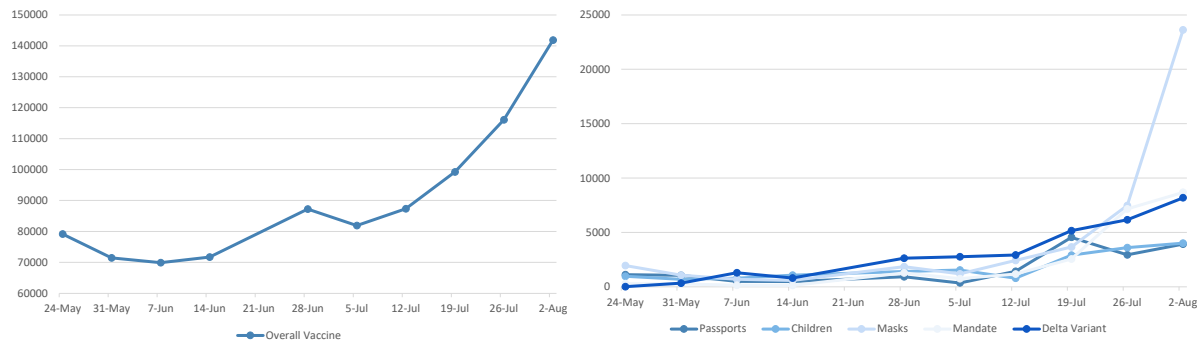
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Trends (tweets per week) July 30 – August 5



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High Level View by City July 30 – August 5

	Total PA		Philadelphia		Pittsburgh		Erie		Allentown/Bethlehem		Other	
Conversation	Tweets		Tweets	%	Tweets	%	Tweets	%	Tweets	%	Tweets	%
Overall Vaccine	121634		75539	62.1%	23129	19.0%	1206	1.0%	18368	15.1%	3392	2.8%
Vaccine Passports	2243		997	1.3%	538	2.3%	26	2.2%	645	3.5%	37	1.1%
Not FDA Approved	424		222	0.3%	86	0.4%	8	0.7%	90	0.5%	18	0.5%
Boosters	877		428	0.6%	232	1.0%	8	0.7%	173	0.9%	36	1.1%
Misinfo: Shedding	24		17	0.0%	2	0.0%			5	0.0%		
"Experimental"	374		186	0.2%	82	0.4%	3	0.2%	94	0.5%	9	0.3%
Children	1338		852	1.1%	237	1.0%	15	1.2%	204	1.1%	30	0.9%
Myocarditis	26		15	0.0%	3	0.0%	2	0.2%	6	0.0%		
Heart	792		515	0.7%	138	0.6%	7	0.6%	103	0.6%	29	0.9%
Masks	12599		7801	10.3%	2093	9.0%	125	10.4%	2067	11.3%	513	15.1%
Infertility	16		11	0.0%	2	0.0%			2	0.0%	1	0.0%
Mandates	4530		2676	3.5%	720	3.1%	50	4.1%	937	5.1%	147	4.3%
Natural Immunity	1048		896	1.2%	80	0.3%			70	0.4%	2	0.1%
Efficacy	111		64	0.1%	17	0.1%	1	0.1%	28	0.2%	1	0.0%
Spike Proteins	145		70	0.1%	47	0.2%			28	0.2%		
Delta Variant	4185		2300	3.0%	848	3.7%	46	3.8%	781	4.3%	210	6.2%
Race	1412		878	1.2%	291	1.3%	20	1.7%	195	1.1%	28	0.8%
Ivermectin	68		34	0.0%	15	0.1%	2	0.2%	15	0.1%	2	0.1%
Military	353		211	0.3%	51	0.2%	2	0.2%	80	0.4%	9	0.3%
Breakthrough	609		321	0.4%	120	0.5%	4	0.3%	140	0.8%	24	0.7%

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- Tweets here counted only if there is a city location attached
- Graphene and "Strike Force" operation conversations tapering off
- Trending disinformation narratives:
 - Ivermectin treatment for COVID
 - Vaccine mandate for US military
- "Breakthrough" infection tweets trending

High Level View by County July 30 – August 5

County	Allegheny	Beaver	Butler	Cambria	Fayette	Indiana	Somerset	Westmoreland
Overall Vaccine	23635	47	95	55	48	12	12	80
Vaccine Passports	540		4					1
Not FDA Approved	89		1					
Boosters	239			2				1
Misinfo: Shedding	2							
"Experimental"	82			1				
Children	242		2			1		1
Myocarditis	3							
Heart	144		1					2
Masks	2184	8	13	8	5	1	2	11
Infertility	2							
Mandates	737		5		5		1	7
Natural Immunity	80							1
Efficacy	17							
Spike Proteins	47							
Delta Variant	875	2	6	6	3	1		2
Race	295				2			
Ivermectin	15							1
Military	51		1	1	1			
Breakthrough	122				1			

