

# PA Vaccine Conversations on Twitter

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Vaccine Hesitancy Project Update based on September 23, 2022 – September 29, 2022

The CMU centers for:

Informed DEMocracy And Social cyber-security

Computational Analysis of Social and Organizational Systems



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## PA Vaccine Conversations Project

- ❑ This report is an effort to summarize social media conversations around COVID-19 issues in Pennsylvania, with a focus on vaccination. It contains an analysis of the general topics related to COVID-19 vaccination. This includes discussions related to COVID-19 regulations, mandates, masks, pro-and anti-vaccination campaigns, science messages, misinformation, disinformation, conspiracy theories, and vaccine hesitancy messages.
- ❑ Anti-Vax messaging includes vaccine hesitancy messages, opinions, questions, policy health and science related information, misinformation, disinformation, and conspiracy theories.



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## Report Overview September 23 – September 29

- ❑ Boosters, Children, Mandates, Myocarditis are trending this week, also a story about the presence of COVID-19 Vaccines in Human Breast Milk;
- ❑ Trending stories: [jamanetwork.com/journals/jamapediatrics/article-abstract/2796427](https://jamanetwork.com/journals/jamapediatrics/article-abstract/2796427) Detection of Messenger RNA COVID-19 Vaccines in Human Breast Milk; [thelancet.com/journals/lanchi/article/PIIS2352-4642\(22\)00244-9/fulltext](https://thelancet.com/journals/lanchi/article/PIIS2352-4642(22)00244-9/fulltext) Outcomes at least 90 days since onset of myocarditis after mRNA COVID-19 vaccination in adolescents and young adults in the USA: a follow-up surveillance study; [ti.me/3BDv5S1](https://ti.me/3BDv5S1) COVID-19 Boosters Help Keep People Out of the Hospital, Study Finds;
- ❑ Popular anti-vax tweets: 2 percent of young children fully Covid vaccinated. 2 percent of eligible adults getting the new booster. Everyone knows the shots have failed. EVERYONE. The longer public health bureaucrats and politicians lie the worse the blowback will ultimately be. <https://t.co/69siaAHcqU>; Breastfeeding women were told - It's all fine! Then these women were mandated by their workplaces to get vaccinated. Those who didn't were fired. Anyone who expressed concerns was demonized as "anti-vaxx." Now "caution is warranted." @JAMAPediatrics <https://t.co/vxETCSXliB>; Trace amounts of #COVID19 vaccine mRNAs were detected in the breast milk of some lactating women. Caution is warranted regarding #breastfeeding infants younger than six months in the first two days after maternal COVID-19 vaccination. #Research <https://t.co/zH8nyLleVC> #Research; A box full of genetically modified mosquitos successfully vaccinated a human in a trial funded by the National Institute of Health. How can this go wrong?! <https://t.co/3sjUGcdzrl>;



## Popular anti-vax stories September 23 – September 29

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

- ❑ [thenationalpulse.com/2022/09/22/gates-foundation-tries-to-curb-valid-vaccine-hesitancy](https://thenationalpulse.com/2022/09/22/gates-foundation-tries-to-curb-valid-vaccine-hesitancy) The Gates Foundation is Researching How to Manipulate You Into Taking 'Future' COVID Vaccines;
- ❑ [thecountersignal.com/genetically-modified-mosquitoes-vaccinate-a-human](https://thecountersignal.com/genetically-modified-mosquitoes-vaccinate-a-human) Genetically modified mosquitoes vaccinate a human;
- ❑ [heatlantic.com/science/archive/2022/09/mrna-covid-vaccine-booster-lymphoma-cancer/671308](https://heatlantic.com/science/archive/2022/09/mrna-covid-vaccine-booster-lymphoma-cancer/671308) DID A FAMOUS DOCTOR'S COVID SHOT MAKE HIS CANCER WORSE?;
- ❑ [childrenshealthdefense.org/defender/doctor-michael-goldman-pfizer-covid-booster-shot-cancer](https://childrenshealthdefense.org/defender/doctor-michael-goldman-pfizer-covid-booster-shot-cancer) Famous Pro-Vaccine Doctor Suspects Pfizer Booster Shot Sent His Cancer Into Overdrive;
- ❑ [theepochtimes.com/top-pro-vaccine-doctor-calls-for-global-pause-of-messenger-rna-covid-19-vaccines\\_4754871.html](https://theepochtimes.com/top-pro-vaccine-doctor-calls-for-global-pause-of-messenger-rna-covid-19-vaccines_4754871.html) Doctor Turns Against Messenger RNA COVID-19 Vaccines, Calls for Global Pause;
- ❑ [youtu.be/PWvuhAycsTQ](https://youtu.be/PWvuhAycsTQ) How are kids and young adults doing 90 days after vaccine myocarditis? | A New Lancet Paper Explored;
- ❑ [childrenshealthdefense.org/defender/cdc-data-covid-vaccine-injuries-vs-safe-app](https://childrenshealthdefense.org/defender/cdc-data-covid-vaccine-injuries-vs-safe-app) CDC Has 4 Days to Release Data on COVID Vaccine Injuries Collected via V-safe App, Court Rules;
- ❑ [expose-news.com/2022/09/25/europe-young-adult-deaths-239-percent-increase](https://expose-news.com/2022/09/25/europe-young-adult-deaths-239-percent-increase) Europe officially records a shocking 239% increase in Excess Deaths among Teens & Young Adults since EMA first approved Covid-19 Vaccine;
- ❑ [dailyseptic.org/2022/09/28/vaccination-increases-infection-risk-by-44-oxford-study-finds](https://dailyseptic.org/2022/09/28/vaccination-increases-infection-risk-by-44-oxford-study-finds) Vaccination Increases Infection Risk by 44%, Oxford Study Finds;
- ❑ [bit.ly/3PUVcsA](https://bit.ly/3PUVcsA) COVID-19 VACCINE PASSPORT



