

# PA Vaccine Conversations on Twitter

Dr. Iuliia Alieva, Dawn Robertson, Dr. Kathleen M. Carley

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

The CMU centers for:

Informed DEMocracy And Social cyber-security

Computational Analysis of Social and Organizational Systems



Carnegie Mellon University



1

## PA Vaccine Conversations Project

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



2

## Report Overview November 18 – November 24

- ❑ Race, Mandates, Vaccine Passports are trending this week, also same topics are trending this week over the last;
- ❑ Trending stories: [washingtonpost.com/politics/2022/11/23/vaccinated-people-now-make-up-majority-covid-deaths](https://www.washingtonpost.com/politics/2022/11/23/vaccinated-people-now-make-up-majority-covid-deaths) Covid is no longer mainly a pandemic of the unvaccinated. Here's why; [vaccines.gov](https://www.vaccines.gov); [scientificamerican.com/article/how-to-compare-covid-deaths-for-vaccinated-and-unvaccinated-people](https://www.scientificamerican.com/article/how-to-compare-covid-deaths-for-vaccinated-and-unvaccinated-people) How to Compare COVID Deaths for Vaccinated and Unvaccinated People; [reuters.com/lifestyle/sports/nba-is-sued-by-fired-referees-who-refused-covid-vaccines-2022-11-14](https://www.reuters.com/lifestyle/sports/nba-is-sued-by-fired-referees-who-refused-covid-vaccines-2022-11-14) NBA is sued by fired referees who refused COVID vaccines;
- ❑ Popular anti-vax tweets: G20 - BREAKING: leaders have just signed a declaration which states that vaccine passports will be adopted to "facilitate" all international travel This means any vaccination the WHO determines you should have. Changing your rights & freedoms forever. Silence from the media. <https://t.co/0pHISCcVaM>; NEW - Vaccinated people now make up a "majority of covid deaths." It is "no longer" a "pandemic of the unvaccinated." <https://t.co/MigZnsWk6r>; Was everyone aware that Biden agreed to Vaccine Passports at the G20 summit?; To be clear, not getting vaccinated means you are 100% guaranteed NOT to die from vaccine side effects and 99.8% protected from Covid. Watch liberals pull their hair out denying this somehow and labeling it misinformation. Liberals on their 12th booster btw; "Now 2 years after public release + mounting cases of fatal myocarditis published in peer-reviewed literature, Pfizer + Moderna said they will begin studies of cardiac safety FDA required in 2021 agreement." — Dr. Peter McCullough <https://t.co/dPk7CKk3qe>



## Popular anti-vax stories November 18 – November 24

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

- ❑ [americanlibertyreportnews.com/articles/court-orders-cdc-to-release-data-showing-18-million-vaccine-injuries-in-america](https://www.americanlibertyreportnews.com/articles/court-orders-cdc-to-release-data-showing-18-million-vaccine-injuries-in-america) Court Orders CDC to Release Data Showing 18 Million Vaccine Injuries in America;
- ❑ [rumble.com/v1wac7i-world-premier-died-suddenly.html](https://www.rumble.com/v1wac7i-world-premier-died-suddenly.html) World Premiere: Died Suddenly;
- ❑ [maryannedemasi.substack.com/p/finding-mrna-in-breast-milk-typifies](https://www.maryannedemasi.substack.com/p/finding-mrna-in-breast-milk-typifies) Finding mRNA in breast milk typifies how covid vaccine safety was oversold;
- ❑ [childrenshealthdefense.org/defender/pfizer-moderna-covid-vaccine-trials-myocarditis](https://www.childrenshealthdefense.org/defender/pfizer-moderna-covid-vaccine-trials-myocarditis) Too Little Too Late? Pfizer, Moderna to Study Long-Term Risk of Myocarditis After COVID Vaccines;
- ❑ [sociable.co/government-and-policy/g20-promotes-vaccine-passports-future-pandemic-response](https://www.sociable.co/government-and-policy/g20-promotes-vaccine-passports-future-pandemic-response) G20 promotes vaccine passports for future pandemic response;
- ❑ [mirror.co.uk/news/world-news/death-boy-14-three-weeks-28552475](https://www.mirror.co.uk/news/world-news/death-boy-14-three-weeks-28552475) Death of boy, 14, three weeks after Covid jab of 'significant public concern' - coroner
- ❑ [lifesitenews.com/news/all-he-wanted-to-do-was-play-hockey-grieving-dad-says-pfizer-shot-killed-his-17-year-old-son](https://www.lifesitenews.com/news/all-he-wanted-to-do-was-play-hockey-grieving-dad-says-pfizer-shot-killed-his-17-year-old-son) 'All he wanted to do was play hockey': Grieving dad says Pfizer shot killed his 17-year old son