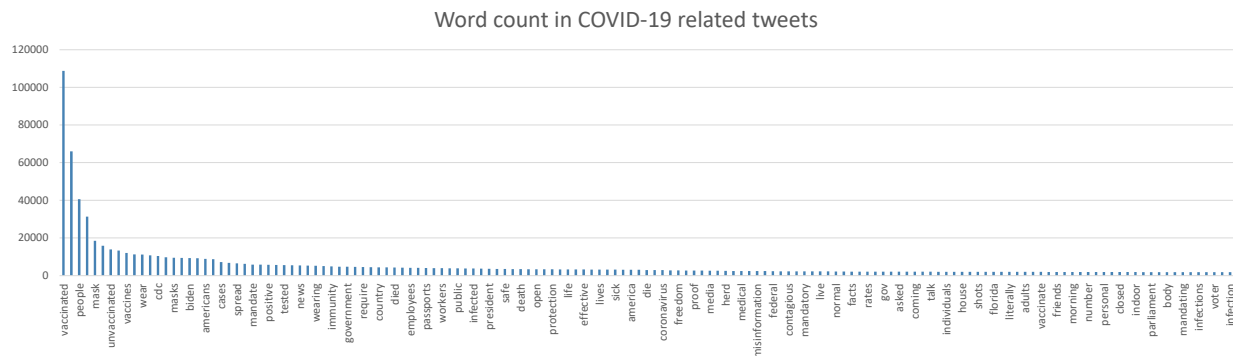
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- Tweets counted here if there is a county location attached
- Race: pulled by one of the vaccine keywords plus at least one other term in ("Black", "African American", "of color", "Latin", "Hispanic", "brown", "eugenic")



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Top Words Used per Week July 30 – August 5



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Top Hashtags by City July 30 – August 5

❑ 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 (2022) + covid (375)	Covid19 (463) + covid (101)	covid19 (503) + covid (105)	covid19 (1206) + covid (223)	covid19 (51) + covid (9)	covid19 (711)	covid19 (111) + covid (43)
Deltavariant (365)	Deltavariant (218)	Deltavariant (94)	Deltavariant (222)	getvaccinated (30)	deltavariant (188)	Getvaccinated (56)
vaccinated (303) + Getvaccinated (478) + vaxupphilly (279)	Vaccine (56) + getvaccinated (90)	getvaccinated (94) + vaccinated (72)	Getvaccinated (190)	Deltavariant (16)	getvaccinated (208) + vaccinated (107)	Deltavariant (29)
vaccinepassport (106)	wearamask (39)	Vaccinepassport (30)	Steelers (176)	Vaccine (12)	Wearamask (70)	vaccine (22)
Vaxtovote (100)	Delta (24)	uniteagainstcovid (23)	Vaccinepassport (64)	Covidiot (7)	vaxtovote (58)	Trumpvirus (12)

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Top Hashtags by County July 30 – August 5

❑ We've checked hashtags in several counties such as Allegheny, Beaver, Bradford, Butler, Cambria, Crawford, Fayette, Indiana, Lackawanna, Luzerne, Lycoming, Monroe, Pike, Potter, Somerset, West Moreland, York. 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	Butler	Cambria	Fayette	Lackawanna	Luzerne	Monroe	West Moreland
covid19 (1218)	covid19 (4)	Maskup (7)	Antivaxxers (1)	Covid19 (6)	Trumpvirus (11)	Covid19 (1)	covid19 (5)
deltavariant (224)	GetVaccinated (3)	Besafe (2)	Covid19 (1)	Vaccinepassport (3)	Covid19 (2)	deltavariant (1)	Vaccine (2) + vaccineswork (2)
Getvaccinated (200)	DeltaVariant (2)	Covid19 (2)	Deltaplus (1)	Delta (2)	Getvaccinated (2)	facebookkills (1)	vaxtovote (2)
Steelers (179)	DoNotComply (2)	Getvaccinatednow (2)	getvaccinated (1)	Getvaccinatednow (1)	covidiot (1)	Georgeorwell (1)	getvaccinated (1)
Covidvaccine (127)	antiviral (1)	Resistance (2)	nocovidmandates (1)	maskmandates (1)	maskup (1)	Getvaccinated (1)	maskmandate (1)

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* If you do not see a county in the table, that means we couldn't find hashtags related to COVID19 in this county.



