

PA Vaccine Conversations and Misinformation on Twitter

Dr. Matt Babcock, Dawn Robertson, Dr. Kathleen M. Carley

Vaccine Hesitancy Project Update based on June 11-June 18, 2021

The CMU centers for:

Informed DEMocracy And Social cyber-security

Computational Analysis of Social and Organizational Systems



Carnegie Mellon University



1/11/2022

1

1

- ❑ This report is an effort to summarize social media conversations around COVID-19 issues in Pennsylvania, focusing on vaccination. It contains an analysis of the general topics about the current pandemic, such as COVID-19 regulations, mandates, masks, pro-and anti-vaccination campaigns, as well as other topics related to COVID-19 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.

1/11/2022

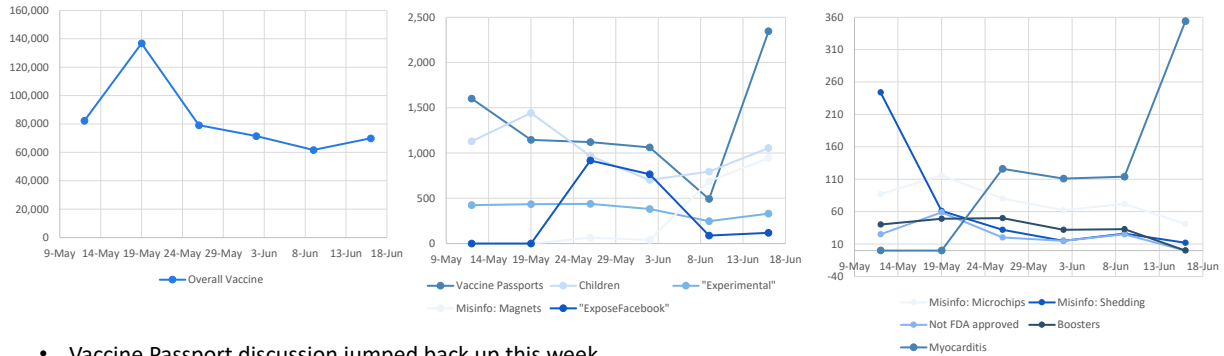


2

Carnegie Mellon University

2

Trends (tweets per week)



- Vaccine Passport discussion jumped back up this week
- Myocarditis discussion also substantial jump from last week
- Magnet discussion continues to increase, while microchip fades
- Also fade out of FDA/booster discussion

1/11/2022



3

High Level View June 10– June 16, 2021

	Total PA		Philadelphia		Pittsburgh		Erie		Allentown/Bethlehem		Other	
Conversation	Tweets	Tweets	%	Tweets	%	Tweets	%	Tweets	%	Tweets	%	
Overall Vaccine	69,921	40,010	57%	15,501	22%	635	1%	13,027	19%	748	1%	
Vaccine Passports	2,346	2,074	88%	132	6%	6	0%	130	6%	4	0%	
Not FDA approved	27	12	44%	10	37%	0	0%	5	19%	0	0%	
Boosters	23	16	70%	3	13%	0	0%	4	17%	0	0%	
Misinfo: Microchips	41	25	61%	11	27%	0	0%	5	12%	0	0%	
Misinfo: Magnets	945	463	49%	284	30%	13	1%	173	18%	12	30%	
Misinfo: Shedding	12	6	50%	2	17%	1	8%	3	25%	0	0%	
"Experimental"	331	167	50%	95	29%	5	2%	61	18%	3	1%	
Children	1,056	630	60%	245	23%	8	1%	160	15%	13	2%	
Myocarditis	354	194	55%	61	17%	2	1%	92	26%	5	5%	
Masks	842	561	67%	160	19%	11	1%	90	11%	20	2%	
Infertility	22	18	82%	2	9%	0	0%	2	9%	0	0%	
Mandates	2,048	1,920	94%	39	2%	2	0%	75	4%	12	5%	
Ingredients	19	11	58%	6	32%	0	0%	2	11%	0	0%	
"ExposeFacebook"	118	50	42%	31	26%	0	0%	35	30%	2	0%	
Natural Immunity	167	99	59%	40	24%	1	1%	26	16%	1	0%	
Efficacy	146	75	51%	23	16%	4	3%	44	30%	0	0%	
Spike Proteins	103	53	51%	24	23%	8	8%	17	17%	1	1%	

1/11/2022

- Philadelphia in this and previous tables is a combination of Philadelphia, Norristown, and Chester
- Typically, a high majority of the tweets for this come from Philadelphia directly with less from Norristown and Chester
- This week though in the cases of Vaccine Passports and Mandates discussions the vast majority 81-85% of the tweets counted under Philadelphia came from Chester labeled users
- Looking at Hashtags and URLs going forward we are splitting up Chester/Philly/Norristown



4

Top Hashtags June 10-16 (only if shares > 1)