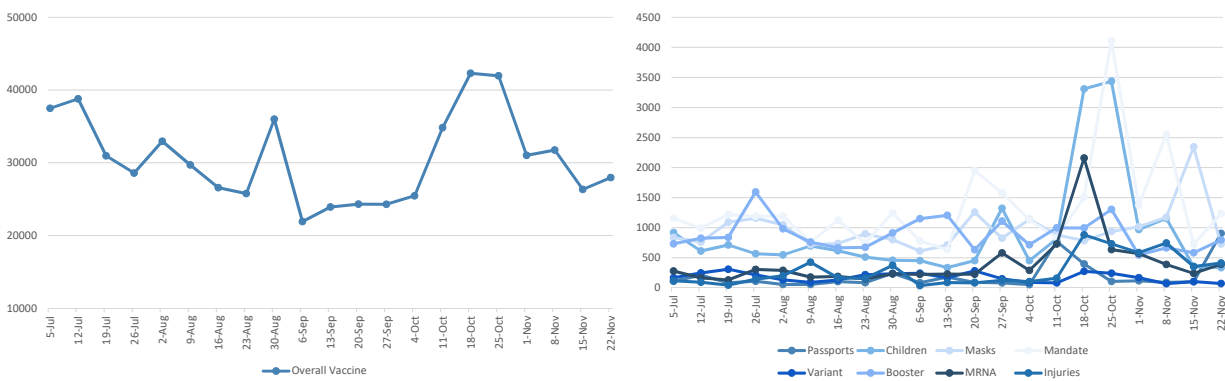
## Countering disinformation November 18 – November 24

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

- ❑ No, vaccinated people are not more likely to die from COVID-19 than unvaccinated people  
<https://www.verifythis.com/article/news/verify/coronavirus-verify/vaccinated-people-not-more-likely-to-die-from-covid-fact-check/536-bba3d8a1-6531-4497-895f-8a2937d6e0c7> ;
- ❑ Fact Check: Majority of US COVID Deaths Among Vaccinated Is NOT Sign Vaccines Are Ineffective  
<https://leadstories.com/hoax-alert/2022/11/fact-check-vaccinated-majority-of-us-covid-deaths-not-sign-vaccines-are-ineffective.html>;
- ❑ Seizures, deaths, depopulation: CheckMate looks into claims made in new anti-vax film Died Suddenly  
<https://www.abc.net.au/news/2022-12-02/fact-check-debunking-died-suddenly/101720550>;
- ❑ 'Died Suddenly' Pushes Bogus Depopulation Theory <https://www.factcheck.org/2022/12/scicheck-died-suddenly-pushes-bogus-depopulation-theory/> ;
- ❑ How Effective Are the Bivalent Boosters? CDC Shares New Real-World Data on Updated Shots  
<https://www.health.com/how-effective-bivalent-boosters-6831663>



## Trends (tweets per week in PA) November 18 – November 24



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

Conversation	Total PA	Philadelphia		Pittsburgh		Erie		Allentown/Bethlehem		Other	
	Tweets	Tweets	%	Tweets	%	Tweets	%	Tweets	%	Tweets	%
Overall Vaccine	23816	12406	52.1%	7006	29.4%	246	1.0%	2977	12.5%	1181	5.0%
Vaccine Passports	902	368	3.0%	366	5.2%	6	2.4%	144	4.8%	18	1.5%
FDA Approval	16	5	0.0%	4	0.1%			7	0.2%		
Boosters	568	295	2.4%	123	1.8%	9	3.7%	104	3.5%	37	3.1%
Employees	107	70	0.6%	21	0.3%			8	0.3%	8	0.7%
"Experimental"	136	50	0.4%	33	0.5%	1	0.4%	46	1.5%	6	0.5%
Children	227	102	0.8%	70	1.0%	1	0.4%	41	1.4%	13	1.1%
Myocarditis	297	194	1.6%	42	0.6%	3	1.2%	44	1.5%	14	1.2%
Heart	280	128	1.0%	83	1.2%	3	1.2%	50	1.7%	16	1.4%
Masks	712	368	3.0%	135	1.9%	6	2.4%	65	2.2%	138	11.7%
Thrombosis/VITT	16	3	0.0%	10	0.1%			3	0.1%		
Mandates	1161	850	6.9%	127	1.8%	7	2.8%	146	4.9%	31	2.6%
Natural Immunity	53	31	0.2%	15	0.2%	1	0.4%	4	0.1%	2	0.2%
Efficacy	43	22	0.2%	12	0.2%			5	0.2%	4	0.3%
Omicron	55	30	0.2%	14	0.2%			10	0.3%	1	0.1%
Delta Variant	42	23	0.2%	9	0.1%			3	0.1%	7	0.6%
Race	1899	1371	11.1%	231	3.3%	13	5.3%	179	6.0%	105	8.9%
Ivermectin	73	54	0.4%	7	0.1%			11	0.4%	1	0.1%
Military	211	78	0.6%	42	0.6%	3	1.2%	77	2.6%	11	0.9%
Breakthrough	12	4	0.0%	1	0.0%	1	0.4%	5	0.2%	1	0.1%

Conversation topics trending this week over last:

- Passports
- Mandates
- Racism



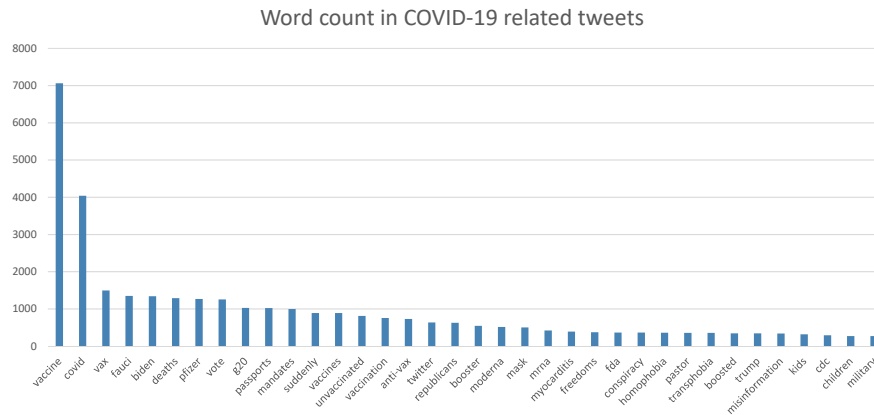
## High Level View by County November 18 – November 24

County	Allegheny	Beaver	Butler	Cambria	Fayette	Indiana	Somerset	Westmoreland
Overall Vaccine	7256	9	26	13	9	10	12	30
Vaccine Passports	367					3		
FDA	4							
Boosters	132		1	2			2	2
Employees	22							
"Experimental"	34						1	1
Children	79							
Myocarditis	49							
Heart	90				1			
Masks	148		4	4	1		4	3
Thrombosis/VITT	10							
Mandates	130					3	1	1
Natural Immunity	17							
Efficacy	14							
Omicron	14							1
Delta Variant	10							
Race	236			1		1	1	1
Ivermectin	7							
Military	45						1	
Breakthrough	2							

- 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 November 18 – November 24



## Top Hashtags by County November 18 – November 24

❑ We've checked hashtags in several counties such as Allegheny, Beaver, Butler, Cambria, Fayette, Indiana, Somerset, and West Moreland. After removing hashtags that were part of our search criteria, the top 5 hashtags for each county related to COVID19/vaccines are as follows\*:

Allegheny	Fayette	Indiana	West Moreland
diedsuddenly (143)	diedsuddenly (1)	novaccinemandates (3)	diedsuddenly (2)
pfizer (43)		novaccinepassports (3)	covid19 (1)
vaccine (36)		diedsuddenly (1)	
stoptheshots (35)			
vaccinedeaths (34)			



## Top Hashtags by City November 18 – November 24

- After removing hashtags that were part of our search criteria, the top 5 hashtags for each region related to COVID19/vaccines are as follows:

Philadelphia	Chester	Norristown	Pittsburgh	Erie	Allentown/ Bethlehem	Other
diedsuddenly (204)	novaccinepassports (10)	diedsuddenly (34)	diedsuddenly (143)	diedsuddenly (6)	diedsuddenly (49)	diedsuddenly (15)
covid (56)	covid (3)	crimesagainsthumanity (12)	pfizer (43)	conspiracytheories (1)	novaccinepassports (17)	covid19 (12)
vaccine (55)	diedsuddenly (3)	vaccine (11)	vaccine (36)	covidvaccine (1)	crimesagainsthumanity (13)	novaccinemandates (3)
diedsuddenlydocumentary (40)	vaccine (3)	mrna (6)	stoptheshots (35)	novaccinepassports (1)	covidvaccine (12)	novaccinepassports (3)
novaccinepassports (18)	vaccinemandates (2)	vaccinedeaths (6)	vaccinedeaths (34)	vaccination (1)	pfizer (6)	getvaccinated (2)