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Top URLs by City July 30 – August 5

Philadelphia	Chester	Norristown	Pittsburgh	Erie	Allentown/ Bethlehem	Other
https://cnb.cx/2Wv0nIM Breakthrough Covid cases: At least 125,000 fully vaccinated Americans have tested positive (709)	https://www.washingtonpost.com/health/2021/07/30/provincetown-covid-outbreak-vaccinated/ CDC study shows three-fourths of people infected in Massachusetts coronavirus outbreak were vaccinated but few required hospitalization (61)	https://cnb.cx/2Wv0nIM Breakthrough Covid cases: At least 125,000 fully vaccinated Americans have tested positive (69)	https://cnb.cx/2Wv0nIM Breakthrough Covid cases: At least 125,000 fully vaccinated Americans have tested positive (338)	https://cnb.cx/2Wv0nIM Breakthrough Covid cases: At least 125,000 fully vaccinated Americans have tested positive (18)	https://cnb.cx/2Wv0nIM Breakthrough Covid cases: At least 125,000 fully vaccinated Americans have tested positive (160)	https://cnb.cx/2Wv0nIM Breakthrough Covid cases: At least 125,000 fully vaccinated Americans have tested positive (42)
https://www.washingtonpost.com/health/2021/07/30/provincetown-covid-outbreak-vaccinated/ CDC study shows three-fourths of people infected in Massachusetts coronavirus outbreak were vaccinated but few required hospitalization (354)	https://cnb.cx/2Wv0nIM Breakthrough Covid cases: At least 125,000 fully vaccinated Americans have tested positive (55)	http://vaccines.gov (61)	https://cnn.it/2V388QJ Vaccination is not enough by itself to stop the spread of variants, study finds (298)	https://nrb.al/jrExoEW Chart: Less than 0.1% of vaccinated Americans tested positive for COVID-19 (11)	http://vaccines.gov (85)	https://www.nbcnews.com/health/breakthrough-covid-cases-least-125-000-fully-vaccinated-americans-have-n1275500 Breakthrough Covid cases: Data shows how many vaccinated Americans have tested positive (19)
https://jonathanturley.org/2021/08/03/george-mason-law-professor-challenges-school-vaccine-mandate/ George Mason Law Professor Challenges School Vaccine Mandate (315)	https://rumble.com/vxgdq7-deadly-shots-former-employer-confirms-poison-in-covid-vaccine.html DEADLY SHOTS! Former Pfizer Employee Confirms Poison in COVID Vaccine (45)	https://www.washingtonpost.com/health/2021/07/30/provincetown-covid-outbreak-vaccinated/ CDC study shows three-fourths of people infected in Massachusetts coronavirus outbreak were vaccinated but few required hospitalization (41)	https://www.theguardian.com/world/2021/aug/04/fit-and-healthy-man-42-from-southport-who-rejected-vaccine-dies-of-covid Fitness enthusiast, 42, who rejected vaccine, dies of Covid (140)	https://cnn.it/2V388QJ Vaccination is not enough by itself to stop the spread of variants, study finds (6)	https://www.washingtonpost.com/health/2021/07/30/provincetown-covid-outbreak-vaccinated/ CDC study shows three-fourths of people infected in Massachusetts coronavirus outbreak were vaccinated but few required hospitalization (78)	https://nrb.al/jrExoEW Chart: Less than 0.1% of vaccinated Americans tested positive for COVID-19 (14)
https://www.nbcnews.com/health/breakthrough-covid-cases-least-125-000-fully-vaccinated-americans-have-n1275500 Breakthrough Covid cases: Data shows how many vaccinated Americans have tested positive (263)	https://www.washingtonpost.com/health/2021/07/29/cdc-mask-guidance/ 'The war has changed': Internal CDC document urges new messaging, warns delta infections likely more severe (45)	https://cnn.it/2V388QJ Vaccination is not enough by itself to stop the spread of variants, study finds (36)	https://nyti.ms/376u8mv C.D.C. Internal Report Calls Delta Variant as Contagious as Chickenpox (122)	https://nyti.ms/376u8mv C.D.C. Internal Report Calls Delta Variant as Contagious as Chickenpox (6)	https://nrb.al/jrExoEW Chart: Less than 0.1% of vaccinated Americans tested positive for COVID-19 (76)	http://vaccines.gov (12)
https://sharvattkisson.com/2021/08/covid-19-natural-immunity-compared-to-vaccine-induced-immunity-the-definitive-summary/ Covid-19 natural immunity compared to vaccine-induced immunity: The definitive summary (220)	https://www.theguardian.com/world/2021/jul/28/cdc-director-new-mask-guidance-vaccinated-spread-delta-variant New US mask guidance prompted by evidence vaccinated can spread Delta (42)	https://www.nbcnews.com/health/breakthrough-covid-cases-least-125-000-fully-vaccinated-americans-have-n1275500 Breakthrough Covid cases: Data shows how many vaccinated Americans have tested positive (36)	https://www.washingtonpost.com/health/2021/07/30/provincetown-covid-outbreak-vaccinated/ CDC study shows three-fourths of people infected in Massachusetts coronavirus outbreak were vaccinated but few required hospitalization (120)	http://vaccines.gov (5)	https://cnn.it/2V388QJ Vaccination is not enough by itself to stop the spread of variants, study finds (71)	http://cos.lv/eRzK30rPTQJ The Offspring Out Drummer Pete Parada for Choosing Not to Get COVID Vaccine (12)