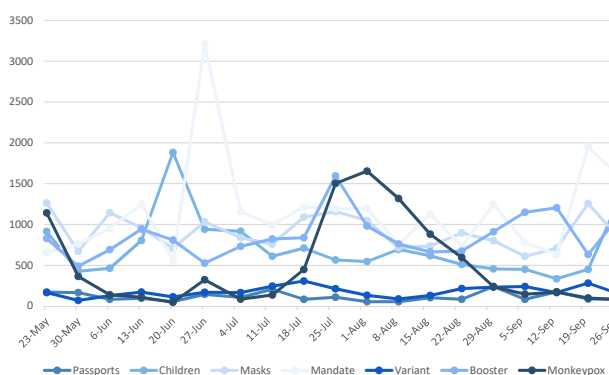
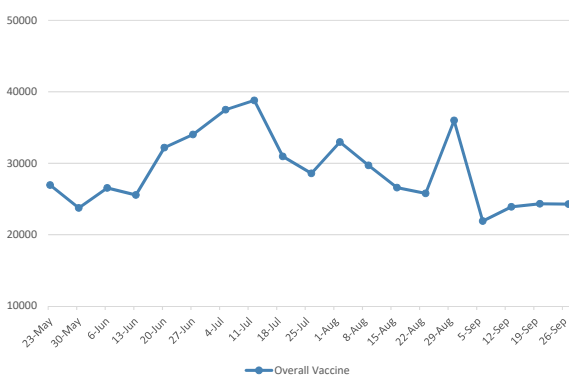
## Countering disinformation September 23 – September 29

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

- ❑ Article misleads on Covid-19 vaccine efficacy in Canada <https://factcheck.afp.com/doc.afp.com.32IW8RN>;
- ❑ Fact check: 1.4M children younger than 5 years old in US have received COVID-19 vaccine <https://www.usatoday.com/story/news/factcheck/2022/09/29/fact-check-1-4-m-kids-younger-than-5-us-have-had-covid-19-vaccine/10448511002/>;
- ❑ Fact Check: Did Biden Tell Americans to Prepare for Hurricane Ian by Getting Vaccinated? <https://thedispatch.com/p/fact-check-did-biden-tell-americans>; Posts Take Biden's Vaccination and Hurricane Prep Comments Out of Context, Again <https://www.factcheck.org/2022/09/scicheck-posts-take-bidens-vaccination-and-hurricane-prep-comments-out-of-context-again/>;
- ❑ No Indication Breast Milk After Vaccination Unsafe, Despite Posts About New Study <https://www.factcheck.org/2022/10/scicheck-no-indication-breast-milk-after-vaccination-unsafe-despite-posts-about-new-study/>;
- ❑ Article by cardiologist Aseem Malhotra made unsupported claims about the benefits and risks of COVID-19 vaccination <https://healthfeedback.org/claimreview/article-by-cardiologist-aseem-malhotra-made-unsupported-claims-about-benefits-risks-covid-19-vaccination/>



## Trends (tweets per week in PA) September 23 – September 29



## High Level View by City September 23 – September 29

	Total PA	Philadelphia		Pittsburgh		Erie		Allentown/Bethlehem		Other	
Conversation	Tweets	Tweets	%	Tweets	%	Tweets	%	Tweets	%	Tweets	%
Overall Vaccine	20587	10264	49.9%	6236	30.3%	218	1.1%	2794	13.6%	1075	5.2%
Vaccine Passports	81	42	0.4%	17	0.3%			19	0.7%	3	0.3%
FDA Approval	14	6	0.1%	5	0.1%			3	0.1%		
Boosters	1103	759	7.4%	162	2.6%	8	3.7%	123	4.4%	51	4.7%
Employees	108	71	0.7%	17	0.3%			11	0.4%	9	0.8%
"Experimental"	57	32	0.3%	13	0.2%			9	0.3%	3	0.3%
Children	1106	748	7.3%	134	2.1%	7	3.2%	190	6.8%	27	2.5%
Myocarditis	429	245	2.4%	79	1.3%	4	1.8%	88	3.1%	13	1.2%
Heart	145	84	0.8%	35	0.6%			20	0.7%	6	0.6%
Masks	806	401	3.9%	171	2.7%	11	5.0%	124	4.4%	99	9.2%
Thrombosis/VITT	27	13	0.1%	7	0.1%			4	0.1%	3	0.3%
Mandates	1579	1099	10.7%	199	3.2%	8	3.7%	237	8.5%	36	3.3%
Natural Immunity	50	28	0.3%	17	0.3%			4	0.1%	1	0.1%
Efficacy	41	21	0.2%	6	0.1%	1	0.5%	12	0.4%	1	0.1%
Omicron	147	82	0.8%	35	0.6%	2	0.9%	21	0.8%	7	0.7%
Delta Variant	30	10	0.1%	2	0.0%			3	0.1%	15	1.4%
Race	494	235	2.3%	176	2.8%	3	1.4%	55	2.0%	25	2.3%
Ivermectin	44	22	0.2%	12	0.2%			8	0.3%	2	0.2%
Military	105	45	0.4%	26	0.4%	4	1.8%	22	0.8%	8	0.7%
Breakthrough	7	5	0.0%					1	0.0%	1	0.1%