## Top URLs by County November 18 – November 24

Allegheny	Beaver + Butler	Indiana	West Moreland
<a href="https://www.washingtonpost.com/politics/2022/11/23/vaccinated-people-now-make-up-majority-covid-deaths">washingtonpost.com/politics/2022/11/23/vaccinated-people-now-make-up-majority-covid-deaths</a> Covid is no longer mainly a pandemic of the unvaccinated. Here's why (198)	<a href="https://www.washingtonpost.com/politics/2022/11/23/vaccinated-people-now-make-up-majority-covid-deaths">washingtonpost.com/politics/2022/11/23/vaccinated-people-now-make-up-majority-covid-deaths</a> Covid is no longer mainly a pandemic of the unvaccinated. Here's why (2)	<a href="https://maryannedemasi.substack.com/p/finding-mrna-in-breast-milk-typifies">maryannedemasi.substack.com/p/finding-mrna-in-breast-milk-typifies</a> Finding mRNA in breast milk typifies how covid vaccine safety was oversold (1)	<a href="https://rumble.com/v1wac7i-world-premier-died-suddenly.html">rumble.com/v1wac7i-world-premier-died-suddenly.html</a> World Premiere: Died Suddenly (1)
<a href="https://vaccines.gov">vaccines.gov</a> (71)	<a href="https://11alive.com/article/news/health/intense-flu-season-hitting-georgia/85-ab07e2abc129-484f-9cb9-b84b753f26ae">11alive.com/article/news/health/intense-flu-season-hitting-georgia/85-ab07e2abc129-484f-9cb9-b84b753f26ae</a> Intense flu season hitting Georgia with 'very high' activity level, doctors say (1)	<a href="https://medrxiv.org/content/10.1101/2022.10.11.22280963v1">medrxiv.org/content/10.1101/2022.10.11.22280963v1</a> Age-stratified infection fatality rate of COVID-19 in the non-elderly informed from pre-vaccination national seroprevalence studies (1)	<a href="https://vaccines.gov">vaccines.gov</a> (1)
<a href="https://www.americanlibertyreportnews.com/articles/court-orders-cdc-to-release-data-showing-18-million-vaccine-injuries-in-america">americanlibertyreportnews.com/articles/court-orders-cdc-to-release-data-showing-18-million-vaccine-injuries-in-america</a> Court Orders CDC to Release Data Showing 18 Million Vaccine Injuries in America (52)	<a href="https://nypost.com/2022/11/22/mask-mandates-should-be-reinstated-to-help-long-covid-hhs-report">nypost.com/2022/11/22/mask-mandates-should-be-reinstated-to-help-long-covid-hhs-report</a> HHS-authorized report recommends masks, distancing for 'long COVID' (1)	<a href="https://rumble.com/v1wac7i-world-premier-died-suddenly.html">rumble.com/v1wac7i-world-premier-died-suddenly.html</a> World Premiere: Died Suddenly (1)	<a href="https://www.washingtonpost.com/politics/2022/11/23/vaccinated-people-now-make-up-majority-covid-deaths">washingtonpost.com/politics/2022/11/23/vaccinated-people-now-make-up-majority-covid-deaths</a> Covid is no longer mainly a pandemic of the unvaccinated. Here's why (1)
<a href="https://rumble.com/v1wac7i-world-premier-died-suddenly.html">rumble.com/v1wac7i-world-premier-died-suddenly.html</a> World Premiere: Died Suddenly (22)	<a href="https://thegatewaypundit.com/2022/11/technology-vaccinated-now-account-majority-covid-deaths">thegatewaypundit.com/2022/11/technology-vaccinated-now-account-majority-covid-deaths</a> WaPo: The Vaccinated Now Account for a Majority of COVID Deaths (1)		
<a href="https://www.scientificamerican.com/article/how-to-compare-covid-deaths-for-vaccinated-and-unvaccinated-people">scientificamerican.com/article/how-to-compare-covid-deaths-for-vaccinated-and-unvaccinated-people</a> How to Compare COVID Deaths for Vaccinated and Unvaccinated People (19)			



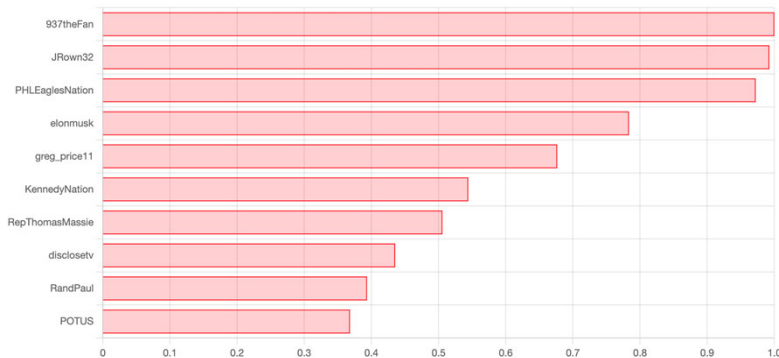
# Top URLs by City November 18 - November 24