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Top URLs by County July 30 – August 5

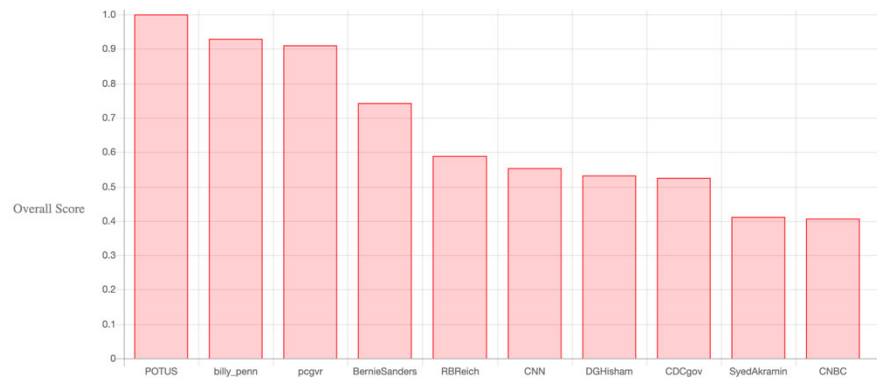
Allegheny	Butler	Cambria	Fayette	Lackawanna	Luzerne
https://cnb.cx/2Wv0nIM Breakthrough Covid cases: At least 125,000 fully vaccinated Americans have tested positive (344)	https://cnb.cx/2Wv0nIM Breakthrough Covid cases: At least 125,000 fully vaccinated Americans have tested positive (3)	https://wivactv.com/news/local/infertility-and-the-covid-19-vaccine-local-ob-gyn-debunks-myths-and-rumors Infertility and the COVID-19 Vaccine: local OB-GYN debunks myths and rumors (2)	http://a.msn.com/01/en-us/AAWw5TM2ocid=1 Anti-vax Virginia couple gets home detention on Capitol riot charge (1)	http://cos.lv/eUAb50FHmk Broadway Audiences Required to Be Vaccinated, Wear Masks (1)	https://fox56.com/news/local/federal-workers-react-to-president-bidens-new-vaccine-requirements Federal employees react to President Biden's new vaccine requirements (2)
https://cnn.it/2V388QJ Vaccination is not enough by itself to stop the spread of variants, study finds (300)	https://nrb.al/jrExoEW Chart: Less than 0.1% of vaccinated Americans tested positive for COVID-19 (3)	http://bit.ly/CoronavirusPADOH COVID-19 in Pennsylvania (1)	http://dlvr.it/54hVf4 US surgeon general recommends fully vaccinated people wear masks outdoors to protect the unvaccinated (1)	http://dlvr.it/54cWPr Biden will announce vaccination requirement across federal government on Thursday (1)	https://www.washingtonpost.com/health/2021/07/30/provincetown-covid-outbreak-vaccinated/ CDC study shows three-fourths of people infected in Massachusetts coronavirus outbreak were vaccinated but few required hospitalization (2)
https://www.theguardian.com/world/2021/aug/04/fit-and-healthy-man-42-from-southport-who-rejected-vaccine-dies-of-covid Fitness enthusiast, 42, who rejected vaccine, dies of Covid (140)	http://dlvr.it/54hVf4 US surgeon general recommends fully vaccinated people wear masks outdoors to protect the unvaccinated (2)	https://bit.ly/3btJaFU CDC (1)	http://on.msnbc.com/3Y0h4W Dr. Fauci explains updated mask guidance for vaccinated folks (1)	http://dlvr.it/54hG8y California Covid Cases Surge To 5-Month High As Delta Variant Spreads Among The Unvaccinated (1)	http://cos.lv/eRzK30rPTQJ The Offspring Out Drummer Pete Parada for Choosing Not to Get COVID Vaccine (1)
https://nyti.ms/376u8mv C.D.C. Internal Report Calls Delta Variant as Contagious as Chickenpox (123)	https://nrb.al/tb2oN8 Offspring drummer booted from band over failure to get COVID vaccine (2)	https://bit.ly/3C3q0Sf AOTA, APTA, and SHA Joint Statement and Call for Professional Action on COVID-19 Vaccination and Education (1)	http://reut.rs/3ibc20f Britain's COVID-19 cases down by 33% over past week (1)	http://dlvr.it/54hVf4 US surgeon general recommends fully vaccinated people wear masks outdoors to protect the unvaccinated (1)	http://hill.cm/2pfH5nm McConnell: 'It never occurred to me' convincing Americans to get vaccinated would be difficult (1)
https://www.washingtonpost.com/health/2021/07/30/provincetown-covid-outbreak-vaccinated/ CDC study shows three-fourths of people infected in Massachusetts coronavirus outbreak were vaccinated but few required hospitalization (123)	http://hill.cm/n3GObdR Pfizer vaccine effectiveness drops to 84 percent after six months: data (1)	https://cnn.it/3C3q0Sf Some people in Missouri are getting vaccinated in secret to avoid backlash from loved ones, doctor says (1)	http://vaccines.gov (1)	http://dlvr.it/54nSqW Covid vaccine booster shots for the delta variant are being over-hyped by drug companies (1)	http://hill.cm/MSu4U7 Meghan McCain: Democrats 'should give a little credit' to Trump for COVID-19 vaccine (1)

