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.
Report Overview August 19 – August 25

- Masks, Mandates, Boosters are trending this week; Masks, Omicron and variants, Boosters, Thrombosis and myocarditis are trending this week over last;
- Popular anti-vax tweets: Politicians announcing they have a cold and professing thanks to a vaccine that couldn't prevent it is this idiotic pandemic in a nutshell; Fox News Stuns World With Unfiltered Truth: "This Vaccine Is the Most Dangerous Vaccine Ever Created" Steve Kirsch: "Hundreds of thousands of Americans have been killed by this vaccine, and millions have been injured." https://t.co/r2gqFMv0GK

Popular anti-vax stories sorted by shares

Anti-vax, disinformation, and vaccine hesitancy stories sorted by the number or shares:
- philharpersubstack.com/p/pfizers-own-data-showed-vaccine-creates Pfizer's own data showed vaccine creates net loss on hospitalisations;
- pharmaciststeve.com/here-we-go-again-before-we-push-the-new-omicron-vaccine-lets-see-the-data Here we go again: Before We Push the New Omicron Vaccine, Let’s See The Data
Anti-vax stories sorted by the projected impact

- philharpersubstack.com/p/pfizers-own-data-showed-vaccine-creates Pfizer's own data showed vaccine creates net loss on hospitalisations;
- pharmaciststeve.com/here-we-go-again-before-we-push-the-new-omicron-vaccine-lets-see-the-data Here we go again: Before We Push the New Omicron Vaccine, Let's See the Data

8/31/2022

Countering disinformation August 19 – August 25

- Articles and fact-checking stories debunking disinformation for the last week:
- Correcting Misinformation About Dr. Fauci https://www.factcheck.org/2022/08/correcting-misinformation-about-dr-fauci/; Almost everything Tucker Carlson said about Anthony Fauci this week was misleading or false https://www.science.org/content/article/almost-everything-tucker-carlson-said-about-anthony-fauci-week-was-misleading-or-false
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.
Trends (tweets per week in PA) August 19 – August 25

High Level View by City August 19 – August 25

Conversation topics trending this week over last:
- Masks
- Omicron and variants
- Boosters
- Thrombosis and myocarditis
High Level View by County August 19 – August 25

<table>
<thead>
<tr>
<th>County</th>
<th>Allegheny</th>
<th>Beaver</th>
<th>Butler</th>
<th>Cambria</th>
<th>Fayette</th>
<th>Indiana</th>
<th>Somerset</th>
<th>Westmoreland</th>
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<tbody>
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<td>Overall Vaccine</td>
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<td>10</td>
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</tr>
</tbody>
</table>

- 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 August 19 – August 25

Word count in COVID-19 related tweets
Top Hashtags by County August 19 – August 25

- 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:

<table>
<thead>
<tr>
<th>Allegheny</th>
<th>Beaver + Butler</th>
<th>Fayette</th>
<th>Indiana</th>
<th>West Moreland</th>
</tr>
</thead>
<tbody>
<tr>
<td>pfizer (58)</td>
<td>healthcareawarenessmonth (1)</td>
<td>racistonjohnson (1)</td>
<td>novaccine mandates (1)</td>
<td>foxnewsthebest (1)</td>
</tr>
<tr>
<td>covid19 (52)</td>
<td>vaccine (36)</td>
<td>vaccineinjured (35)</td>
<td>novaccine passports (1)</td>
<td>healthcareawarenessmonth (1)</td>
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<tr>
<td>vaccine (36)</td>
<td>vaccine (36)</td>
<td>vaccineinjured (35)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vaccineinjured (35)</td>
<td></td>
<td>partygate (34)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Top Hashtags by City August 19 – August 25