Conversation topics trending this week over last:

- Boosters
- Children
- Myocarditis



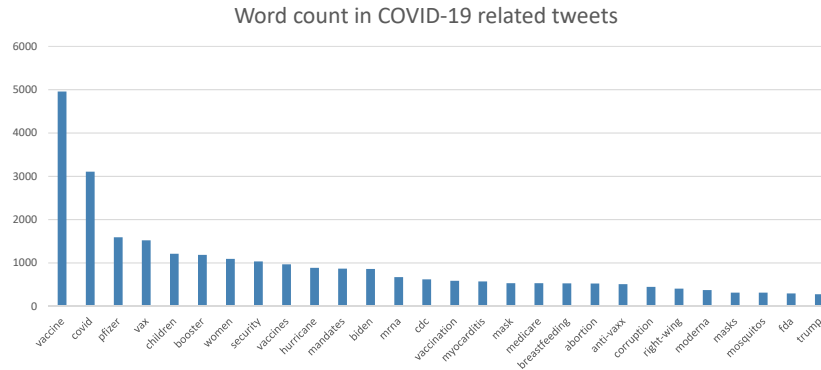
## High Level View by County September 23 – September 29

County	Allegheny	Beaver	Butler	Cambria	Fayette	Indiana	Somerset	Westmoreland
Overall Vaccine	6400	20	25	9	14	3	3	38
Vaccine Passports	17	1	1			1		
FDA	5							
Boosters	168		1					
Employees	17							
"Experimental"	14			1				
Children	136		1				1	1
Myocarditis	81							
Heart	35	1						
Masks	184		1	2	1		2	4
Thrombosis/VITT	8							
Mandates	203	1	2			1	1	1
Natural Immunity	17							
Efficacy	6							
Omicron	35							
Delta Variant	4		3					
Race	180		1					1
Ivermectin	13							
Military	27							
Breakthrough								

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



## Top Words Used per Week September 23 – September 29



## Top Hashtags by County September 23 – September 29

- ❑ 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	Fayette	Indiana
covid19 (171)	coronavirus (1)	vaccineconfident (1)	novaccinemandates (1)
vaccine (33)	pitt (1)		novaccinepassports (1)
pfizer (32)	vaccines (1)		
vaccineswork (11)			
vaers (11)			

## Top Hashtags by City September 23 – September 29

- ❑ 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 (263)	covid19 (37)	covid19 (69)	covid19 (169)	covid19 (7)	covid19 (96)	covid19 (20)
vaccine (43)	vaccine (13)	breastfeeding (38)	breastfeeding (70)	mrna (4)	breastfeeding (41)	breastfeeding (7)
pfizer (42)	breastfeeding (12)	research (38)	research (69)	demvoice1 (2)	research (41)	research (7)
covid (31)	research (12)	vaccine (7)	vaccine (33)	cndpoli (1)	pfizer (15)	bringbackmasks (4)
vaxupphilly (26)	pfizer (9)	fauciliedmillionsdie d (5)	pfizer (32)	covidisntover (1)	fauciliedmillionsdie d (12)	crimesagainsthumani ty (2)