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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.



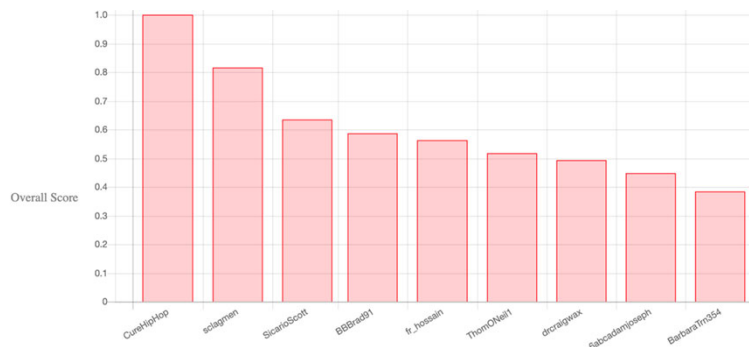
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Analysis of Tweeters - Super Friends

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



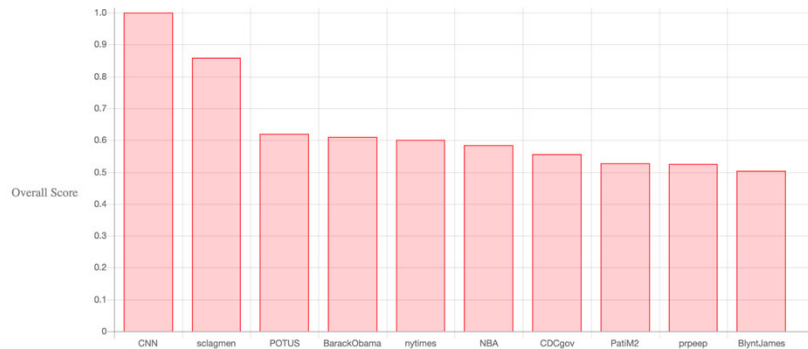
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Analysis of Tweeters - Other Influencers

- ❑ 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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Top Influencers by City July 30 – August 5

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

Philadelphia	Chester	Norristown	Pittsburgh	Erie	Allentown/Bethlehem	Other
CNN		atrupar	bensimmons_	SenToomey	CassyWearsHeels	POTUS
disclosetv	sclagmen (antivax, conspiracy)	neontaster	KDKA (agency)	aristonacg	USATRUMPMAN1 (conservative, antivax)	BernieSanders
DrPaulOffit	chris_notcapn	Sassychickie	MarkMaddenX (sports)	BadtotheCone	EricBoehlert	RBReich
ElectionWiz	DataDrivenMD	fr_hossain	TheRightMelissa (conservative, antivax)	DBChirpy	HelenKennedy	CDCgov
yafriendsfriend	CureHipHop	michaelcdeibert	Penn_state (gov)	LeviFetterman	MedicVet68	CNBC

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

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Top Influencers by County July 30 – August 5