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

<table>
<thead>
<tr>
<th>Philadelphia</th>
<th>Chester</th>
<th>Norristown</th>
<th>Pittsburgh</th>
<th>Erie</th>
<th>Allentown/Bethlehem</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>covid19 (70)</td>
<td>demvoice (16)</td>
<td>pfizer (19)</td>
<td>pfizer (58)</td>
<td>mask (2)</td>
<td>pfizer (28)</td>
<td>covid19 (8)</td>
</tr>
<tr>
<td>vaccine (59)</td>
<td>proudblue22 (15)</td>
<td>vaccineinjured (17)</td>
<td>covid19 (52)</td>
<td>vac (2)</td>
<td>covid19 (19)</td>
<td>pfizer (5)</td>
</tr>
<tr>
<td>pfizer (56)</td>
<td>covid19 (12)</td>
<td>covid19 (16)</td>
<td>vaccine (36)</td>
<td>bigpharma (1)</td>
<td>vaccineinjured (18)</td>
<td>vaccineinjured (4)</td>
</tr>
<tr>
<td>monkeypox (43)</td>
<td>monkeypox (9)</td>
<td>partygate (13)</td>
<td>vaccineinjured (35)</td>
<td>vaccine mandate (1)</td>
<td>healthcareawarenessmonth (7)</td>
<td>mask (3)</td>
</tr>
<tr>
<td>vaccineinjured (29)</td>
<td>pfizer (8)</td>
<td>vaccine (13)</td>
<td>partygate (34)</td>
<td>vaccine studies (1)</td>
<td>monkeypox (6)</td>
<td>monkeypox (3)</td>
</tr>
</tbody>
</table>
### Allegany
- covid.cdc.gov/covid-data-tracker
- philharper.substack.com/p/pfizers-own-data-showed-vaccine-creates-net-loss-on-hospitalisations
- politico.com/news/2022/08/24/health:abysmal-covid-vaccination-rate-for-toddlers-speaks-volumes
- twitter.com/p_mcculloughmd/status/156167141052685516
- twitter.com/politicalwrench/status/156167141052685516
- twitter.com/politicalwrench/status/156167141052685516
- twitter.com/politicalwrench/status/156167141052685516
- twitter.com/politicalwrench/status/156167141052685516
- twitter.com/politicalwrench/status/156167141052685516
- twitter.com/politicalwrench/status/156167141052685516
- twitter.com/politicalwrench/status/156167141052685516

### Cambria
- covid.cdc.gov/covid-data-tracker
- philharper.substack.com/p/pfizers-own-data-showed-vaccine-creates-net-loss-on-hospitalisations
- politico.com/news/2022/08/24/health:abysmal-covid-vaccination-rate-for-toddlers-speaks-volumes
- twitter.com/politicalwrench/status/156167141052685516
- twitter.com/politicalwrench/status/156167141052685516
- twitter.com/politicalwrench/status/156167141052685516
- twitter.com/politicalwrench/status/156167141052685516
- twitter.com/politicalwrench/status/156167141052685516
- twitter.com/politicalwrench/status/156167141052685516
- twitter.com/politicalwrench/status/156167141052685516
- twitter.com/politicalwrench/status/156167141052685516

### Fayette
- covid.cdc.gov/covid-data-tracker
- philharper.substack.com/p/pfizers-own-data-showed-vaccine-creates-net-loss-on-hospitalisations
- politico.com/news/2022/08/24/health:abysmal-covid-vaccination-rate-for-toddlers-speaks-volumes
- twitter.com/politicalwrench/status/156167141052685516
- twitter.com/politicalwrench/status/156167141052685516
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- twitter.com/politicalwrench/status/156167141052685516
- twitter.com/politicalwrench/status/156167141052685516
- twitter.com/politicalwrench/status/156167141052685516

### Indiana
- covid.cdc.gov/covid-data-tracker
- philharper.substack.com/p/pfizers-own-data-showed-vaccine-creates-net-loss-on-hospitalisations
- politico.com/news/2022/08/24/health:abysmal-covid-vaccination-rate-for-toddlers-speaks-volumes
- twitter.com/politicalwrench/status/156167141052685516
- twitter.com/politicalwrench/status/156167141052685516
- twitter.com/politicalwrench/status/156167141052685516
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- twitter.com/politicalwrench/status/156167141052685516
- twitter.com/politicalwrench/status/156167141052685516

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### Top URLs by County August 19 – August 25

<table>
<thead>
<tr>
<th>County</th>
<th>URL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allegheny</td>
<td><a href="https://covid.cdc.gov/covid-data-tracker">https://covid.cdc.gov/covid-data-tracker</a></td>
</tr>
<tr>
<td>Cambria</td>
<td><a href="https://covid.cdc.gov/covid-data-tracker">https://covid.cdc.gov/covid-data-tracker</a></td>
</tr>
<tr>
<td>Fayette</td>
<td><a href="https://covid.cdc.gov/covid-data-tracker">https://covid.cdc.gov/covid-data-tracker</a></td>
</tr>
<tr>
<td>Indiana</td>
<td><a href="https://covid.cdc.gov/covid-data-tracker">https://covid.cdc.gov/covid-data-tracker</a></td>
</tr>
</tbody>
</table>