## Top URLs by County September 23 – September 29

Allegheny	Beaver + Butler	Cambria	Fayette	Indiana	Moreland
<a href="https://ja.ma/3U1KEIS">ja.ma/3U1KEIS</a> Detection of Messenger RNA COVID-19 Vaccines in Human Breast Milk (96)	<a href="https://reason.com/2022/09/21/head-start-federal-vaccine-mask-mandate-schools-biden-judge">reason.com/2022/09/21/head-start-federal-vaccine-mask-mandate-schools-biden-judge</a> Judge Ends Federal Vaccine and Mask Mandates for Head Start School Programs (1)	<a href="https://nytimes.com/2020/09/23/us/politics/biden-inquiry-republicans-johnson.html">nytimes.com/2020/09/23/us/politics/biden-inquiry-republicans-johnson.html</a> Republican Inquiry Finds No Evidence of Wrongdoing by Biden (1)	<a href="https://msn.com/en-us/news/us/ny-supreme-court-rules-vaccine-mandate-invalid-for-nypd-union-members-city-to-appeal/ar-AA12av1M">msn.com/en-us/news/us/ny-supreme-court-rules-vaccine-mandate-invalid-for-nypd-union-members-city-to-appeal/ar-AA12av1M</a> NY Supreme Court Rules Vaccine Mandate Invalid for NYPD Union Members; City to Appeal (1)	<a href="https://academic.oup.com/cid/article/74/4/715/6279075">academic.oup.com/cid/article/74/4/715/6279075</a> Circulating Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Vaccine Antigen Detected in the Plasma of mRNA-1273 Vaccine Recipients (1)	<a href="https://on.wsj.com/3c5p9nl">on.wsj.com/3c5p9nl</a> NYPD Officers Can't Be Fired for Refusing Covid-19 Vaccine, Judge Rules (1)
<a href="https://theatlantic.com/science/archive/2022/09/mrna-covid-vaccine-booster-lymphoma-cancer/671308">theatlantic.com/science/archive/2022/09/mrna-covid-vaccine-booster-lymphoma-cancer/671308</a> DID A FAMOUS DOCTOR'S COVID SHOT MAKE HIS CANCER WORSE? (14)				<a href="https://cp24.com/news/medical-professionals-reiterate-risk-of-covid-after-removal-of-vaccine-mask-mandates-1.6084944">cp24.com/news/medical-professionals-reiterate-risk-of-covid-after-removal-of-vaccine-mask-mandates-1.6084944</a> Medical professionals reiterate risk of COVID after removal of vaccine, mask mandates (1)	
<a href="https://childrenshealthdefense.org/defender/doctors-michael-goldman-pfizer-covid-booster-shot-cancer">childrenshealthdefense.org/defender/doctors-michael-goldman-pfizer-covid-booster-shot-cancer</a> Famous Pro-Vaccine Doctor Suspects Pfizer Booster Shot Sent His Cancer Into Overdrive (9)				<a href="https://ema.europa.eu/en/documents/assessment-report/spikevax-previously-covid-19-vaccine-moderna-epar-public-assessment-report_en.pdf">ema.europa.eu/en/documents/assessment-report/spikevax-previously-covid-19-vaccine-moderna-epar-public-assessment-report_en.pdf</a> Assessment report COVID-19 Vaccine Moderna (1)	
<a href="https://thepoettimes.com/top-pro-vaccine-doctor-calls-for-global-pause-of-messenger-rna-covid-19-vaccines-4754871.html">thepoettimes.com/top-pro-vaccine-doctor-calls-for-global-pause-of-messenger-rna-covid-19-vaccines-4754871.html</a> Doctor Turns Against Messenger RNA COVID-19 Vaccines, Calls for Global Pause (8)					
<a href="https://thelancet.com/journals/lanche/article/PIIS2352-4642(22)00244-9/fulltext">thelancet.com/journals/lanche/article/PIIS2352-4642(22)00244-9/fulltext</a> Outcomes at least 90 days since onset of myocarditis after mRNA COVID-19 vaccination in adolescents and young adults in the USA: a follow-up surveillance study (7)					