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

Allegheny	Butler	Cambria	Fayette	Lackawanna	Luzerne	Monroe	West Moreland
bensimmons_	TheDanKingerski (sport)	onepatriotchick (antivax)	mommydog67	AFTunion	rogerdupuis2	Mickie0918	MeghanKDKA
KDKA (agency)	M_jopink (antivax, conservative)	realjasonstru	LaBelle50	cathyde	MisericordiaU	NASCARonReddit	MCipriani_WTAE
MarkMaddenX (sports)	TeamDrydene	CrispinHavener (reporter)	gigi419 (antivax, conservative)	VegHistory	jathomas551	IlanaKeller	Jay_Lil75
TheRightMelissa (conservative, antivax)	Llysowski (reporter)	NicoleFuschino (reporter)	OutofTownTiger	wbrewyou	lessnametag	jpcl Lyons	Daminals76
Penn_state (gov)	DWBerkley	CespedesBBQ	BroncoBaby10	215alexb	SeddieWeddie	rxhjr_	WorldofOutlaws

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

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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
DGHisham	1660
POTUS	1379
CDCGroV	1267
LindsayTuchman	1024
catturd2	888
pfizer	775
GovernorTomWolf	714
CNN	712
DonaldJTrumpJr	623
FoxNews	596

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Trending PA stories July 30 – August 5

- ❑ [Vaccines.gov](https://www.vaccines.gov) - Find COVID-19 vaccine locations near you (348 Mentions)
- ❑ [nytimes.com](https://www.nytimes.com) - New York City is expected to require proof of vaccination for indoor dining and fitness (141 Mentions)
- ❑ [nytimes.com](https://www.nytimes.com) - They Spurned the Vaccine. Now They Want You to Know They Regret It (118 Mentions)
- ❑ [fox5vegas.com](https://www.fox5vegas.com) - 'I should have gotten the damn vaccine': Las Vegas father of 5 dies from COVID-19 (103 Mentions)
- ❑ [hopkinsmedicine.org](https://www.hopkinsmedicine.org) - COVID-19 Vaccines: Myth Versus Fact (95 Mentions)
- ❑ [medrxiv.org](https://www.medrxiv.org) - Virological and serological kinetics of SARS-CoV-2 Delta variant vaccine-breakthrough infections: a multi-center cohort study (81 Mentions)

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Trending PA tweets July 30 – August 5


- | | |
|---|--|
| <p>1 President Biden
@potus</p> <p>The vaccine was developed and authorized under a Republican Administration, and it's been distributed and administered under a Democratic one. The vaccines are safe, they are highly effective, and there's nothing political about them.</p> <p>452 Retweets</p> <p>Positive 6 days ago</p> | <p>4 Caitlin Arcand
@caitlinarcand</p> <p>Why aren't I afraid of the vaccine? Because I got my ears pierced at Claire's, and that's a far bigger risk</p> <p>294 Retweets</p> <p>Negative 18 hours ago</p> |
| <p>2 Jake Tapper
@jaketapper</p> <p>The most important facts for you to remember today: Less than 0.001% of those fully vaccinated have had a fatal breakthrough case. Less than 0.004% of those fully vaccinated have been hospitalized. The vaccines work. The vaccines are your best protection from the virus.</p> <p>416 Retweets</p> <p>Positive 5 days ago</p> | <p>5 KD
@ineedja_kadeeja</p> <p>I can't believe the "popped a molly I'm sweatin" generation got so much to say about a vaccine</p> <p>271 Retweets</p> <p>Neutral 2 days ago</p> |
| <p>3 Breion Brown, BS
@labreezeiana</p> <p>Why y'all buying Fake Vaccination cards for \$500 when the vaccine is FREE? https://t.co/NHuZYv3U26</p> <p>364 Retweets</p> <p>Neutral a day ago</p> | |

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Trending PA tweets July 30 – August 5

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Chelsea Cirruzzo
@chelseacirruzzo

if you were the person at the CDC who decided that vaccine cards should be just slightly too big for our wallets, please DM me. It's not for a story, I'd just like to talk

263
Retweets


Negative 6 days ago

7

Rise of the Alien Queen
@rise_alien

My son works at Lowes in MO. Their new Covid policy: 1. If you are vaccinated and get Covid, you will be paid during sick leave 2. If you aren't vaccinated and get Covid, you will be fired. My son said that the rest of the unvaccinated are finally getting vaccinated.

221
Retweets

Neative 19 hours ago

8

Rep. Eric Swalwell
@repswalwell

Masks are back & I couldn't be more pissed. I hate them. I was ready to burn them. But you know why we have to wear them? THOSE GUYS in the @HouseGOP – they lied about vaccines & the damn virus is back. RT if it's time McCarthy's GOP tells the truth about vaccines. #ThoseGuys

214
Retweets

Negative 3 days ago

9

Mary L Trump
@marylump

It's horrifying to know that tens of millions of Americans think this is a reasonable price to pay as long as they don't have to suffer the inconvenience of wearing a mask or getting a free, readily available vaccine. But here we are. <https://t.co/olGgNGxX2P>

214
Retweets

Positive a day ago

10

George Takei
@georgetakei

To all the unvaccinated whiners screaming that the CDC is recommending even vaccinated people mask up again: They're asking us to save YOU. This is for YOU, not us. We'll be fine. It's YOU we are all being asked to help. Get it?