Philadelphia	Chester	Norristown	Pittsburgh	Erie	Allentown/ Bethlehem	Other
<a href="https://www.washingtonpost.com/politics/2022/11/23/vaccinated-people-now-make-up-majority-covid-deaths/">washingtonpost.com/politics/2022/11/23/vaccinated-people-now-make-up-majority-covid-deaths/</a> Covid is no longer mainly a pandemic of the unvaccinated. Here's why (293)	<a href="https://www.sociable.co/government-and-policy/g20-promotes-vaccine-passports-future-pandemic-response/">sociable.co/government-and-policy/g20-promotes-vaccine-passports-future-pandemic-response/</a> G20 promotes vaccine passports for future pandemic response (21)	<a href="https://www.washingtonpost.com/politics/2022/11/23/vaccinated-people-now-make-up-majority-covid-deaths/">washingtonpost.com/politics/2022/11/23/vaccinated-people-now-make-up-majority-covid-deaths/</a> Covid is no longer mainly a pandemic of the unvaccinated. Here's why (31)	<a href="https://www.washingtonpost.com/politics/2022/11/23/vaccinated-people-now-make-up-majority-covid-deaths/">washingtonpost.com/politics/2022/11/23/vaccinated-people-now-make-up-majority-covid-deaths/</a> Covid is no longer mainly a pandemic of the unvaccinated. Here's why (198)	<a href="https://www.washingtonpost.com/politics/2022/11/23/vaccinated-people-now-make-up-majority-covid-deaths/">washingtonpost.com/politics/2022/11/23/vaccinated-people-now-make-up-majority-covid-deaths/</a> Covid is no longer mainly a pandemic of the unvaccinated. Here's why (10)	<a href="https://www.washingtonpost.com/politics/2022/11/23/vaccinated-people-now-make-up-majority-covid-deaths/">washingtonpost.com/politics/2022/11/23/vaccinated-people-now-make-up-majority-covid-deaths/</a> Covid is no longer mainly a pandemic of the unvaccinated. Here's why (96)	<a href="https://www.scientificamerican.com/article/how-to-compare-covid-deaths-for-vaccinated-and-unvaccinated-people/">scientificamerican.com/article/how-to-compare-covid-deaths-for-vaccinated-and-unvaccinated-people/</a> How to Compare COVID Deaths for Vaccinated and Unvaccinated People (19)
<a href="https://www.childrenshealthdefense.org/defense/pfizer-moderna-covid-vaccine-trials-myocarditis/">childrenshealthdefense.org/defense/pfizer-moderna-covid-vaccine-trials-myocarditis/</a> Too Little Too Late? Pfizer, Moderna to Study Long-Term Risk of Myocarditis After COVID Vaccines (156)	<a href="https://www.natthebee.com/article/leaders-at-the-g20-global-summit-signed-a-declaration-that-would-require-a-covid-19-vaccine-passport-to-travel-internationally-to-suggest-theyre-never-going-to-let-this-go/">natthebee.com/article/leaders-at-the-g20-global-summit-signed-a-declaration-that-would-require-a-covid-19-vaccine-passport-to-travel-internationally-to-suggest-theyre-never-going-to-let-this-go/</a> Leaders at the G20 summit just signed a declaration that would require you to have WHO vaccine passports to travel (12)	<a href="https://www.vaccines.gov/">vaccines.gov</a> (15)	<a href="https://www.vaccines.gov/">vaccines.gov</a> (71)	<a href="https://www.mirror.co.uk/news/world-news/death-boy-14-three-weeks-29552475/">mirror.co.uk/news/world-news/death-boy-14-three-weeks-29552475/</a> Death of boy, 14, three weeks after Covid (job of 'significant public concern' - coroner (9)	<a href="https://www.americanlibertyreportnews.com/articles/court-orders-cdc-to-release-data-showing-18-million-vaccine-injuries-in-america/">americanlibertyreportnews.com/articles/court-orders-cdc-to-release-data-showing-18-million-vaccine-injuries-in-america/</a> Court Orders CDC to Release Data Showing 18 Million Vaccine Injuries in America (31)	<a href="https://twitter.com/RichardLWeiss/status/1593431185341571072">twitter.com/RichardLWeiss/status/1593431185341571072</a> Covid-19 still kills more than flu in all age groups, although a majority of deaths from acute cases may be old and infirm. (18)
<a href="https://www.vaccines.gov/">vaccines.gov</a> (58)	<a href="https://www.washingtonpost.com/politics/2022/11/23/vaccinated-people-now-make-up-majority-covid-deaths/">washingtonpost.com/politics/2022/11/23/vaccinated-people-now-make-up-majority-covid-deaths/</a> Covid is no longer mainly a pandemic of the unvaccinated. Here's why (11)	<a href="https://www.technofog.substack.com/p/the-vaccinated-now-account-for-a-majority-of-covid-deaths/">technofog.substack.com/p/the-vaccinated-now-account-for-a-majority-of-covid-deaths/</a> The vaccinated now account for a majority of COVID deaths. (11)	<a href="https://www.americanlibertyreportnews.com/articles/court-orders-cdc-to-release-data-showing-18-million-vaccine-injuries-in-america/">americanlibertyreportnews.com/articles/court-orders-cdc-to-release-data-showing-18-million-vaccine-injuries-in-america/</a> Court Orders CDC to Release Data Showing 18 Million Vaccine Injuries in America (52)	<a href="https://www.rumble.com/v1wac7l-world-premier-died-suddenly.html">rumble.com/v1wac7l-world-premier-died-suddenly.html</a> World Premier: Died Suddenly (3)	<a href="https://www.vaccines.gov/">vaccines.gov</a> (30)	<a href="https://twitter.com/RichardLWeiss/status/1593431185341571072">twitter.com/RichardLWeiss/status/1593431185341571072</a> Acute covid is more deadly than flu. Also, covid ruins the immune system, predisposing to further infection of all kinds as well as cancer, together with worse outcomes. (15)
<a href="https://twitter.com/f/broadcasts/10xKAVqbywGh">#DiedSuddenly WORLD PREMIER</a> (44)	<a href="https://www.reuters.com/lifestyle/sports/nba-is-sued-by-fired-referees-who-refused-covid-vaccines-2022-11-14/">reuters.com/lifestyle/sports/nba-is-sued-by-fired-referees-who-refused-covid-vaccines-2022-11-14/</a> NBA is sued by fired referees who refused COVID vaccines (9)	<a href="https://www.americanlibertyreportnews.com/articles/court-orders-cdc-to-release-data-showing-18-million-vaccine-injuries-in-america/">americanlibertyreportnews.com/articles/court-orders-cdc-to-release-data-showing-18-million-vaccine-injuries-in-america/</a> Court Orders CDC to Release Data Showing 18 Million Vaccine Injuries in America (10)	<a href="https://www.rumble.com/v1wac7l-world-premier-died-suddenly.html">rumble.com/v1wac7l-world-premier-died-suddenly.html</a> World Premier: Died Suddenly (22)	<a href="https://www.amp.ibtimes.sg/who-brook-jackson-whistleblower-leaves-20-dent-biotech-shares-single-day-61120/">amp.ibtimes.sg/who-brook-jackson-whistleblower-leaves-20-dent-biotech-shares-single-day-61120/</a> Who is Brook Jackson? Whistleblower Leaves 20% Dent on BioNTech Shares on Single Day (2)	<a href="https://www.childrenshealthdefense.org/defense/pfizer-moderna-covid-vaccine-trials-myocarditis/">childrenshealthdefense.org/defense/pfizer-moderna-covid-vaccine-trials-myocarditis/</a> Too Little Too Late? Pfizer, Moderna to Study Long-Term Risk of Myocarditis After COVID Vaccines (15)	<a href="https://twitter.com/RLW/status/1593420810072514563">twitter.com/RLW/status/1593420810072514563</a> Do you have a breakdown between vaccinated and unvaccinated? (13)
<a href="https://www.americanlibertyreportnews.com/articles/court-orders-cdc-to-release-data-showing-18-million-vaccine-injuries-in-america/">americanlibertyreportnews.com/articles/court-orders-cdc-to-release-data-showing-18-million-vaccine-injuries-in-america/</a> Court Orders CDC to Release Data Showing 18 Million Vaccine Injuries in America (32)	<a href="https://www.americanlibertyreportnews.com/articles/court-orders-cdc-to-release-data-showing-18-million-vaccine-injuries-in-america/">americanlibertyreportnews.com/articles/court-orders-cdc-to-release-data-showing-18-million-vaccine-injuries-in-america/</a> Court Orders CDC to Release Data Showing 18 Million Vaccine Injuries in America (7)	<a href="https://www.childrenshealthdefense.org/defense/pfizer-moderna-covid-vaccine-trials-myocarditis/">childrenshealthdefense.org/defense/pfizer-moderna-covid-vaccine-trials-myocarditis/</a> Too Little Too Late? Pfizer, Moderna to Study Long-Term Risk of Myocarditis After COVID Vaccines (10)	<a href="https://www.scientificamerican.com/article/how-to-compare-covid-deaths-for-vaccinated-and-unvaccinated-people/">scientificamerican.com/article/how-to-compare-covid-deaths-for-vaccinated-and-unvaccinated-people/</a> How to Compare COVID Deaths for Vaccinated and Unvaccinated People (19)	<a href="https://www.lifetimesnews.com/news/all-he-wanted-to-do-was-play-hockey-grieving-dad-says-pfizer-shot-killed-his-17-year-old-son/">lifetimesnews.com/news/all-he-wanted-to-do-was-play-hockey-grieving-dad-says-pfizer-shot-killed-his-17-year-old-son/</a> All he wanted to do was play hockey: Grieving dad says Pfizer shot killed his 17-year old son (2)	<a href="https://www.americanlibertyreportnews.com/articles/court-orders-cdc-to-release-data-showing-18-million-vaccine-injuries-in-america/">americanlibertyreportnews.com/articles/court-orders-cdc-to-release-data-showing-18-million-vaccine-injuries-in-america/</a> Court Orders CDC to Release Data Showing 18 Million Vaccine Injuries in America (12)	<a href="https://www.washingtonpost.com/politics/2022/11/23/vaccinated-people-now-make-up-majority-covid-deaths/">washingtonpost.com/politics/2022/11/23/vaccinated-people-now-make-up-majority-covid-deaths/</a> Covid is no longer mainly a pandemic of the unvaccinated. Here's why (12)