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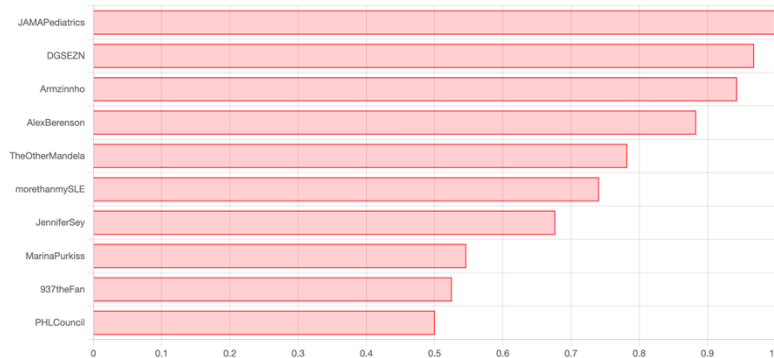
Philadelphia	Chester	Norristown	Pittsburgh	Erie	Allentown/ Bethlehem	Other
<a href="https://jamanetwork.com/journals/jamapediatrics/article-abstract/2796427">jamanetwork.com/journals/jamapediatrics/article-abstract/2796427</a> Detection of Messenger RNA COVID-19 Vaccines in Human Breast Milk (408)	<a href="https://theatlantic.com/science/archive/2022/09/mrna-covid-vaccine-booster-lymphoma-cancer/671308">theatlantic.com/science/archive/2022/09/mrna-covid-vaccine-booster-lymphoma-cancer/671308</a> DID A FAMOUS DOCTOR'S COVID SHOT MAKE HIS CANCER WORSE? (61)	<a href="https://thecountersignal.com/genetically-modified-mosquitoes-vaccinate-a-human">thecountersignal.com/genetically-modified-mosquitoes-vaccinate-a-human</a> Genetically modified mosquitoes vaccinate a human (209)	<a href="https://ja.ma/3UIKEIS">ja.ma/3UIKEIS</a> Detection of Messenger RNA COVID-19 Vaccines in Human Breast Milk (96)	<a href="https://theepochtimes.com/top-pro-vaccine-doctor-calls-for-global-pause-of-messenger-rna-covid-19-vaccines-4754871.html">theepochtimes.com/top-pro-vaccine-doctor-calls-for-global-pause-of-messenger-rna-covid-19-vaccines-4754871.html</a> Doctor Turns Against Messenger RNA COVID-19 Vaccines, Calls for Global Pause (4)	<a href="https://ja.ma/3UIKEIS">ja.ma/3UIKEIS</a> Detection of Messenger RNA COVID-19 Vaccines in Human Breast Milk (42)	<a href="https://ja.ma/3UIKEIS">ja.ma/3UIKEIS</a> Detection of Messenger RNA COVID-19 Vaccines in Human Breast Milk (8)
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<a href="https://t.me/3BDy5S1">t.me/3BDy5S1</a> COVID-19 Boosters Help Keep People Out of the Hospital, Study Finds (24)	<a href="https://ja.ma/3UIKEIS">ja.ma/3UIKEIS</a> Detection of Messenger RNA COVID-19 Vaccines in Human Breast Milk (12)	<a href="https://ja.ma/3UIKEIS">ja.ma/3UIKEIS</a> Detection of Messenger RNA COVID-19 Vaccines in Human Breast Milk (38)	<a href="https://childrenshealthdefense.org/defender/doctor-michael-goldman-pfizer-covid-booster-shot-cancer">childrenshealthdefense.org/defender/doctor-michael-goldman-pfizer-covid-booster-shot-cancer</a> Famous Pro-Vaccine Doctor Suspects Pfizer Booster Shot Sent His Cancer Into Overdrive (9)	<a href="https://ja.ma/3UIKEIS">ja.ma/3UIKEIS</a> Detection of Messenger RNA COVID-19 Vaccines in Human Breast Milk (2)	<a href="https://theatlantic.com/science/archive/2022/09/mrna-covid-vaccine-booster-lymphoma-cancer/671308">theatlantic.com/science/archive/2022/09/mrna-covid-vaccine-booster-lymphoma-cancer/671308</a> DID A FAMOUS DOCTOR'S COVID SHOT MAKE HIS CANCER WORSE? (7)	<a href="https://thelancet.com/journals/lan/article/PIIS2352-4642(22)00244-9/fulltext">thelancet.com/journals/lan/article/PIIS2352-4642(22)00244-9/fulltext</a> Outcomes at least 90 days since onset of myocarditis after mRNA COVID-19 vaccination in adolescents and young adults in the USA: a follow-up surveillance study (4)
<a href="https://thecountersignal.com/genetically-modified-mosquitoes-vaccinate-a-human">thecountersignal.com/genetically-modified-mosquitoes-vaccinate-a-human</a> Genetically modified mosquitoes vaccinate a human (21)	<a href="https://childrenshealthdefense.org/defender/cdc-data-covid-vaccine-injuries-vs-safe-app">childrenshealthdefense.org/defender/cdc-data-covid-vaccine-injuries-vs-safe-app</a> CDC Has 4 Days to Release Data on COVID Vaccine Injuries Collected via V-safe App, Court Rules (10)	<a href="https://dailysceptic.org/2022/09/28/vaccination-increases-infection-risk-by-44-oxford-study-finds">dailysceptic.org/2022/09/28/vaccination-increases-infection-risk-by-44-oxford-study-finds</a> Vaccination Increases Infection Risk by 44%, Oxford Study Finds (9)	<a href="https://theepochtimes.com/top-pro-vaccine-doctor-calls-for-global-pause-of-messenger-rna-covid-19-vaccines-4754871.html">theepochtimes.com/top-pro-vaccine-doctor-calls-for-global-pause-of-messenger-rna-covid-19-vaccines-4754871.html</a> Doctor Turns Against Messenger RNA COVID-19 Vaccines, Calls for Global Pause (8)	<a href="https://pandem-ic.com/covid-19-vaccine-doses-administered-per-100-people-by-world-bank-income-group">pandem-ic.com/covid-19-vaccine-doses-administered-per-100-people-by-world-bank-income-group</a> VACCINATION BY INCOME (2)	<a href="https://thelancet.com/journals/lan/article/PIIS2352-4642(22)00244-9/fulltext">thelancet.com/journals/lan/article/PIIS2352-4642(22)00244-9/fulltext</a> Outcomes at least 90 days since onset of myocarditis after mRNA COVID-19 vaccination in adolescents and young adults in the USA: a follow-up surveillance study (7)	<a href="https://t.me/3Cc3VDI">t.me/3Cc3VDI</a> COVID-19 Boosters Help Keep People Out of the Hospital, Study Finds (3)
<a href="https://youtu.be/PWvuhAycsTQ">youtu.be/PWvuhAycsTQ</a> How are kids and young adults doing 90 days after vaccine myocarditis?   A New Lancet Paper Explored (16)	<a href="https://news.com/2022/09/25/europe-young-adult-deaths-239-percent-increase">news.com/2022/09/25/europe-young-adult-deaths-239-percent-increase</a> Europe officially records a shocking 239% increase in Excess Deaths among Teens & Young Adults since EMA first approved Covid-19 Vaccine (7)	<a href="https://bit.ly/3PUVcsA">bit.ly/3PUVcsA</a> COVID-19 VACCINE PASSPORT (6)	<a href="https://thelancet.com/journals/lan/article/PIIS2352-4642(22)00244-9/fulltext">thelancet.com/journals/lan/article/PIIS2352-4642(22)00244-9/fulltext</a> Outcomes at least 90 days since onset of myocarditis after mRNA COVID-19 vaccination in adolescents and young adults in the USA: a follow-up surveillance study (7)	<a href="https://twitter.com/jamiesale/status/1574863238147473408">twitter.com/jamiesale/status/1574863238147473408</a> Doctor Turns Against Messenger RNA COVID-19 Vaccines, Calls for Global Pause (2)	<a href="https://vaccines.gov">vaccines.gov</a> (6)	<a href="https://6abc.com/flu-shot-covid-19-booster-season-get-vaccinated/12257501">6abc.com/flu-shot-covid-19-booster-season-get-vaccinated/12257501</a> Health officials urge flu vaccination, COVID-19 booster ahead of potentially more severe flu season (2)