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 (1580)	SB618(1623)	COVID19 (419)	COVID19 (414)	COVID19 (23)	COVID19 (350)	CoronaClimateWarCalamity (28)
DeltaVariant(288)	COVID19(295)	SB618(193)	DeltaVariant(91)	DeltaVariant(10)	Covid (117)	COVID19 (14)
Covid(174)	Covid(61)	DeltaVariant(56)	Covid (78)	Covid(5)	DeltaVariant(91)	Covid (11)
Phillyvaxsweeps(102)	DeltaVariant(36)	Covid(53)	DailyCovidUpdate(45)	B16172(4)	SB618(50)	GetVaccinated (6)
GetVaccinated(69)	Heart(22)	GetVaccinated(18)	COVIDThirdWave(27)	SarsCoV2(2)	GetVaccinated (24)	VaccinesWork(3)

1/11/2022



5

Hashtag Observations

- ❑ Top Hashtags in red indicate hashtags used in discussions more related to vaccine hesitancy:
 - ❑ SB618 – reference to PA bill up for discussion that would ban vaccine requirements by schools/municipalities and strip some powers from the PA health department
 - ❑ Heart – references to reported/rumored heart issues related to COVID vaccines
 - ❑ CoronaClimateWarCalamity – this is a weird one, looks like spam, usually associated with other languages, doomsday language/discussion

1/11/2022



6

Top URLs - June 10-16 (only if shares > 1)

Philadelphia	Chester	Norristown	Pittsburgh	Erie	Allentown/Bethlehem	Other
https://rumble.com/viaz6n-ex-pfizer-vp-yeadon-warns-children-50-times-more-likely-to-die-from-vaccine.html (569)	https://thefederalist.com/2021/06/11/youtube-bans-sen-ron-johnson-for-discussing-early-treatment-of-covid-19/#_YMNZXXhWng.twitter (63)	https://tinyurl.com/y685gfm5 (54) (Walgreens vaccination signup site)	https://thefederalist.com/2021/06/11/youtube-bans-sen-ron-johnson-for-discussing-early-treatment-of-covid-19/#_YMNZXXhWng.twitter (648)	http://erie.gov/vax (8) Erie county NY department of health site	https://breaking911.com/2-passengers-on-first-fully-vaccinated-north-american-cruise-test-positive-for-covid/ (36)	SPAM urls related to CoronaClimateWarCalamity hashtag (11)
https://thehighwire.com/videos/pfizer-vp-the-thing-to-be-terrified-of-is-your-government/ (393)	https://breaking911.com/2-passengers-on-first-fully-vaccinated-north-american-cruise-test-positive-for-covid/ (21)	https://rumble.com/viaz6n-ex-pfizer-vp-yeadon-warns-children-50-times-more-likely-to-die-from-vaccine.html (19)	https://wapo.st/3gnWNsk (117) (report on lower death rates in areas with more vaccinated)	http://vaccines.gov (5)	https://thefederalist.com/2021/06/11/youtube-bans-sen-ron-johnson-for-discussing-early-treatment-of-covid-19/#_YMNZXXhWng.twitter (28)	https://www.nbcnews.com/health/the-health-news/virtually-all-hospitalized-covid-patients-have-one-thing-common-they-n1270482 (5)
https://cnn.it/3pOfzFW (255) (article about political divide in vaccination rates)	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7827936/ (20) (academic paper on spike proteins)	https://thefederalist.com/2021/06/11/youtube-bans-sen-ron-johnson-for-discussing-early-treatment-of-covid-19/#_YMNZXXhWng.twitter (19)	Possible spam url claiming to be story related to football players not getting vaccine (84)	https://wapo.st/3gnWNsk (5) (report on lower death rates in areas with more vaccinated)	http://hill.cm/B8Gogv (28) (article about heart/vaccine connections)	More spam urls related to CoronaClimateWarCalamity hashtag (3)
https://wapo.st/3gnWNsk (199) (report on lower death rates in areas with more vaccinated)	https://www.cbsnews.com/news/covid-19-vaccine-cdc-meeting-mvocarditis-heart-inflammation/ (19)	https://cnn.it/3pOfzFW (19) (article about political divide in vaccination rates)	https://breaking911.com/2-passengers-on-first-fully-vaccinated-north-american-cruise-test-positive-for-covid/ (70)	https://www.goerie.com/story/news/coronavirus/2021/06/10/covid-19-vaccine-goes-road-erie-county/7633830002/ (4)	https://www.cbsnews.com/news/covid-19-vaccine-cdc-meeting-mvocarditis-heart-inflammation/ (25)	https://www.dailymail.com/coronavirus/24-valley-residents-get-improper-doses-of-covid-19-vaccine/article-ae7fe296-ca05-11eb-bf72-877097921350.html#utm_campaign="

7

URL Observations

- More top urls shared appear to be vaccine hesitant to anti-vaccine information than was the case with hashtags
- Similar top urls across different areas

1/11/2022



8

Collection Keywords

- Pfizer
- Johnson
- Janssen
- Moderna
- Vaccine
- anti-vax
- Vaccineswork
- Vaccinehesitancy
- Antivax
- Vaccinepassport
- Vaccinated
- Vaccinate
- Covidvaccine
- Vax
- Vaxx
- vaxupphilly

1/11/2022