Carnegie Mellon University

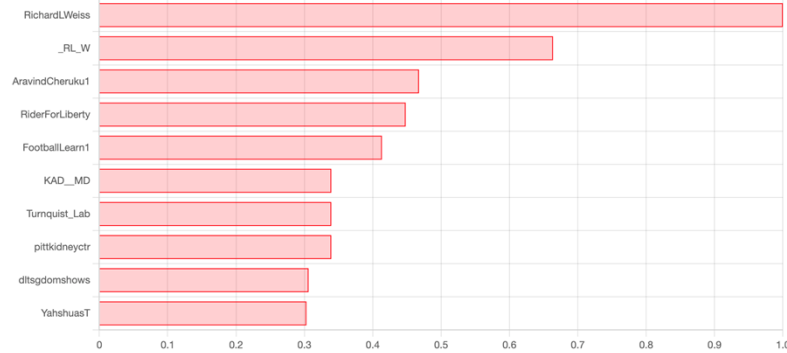
# Analysis of Tweeters - Super Spreaders

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



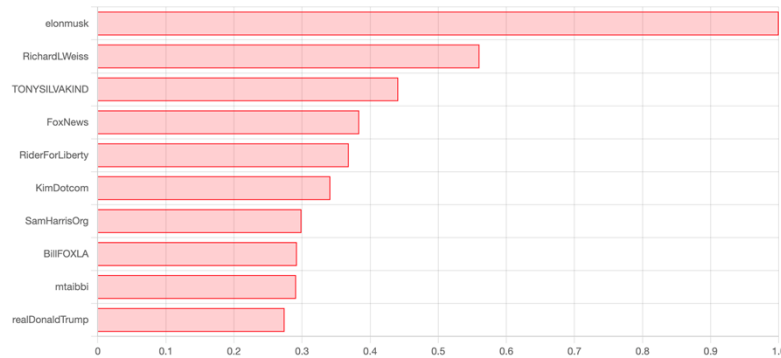
## Analysis of Tweeters - Super Friends

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



## 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
elonmusk	664
RepThomasMassie	526
KennedyNation	520
1800EnoughLies	318
MonicaCrowley	305
pfizer	252
POTUS	180
catturd2	176
bennyjohnson	154
FOX29philly	146
Timecast	139
Twitter	128
greg_price11	115