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## Analysis of Tweepsters - Super Spreaders

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

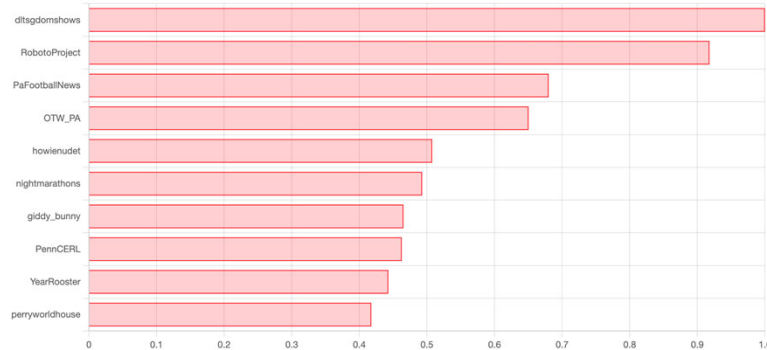


14

CASOS  
Carnegie Mellon University

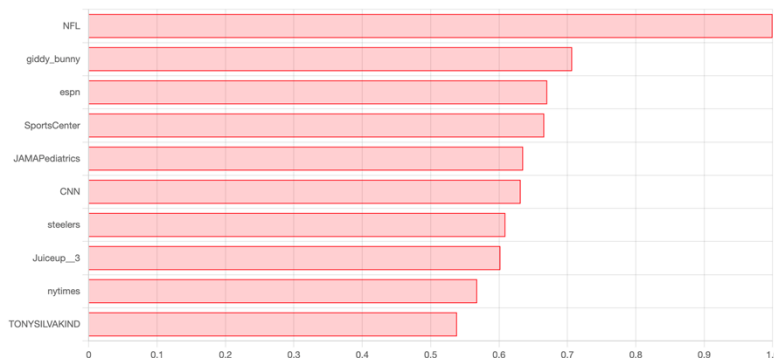
## Analysis of Tweeters - Super Friends

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



## Analysis of Tweeters - Other Influencers

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





## Accounts Referenced by the Most Tweets

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

Agent Label	Value
JAMAPediatrics	470
DrAseemMalhotra	225
RonJohnsonWI	205
CDCgov	202
GBNEWS	199
YaffaRaz	194
thecoastguy	193
pfizer	175
JoyceWhiteVance	173
LD_Sceptics	162
maccasmelly	149
Bgmegamanzero1	142
AlexBerenson	134



## Trending Tweets September 23 – September 29

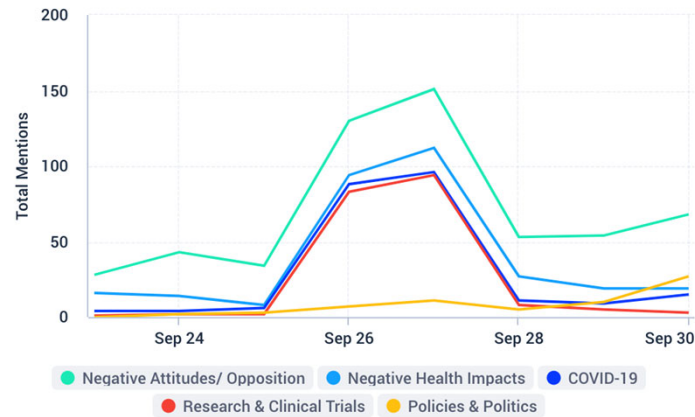
Tweets that are the most forwarded, either by retweet, reply, or quote:

- ❑ 2 percent of young children fully Covid vaccinated. 2 percent of eligible adults getting the new booster. Everyone knows the shots have failed. EVERYONE. The longer public health bureaucrats and politicians lie the worse the blowback will ultimately be. <https://t.co/69siaAHcqU>;
- ❑ Breastfeeding women were told - It's all fine! Then these women were mandated by their workplaces to get vaccinated. Those who didn't were fired. Anyone who expressed concerns was demonized as "anti-vaxx." Now "caution is warranted." @JAMAPediatrics <https://t.co/vxETCSXliB>;
- ❑ Trace amounts of #COVID19 vaccine mRNAs were detected in the breast milk of some lactating women. Caution is warranted regarding #breastfeeding infants younger than six months in the first two days after maternal COVID-19 vaccination. #Research <https://t.co/zH8nyLleVC> #Research;
- ❑ A box full of genetically modified mosquitos successfully vaccinated a human in a trial funded by the National Institute of Health. How can this go wrong?! <https://t.co/3sjUGcdzrl>;
- ❑ Social Security SHOULD be trending EVERY day. Wake up America, Republicans are coming for the program. Senators Lindsey Graham, Mitch McConnell, Marco Rubio, Rick Scott, Ron Johnson and OTHERS have all said that they want to cut the program! Are we going to let them? HELL NO!;
- ❑ Prepare for the hurricane season by getting vaccinated <https://t.co/11H8DOgtGX>;
- ❑ After forcing millions of children to get the Covid vax and insisting it was "safe and effective," hospitals are now normalizing a side effect they once called rare: myocarditis. <https://t.co/7izelmll9L>;
- ❑ 3/ Tonight on @GBNews: Israel Pfizer Leak, interviewing Will Jones of @LD\_Sceptics about the censorship & lack of media coverage for this huge headline story about the Israel - the world's lab - and the hiding of this truthbomb. @YaffaRaz @thecoastguy <https://t.co/WqgenUqsS4>;
- ❑ "Nobody will be safe unless everyone is vaccinated..." -Klaus Schwab What a fucking Liar. <https://t.co/FOgQS2fnzI>;
- ❑ My house in Tampa is getting flooded and destroyed, but thank God I'm vaccinated. <https://t.co/nrcWtVY4tw>;
- ❑ Biden telling people to prepare for the hurricane by getting vaccinated. <https://t.co/n7A3wS4ZqM>;
- ❑ The first US polio case in over 9 years happened because they were not vaccinated. They now have paralysis. I don't know who needs to hear this right now, but vaccines work.





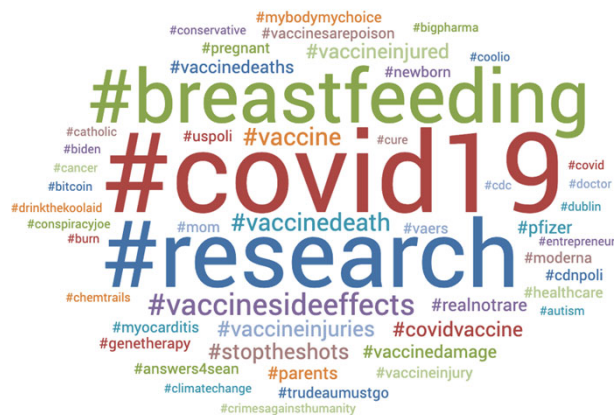
## Negative Attitudes September 23 – September 29



Source: VCTR Project Dashboard



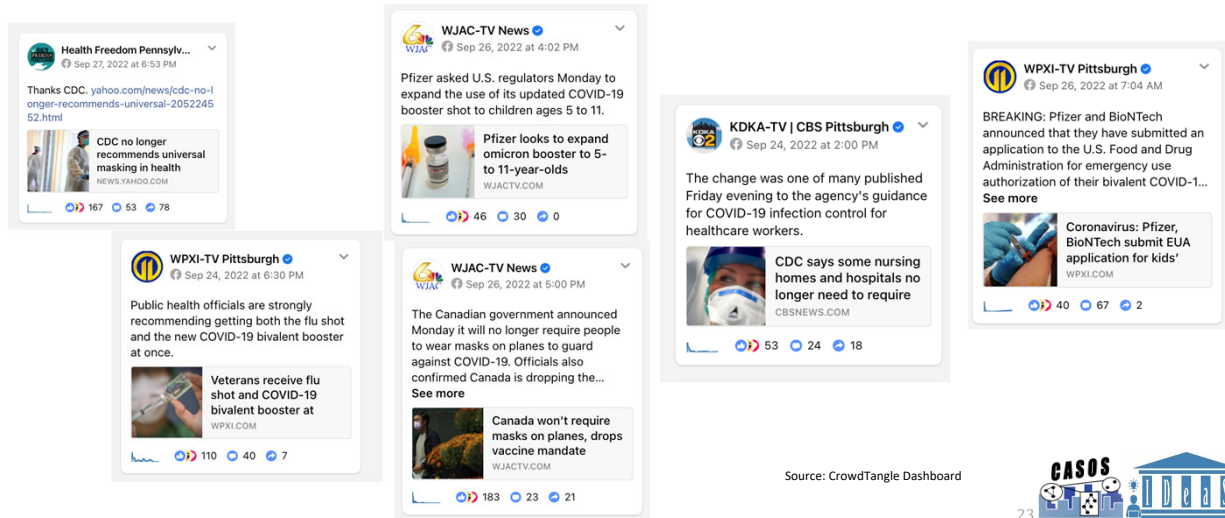
## Negative Hashtag Cloud September 23 – September 29