201
Retweets

Positive 6 days ago



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Top PA Twitter Authors July 30 – August 5

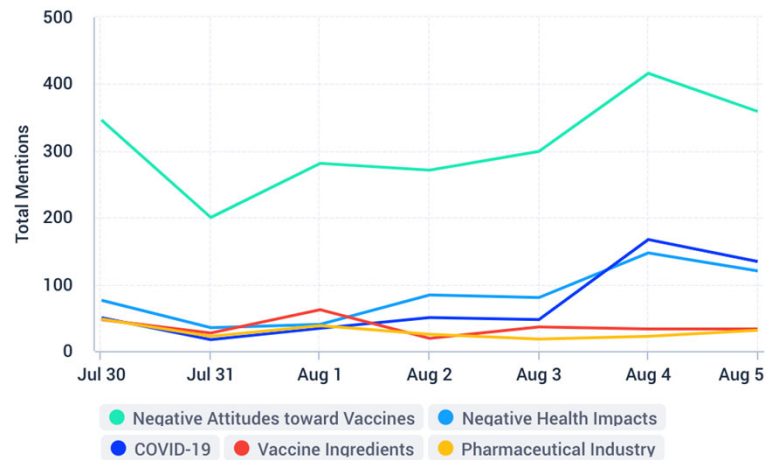
By mentions	By influence
@prpeep	@6abc
@blyntjames	@fox29philly
@erin_vmd	@malcolmnance
@kirkturner777	@nbcphiladelphia
@cdekeane	@ericfisher
@louisrbridgema3	@accuweather
@susiem57	@phillyinquirer
@bob_levitt	@sleepskee
@chris_1791	@wpxi
@dhladylaw	@cbsphilly

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Negative Attitudes July 30 – August 5

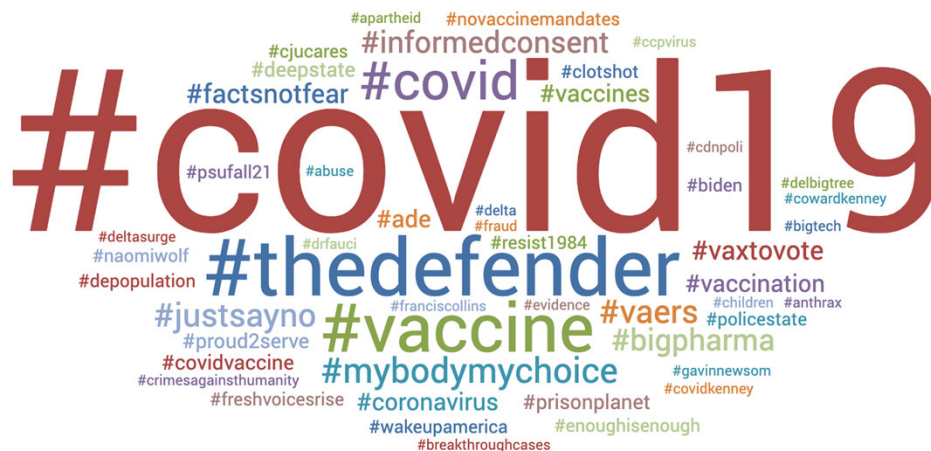


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Negative Hashtag Cloud July 30 – August 5



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Trending negative PA stories July 30 – August 5

- ❑ rumble.com - DEADLY SHOTS! Former Pfizer Employee Confirms Poison in COVID 'Vaccine' (60 Mentions)
- ❑ rumble.com - VAXX POISON (55 Mentions)
- ❑ thedailybeast.com - Texas GOP Official Mocked COVID Five Days Before He Died of Virus (48 Mentions)
- ❑ childrenshealthdefense.org - Sign Up for our Free News and Updates! (24 Mentions)
- ❑ sharylattkisson.com Covid-19 natural immunity compared to vaccine-induced immunity: The definitive summary (23 Mentions)
- ❑ inquirer.com Penn State faculty push for mandatory vaccinations days after a second student dies (14 Mentions)

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Trending Negative PA tweets July 30 – August 5