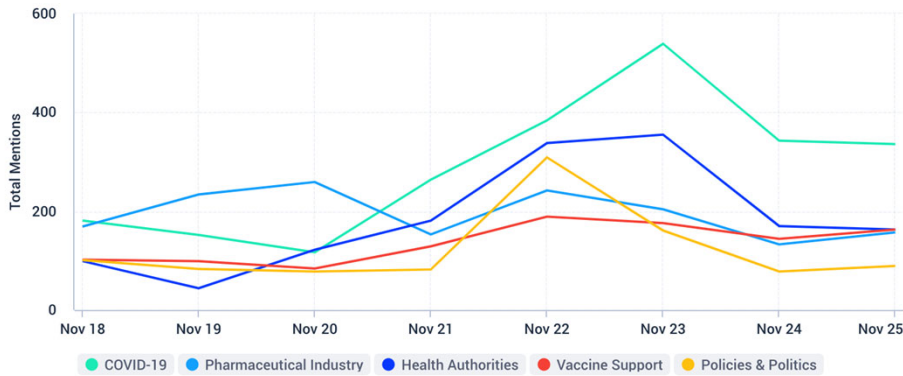
## Trending Tweets November 18 - November 24

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

- ❑ Fauci: "The real danger is in the people who have not been vaccinated. If we're going to see a problem this winter, it's going to be among those people." <https://t.co/5OsohYgOhB>;
- ❑ G20 - BREAKING: leaders have just signed a declaration which states that vaccine passports will be adopted to "facilitate" all international travel This means any vaccination the WHO determines you should have. Changing your rights & freedoms forever. Silence from the media. <https://t.co/0pHISccVaM>;
- ❑ Despite this, Wright refused to respond to a question asking if she's been vaccinated: "I have apologised and I have moved on. Next question. Thanks." : <https://t.co/Od84Bg82Z0> <https://t.co/uTarzb8Dmg>;
- ❑ NEW - Vaccinated people now make up a "majority of covid deaths." It is "no longer" a "pandemic of the unvaccinated." <https://t.co/MigZnsWk6r>;
- ❑ Was everyone aware that Biden agreed to Vaccine Passports at the G20 summit?;
- ❑ To be clear, not getting vaccinated means you are 100% guaranteed NOT to die from vaccine side effects and 99.8% protected from Covid. Watch liberals pull their hair out denying this somehow and labeling it misinformation. Liberals on their 12th booster btw;
- ❑ "Now 2 years after public release + mounting cases of fatal myocarditis published in peer-reviewed literature, Pfizer + Moderna said they will begin studies of cardiac safety FDA required in 2021 agreement." — Dr. Peter McCullough <https://t.co/dPk7CKk3qe>;
- ❑ This week, once again, an article described me as "anti-vax". This is false. I am not "anti-vax". I believe in freedom and a free society. Which means I believe in freedom of choice with regard to vaccination;
- ❑ Finally admitting the truth about the "vaccines"? Kind of...sort of. Vaccinated people now make up a majority of covid deaths - The Washington Post <https://t.co/mdNojXOBar>;
- ❑ Died suddenly comes out in 2 days! People who have been vaccinated... well, get prepared;
- ❑ If you see Died Suddenly trending, it's because some conspiracy nuts have put together a movie about how the Covid vaccine is the correlative cause of all post-vaccination deaths. At this point I expect the Covid vaccine to be accused of shooting JFK and cancelling Firefly.



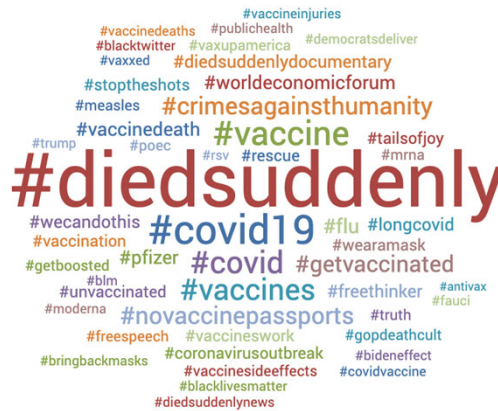
# General PA Conversation November 18 – November 24



Source: VCTR Project Dashboard



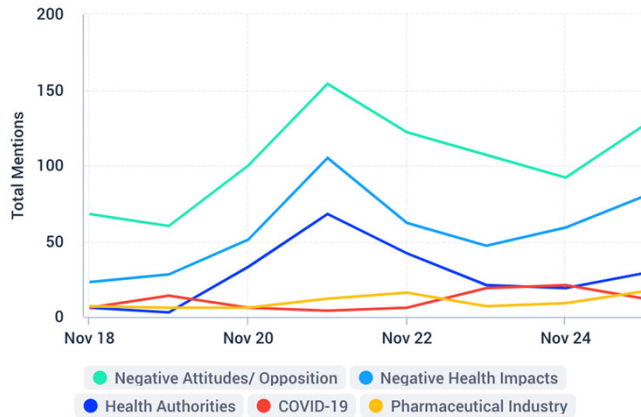
# PA Hashtag Cloud November 18 – November 24