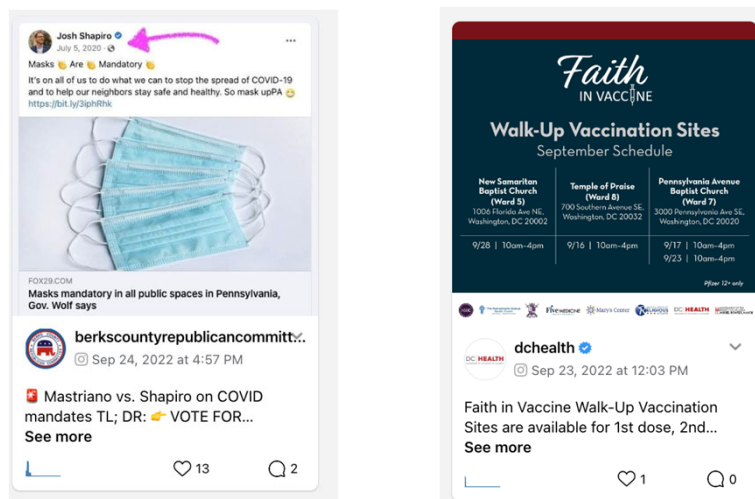
Source: VCTR Project Dashboard



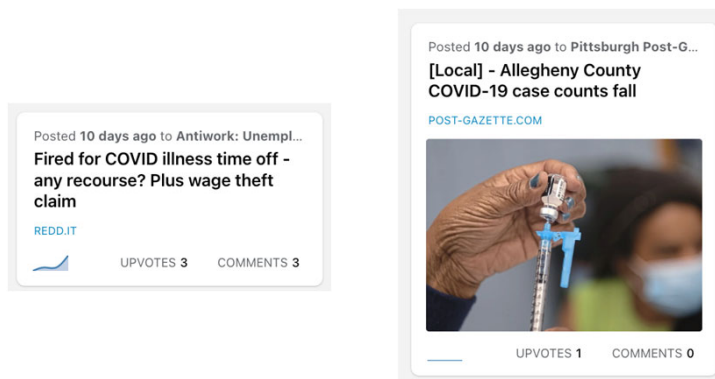
## Trending Posts on September 23 – September 29



## Trending Posts on Instagram September 23 – September 29



## Trending Posts on Reddit September 23 – September 29



Source: CrowdTangle Dashboard



## Measures for countering health disinformation

- ☐ Anti-vaccine narratives are still pervasive on social media, while there are not that many counter-narratives about the positive effects of vaccines;
- ☐ There is a need for a reframing of social media as a medically and socially valuable resource and platform because of its high impact on society;
- ☐ Healthcare organizations need to implement social media strategies to create and expand conversations countering disinformation on social media;
- ☐ It would be helpful for health communicators to cooperate with local influencers who could spread pro-vaccination messages. Another strategy could be to motivate health practitioners to use social media as a channel for communication with the public;
- ☐ "Strategies focused on meaningfully and safely engaging HCPs on social media, promoting interconnectivity across the medical and public health communities on COVID-19 vaccine truths, and sustaining these messaging efforts across vaccine implementation stages will be our best hope of preventing any more missed doses and promoting "misinformation immunity" for all." (Hernandez et al. 2021. "The COVID-19 vaccine social media infodemic: healthcare providers' missed dose in addressing misinformation and vaccine hesitancy.")



## Measures for countering health disinformation

- ❑ As a trusted source of information on vaccines, family physicians play a crucial role in driving vaccine acceptance;
- ❑ Sharing stories, building trust with patients, addressing pain associated with vaccination, presenting vaccination as the default approach early on, focusing on the benefits of protection, and being honest about side effects could also help to promote pro-vaccination attitudes (Shen & Dubey 2019. “Addressing vaccine hesitancy: Clinical guidance for primary care physicians working with parents”);
- ❑ It is helpful to provide more information for the patients about the possible disinformation strategies they may deal with, such as manipulating emotions to promote misinformation and conspiracy theories to sow confusion and create division. Inoculation strategy may help to prepare the community by presenting counterarguments to misinformation and raising awareness of negative emotional appeals spread by anti-vaccine campaigns;
- ❑ Framing vaccination as a concrete, actionable strategy to reduce COVID-19 risk may help to address negative emotions, increase self-efficacy and ensure the feelings of control over reducing COVID-19 risk.



## For More Information

- ❑ Director Kathleen M. Carley - [kathleen.carley@cs.cmu.edu](mailto:kathleen.carley@cs.cmu.edu)
  - ❑ <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/IDeaSCMU)
- ❑ Ask to be on our Email-Distro Lists