- 1 **Marjorie Taylor Greene** [@mtgreene](https://twitter.com/mtgreene)
I have talked to multiple women who say they miscarried healthy pregnancies after taking the #COVID19 vaccine. Not only miscarriages, but also reporting blood clots and heavy & irregular periods after taking the Experimental Use Covid vaccine. Stop vaccine mandates!
49 Retweets
- 2 **The Daily Beast** [@thedailybeast](https://twitter.com/thedailybeast)
A GOP official from Texas who regularly espoused anti-vaccine and anti-mask views online has died from COVID-19, five days after posting a meme on Facebook questioning the wisdom of getting inoculated against COVID. <https://t.co/VQCKdi3JdY>
Positive 2 days ago
48 Retweets
- 3 **Sophie Rapp** [@sophiesrapp](https://twitter.com/sophiesrapp)
Cost of average hospitalization for COVID: \$51,000 (+++) Cost of vaccine: FREE
Neutral 5 days ago
45 Retweets
- 4 **Robert Picardo** [@robertpicardo](https://twitter.com/robertpicardo)
I'm offering a free signed photo to: 1) Any unvaccinated @StarTrek fan who got/gets vaxxed 27JUL-5AUG (within 10 days after my 27JUL challenge tweet) 2) The first 20 fans who convince a friend to get vaxxed by 5 AUG 3) Chosen at random- 5 fans who RT this and are ALREADY vaxxed
Positive 4 days ago
39 Retweets
- 5 **David Turner** [@daveltturner](https://twitter.com/daveltturner)
[@American_Heart](https://twitter.com/American_Heart) My son has been in the ICU for myocarditis, chest pain, and elevated troponin from the 2nd dose for past 3 days. Docs say they've seen ~60 other boys w the same. Who's paying for the ~100k bill and possible heart damage from this experimental vaccine?
<https://t.co/jUmiRin26G>
Negative 2 days ago
34 Retweets






*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 July 30 – August 5

- 6  **Charlie Kirk**
@charliekirk11
Mandating every member of our military to take an experimental vaccine is a national security threat.
Neutral 7 days ago 23 Retweets
- 7  **James LaPorta**
@jimlaporta
For some perspective: On Feb. 5, 1777, George Washington ordered the entire Continental Army inoculated from small pox to counter both the fear and the actual disease itself. For decades, active-duty have been required to get an annual flu shot—this requirement is rooted in WWI.
Negative 7 days ago 22 Retweets
- 8  **Brian Tyler Cohen**
@briantylercohen
A GOP official from Texas who regularly espoused anti-vaccine and anti-mask views online has died from COVID-19, five days after posting a meme on Facebook questioning the wisdom of getting inoculated against COVID. <https://t.co/1HVlgla7HC>
Positive a day ago 22 Retweets
- 9  **Special Agent Yesi**
@yesisworld
I never thought I would hear the words forced vaccination in the United States of America.
Negative 20 hours ago 17 Retweets
- 10  **Tim Young**
@timrunshismouth
Just a friendly reminder to leftists... if you eliminate 'My Body. My Choice' with vaccinations... conservatives will use that to absolutely eliminate all abortion. Soooo feel free to choose your own adventure.
Negative 4 days ago 15 Retweets

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Top PA Negative Twitter Authors July 30 – August 5

By mentions	By influence
@deplorablewill3	@malcolmnance
@wishbone1227	@phillyinquirer
@susiem57	@phillydailynews
@mmmm__echtwaar	@factcheckdotorg
@christi06249366	@pahealthdept
@mishao1989	@qtrresearch
@stahlzart	@juliocearrivas
@jerseyshorelisa	@tweetorstfu
@jwetzal70	@eric_kavanagh
@kevskewl	@bigjoebastardi

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General Trends

- ❑ This week's data shows the overall population concern with mask mandates since now masks are recommended for everybody again. That demonstrates a need for more explanations of that requirement by the health workers;
- ❑ Vaccine passports narrative is back to the main list of vaccine hesitancy discourses on Twitter that illustrates the overall concern with vaccination requirements;
- ❑ More efforts to politicize vaccination are identified. VaxToVote trend was started by Donald Trump Jr. who proposed vaccination requirements in order to be allowed to vote in election. The idea was supported by both sides of the U.S. political spectrum, although each group sees disadvantages for the other;
- ❑ This week's disinfo story (rumble.com - DEADLY SHOTS! Former Pfizer Employee Confirms Poison in COVID 'Vaccine') again illustrates a disinformation campaign about Pfizer vaccine that the health workers could address in communication with their patients;
- ❑ The other trending story (<https://cnb.cx/2Wv0nJM> Breakthrough Covid cases: At least 125,000 fully vaccinated Americans have tested positive) presents an example of negative framing that could be addressed (e.g. in comparison with this story <https://trib.al/jrExoEW> Chart: Less than 0.1% of vaccinated Americans tested positive for COVID-19).

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For More Information

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- ❑ 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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