Source: VCTR Project Dashboard



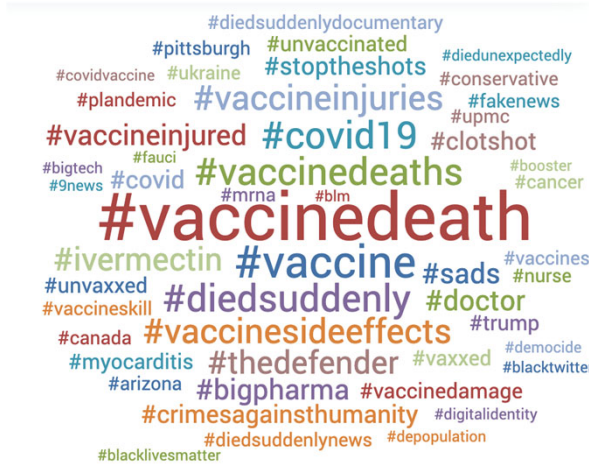
# Negative Attitudes November 18 – November 24



Source: VCTR Project Dashboard



# Negative Hashtag Cloud November 18 – November 24



Source: VCTR Project Dashboard



## Trending Posts on Facebook November 18 – November 24

**WPXI-TV Pittsburgh** Nov 20, 2022 at 8:45 AM  
 Dr. Anthony Fauci became a household name during the pandemic, with many turning to him for lifesaving guidance and others criticizing him for his role in the U.S.'s handling of COVID-19.  
 Dr. Fauci reflects on more than five decades at NIH  
 WPXI.COM  
 96 122 3

**WJAC-TV News** Nov 21, 2022 at 9:00 PM  
 Many experts and officials, including Dr. Anthony Fauci, have conceded school closings had a negative effect on students. [wjactv.com/news/nation-world/failure-to-reopen-in-person...](http://wjactv.com/news/nation-world/failure-to-reopen-in-person...)  
 See more  
 Failure to reopen in-person learning hurt public school  
 WJACTV.COM  
 29 14 10

**WJAC-TV News** Nov 18, 2022 at 10:23 AM  
 With a triple-threat virus sweeping across the country, pharmaceutical companies have launched their own clinical trials on COVID vaccines in young adults and the possible impact of heart conditions.  
 Pfizer, Moderna researching rare side effect linked to  
 WJACTV.COM  
 15 23 17

**WTAJ** Nov 22, 2022 at 9:00 AM  
 The tests are free and open to everyone, and they include tests that are performed and analyzed on-site; distribution of at-home COVID-19 antigen tests; and administration of...  
 See more  
 Pa. health department offering free COVID  
 WTAJ.COM  
 24 43 1

**WJAC-TV News** Nov 21, 2022 at 6:30 PM  
 Between COVID-19 and the flu, officials are warning of a winter "twindemic" and are urging you to protect yourself from both illnesses. [wjactv.com/news/local/two-birds-o...](http://wjactv.com/news/local/two-birds-o...)  
 See more  
 Two birds, one stone: getting your COVID-19 bivalent  
 WJACTV.COM  
 60 24 2

Source: CrowdTangle Dashboard

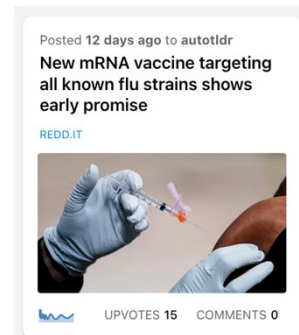
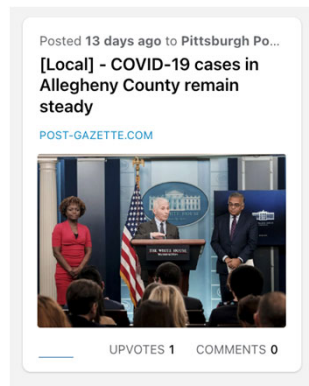
**CASOS**  
 Carnegie Mellon University

## Trending Posts on Instagram November 18 – November 24

**thegreengarret** Nov 19, 2022 at 6:00 PM  
 Biden and Democrats controlling Congress have given up on Covid, and seem to be completely ignoring the new wave of flu and RSV hitting schools hard already. Cities like Pittsburgh are seeing huge jumps in childhood hospitalizations. We need action, but elected officials are sitting around doing nothing. Please take all precautions you can. Wear good masks when indoors, avoid crowded locations when at all possible.  
 See less  
 10 1

**CASOS**  
 Carnegie Mellon University

## Trending Posts on Reddit November 18 – November 24



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](#)
- ❑ Twitter: [@IDeaSCMU](#)
- ❑ YouTube: [IDeaS Center](#)
- ❑ Ask to be on our Email-Distro Lists