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### Top URLs by City August 19 – August 25

<table>
<thead>
<tr>
<th>City</th>
<th>URL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chester</td>
<td><a href="https://covid.cdc.gov/covid-data-tracker">https://covid.cdc.gov/covid-data-tracker</a></td>
</tr>
<tr>
<td>Norristown</td>
<td><a href="https://covid.cdc.gov/covid-data-tracker">https://covid.cdc.gov/covid-data-tracker</a></td>
</tr>
<tr>
<td>Pittsburgh</td>
<td><a href="https://covid.cdc.gov/covid-data-tracker">https://covid.cdc.gov/covid-data-tracker</a></td>
</tr>
<tr>
<td>Erie</td>
<td><a href="https://covid.cdc.gov/covid-data-tracker">https://covid.cdc.gov/covid-data-tracker</a></td>
</tr>
<tr>
<td>Allentown/Bethlehem</td>
<td><a href="https://covid.cdc.gov/covid-data-tracker">https://covid.cdc.gov/covid-data-tracker</a></td>
</tr>
<tr>
<td>Other</td>
<td><a href="https://covid.cdc.gov/covid-data-tracker">https://covid.cdc.gov/covid-data-tracker</a></td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Agent Label</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>morethanmySLE</td>
<td>844</td>
</tr>
<tr>
<td>TheOtherMandela</td>
<td>685</td>
</tr>
<tr>
<td>wsvn</td>
<td>675</td>
</tr>
<tr>
<td>thebradfordfile</td>
<td>658</td>
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<tr>
<td>Theclydewebb</td>
<td>512</td>
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<td>WHCOS</td>
<td>445</td>
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<tr>
<td>tribelaw</td>
<td>347</td>
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<tr>
<td>oregon_report</td>
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<tr>
<td>AdamParkhomenko</td>
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<tr>
<td>DashDobrofsky</td>
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<td>TheOtherMandela</td>
<td>685</td>
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<tr>
<td>wsvn</td>
<td>675</td>
</tr>
</tbody>
</table>
Trending Tweets August 19 – August 25

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

- Earlier today, NBA legend Magic Johnson donated some of his blood to the Red Cross to help underprivileged communities help fight COVID-19. [Link](https://t.co/3OZbbtGPYJ)
- "Who cares another dead cop" "I had to transport with honor guard their dead bodies from coronavirus because they all were too stupid to wear masks or get vaccinated. F— the police." - now suspended Miami Firefighter re: shooting death of MDPD’s Cesar Echaverry [Link](https://t.co/RkW6Jtwpq4)
- Politicians announcing they have a cold and professing thanks to a vaccine that couldn’t prevent it is this idiotic pandemic in a nutshell.
- "BIDEN has delivered the largest economic recovery plan since ROOSEVELT, the largest infrastructure plan since EISENHOWER, the most judges confirmed since KENNEDY, the second largest health care bill since JOHNSON, and the largest climate change bill in history." — @WHCOS Klain
- Ron Johnson won’t testify to the Jan. 6 Committee because he only plotted to overthrow the election for “a couple seconds.” "I had virtually no involvement!” he said. “Literally, my involvement lasted seconds. OK?” [Link](https://t.co/vsZ7SCQkY1)
- Ron Johnson: ”Senior citizens have misused social security and that’s why i want it to sunset.”
- BREAKING NEWS: Senator Ron Johnson CALLS for privatizing of Social Security! TELL EVERYONE!
- Ron Johnson: ”Senior citizens should not be getting Medicaid and Medicare for free.”
- Fox News Stuns World With Unfiltered Truth: ”This Vaccine Is the Most Dangerous Vaccine Ever Created” Steve Kirsch: “Hundreds of thousands of Americans have been killed by this vaccine, and millions have been injured.” [Link](https://t.co/r2gqFMv0GK)
- A study of 301 teens in Thailand found mild and temporary heart rhythm changes after a second dose of the Pfizer COVID-19 vaccine among one in six teenagers, not one-third as social media posts claim [Link](https://t.co/7bh5lITKeS)

General PA Conversation August 19 – August 25

![Graph showing trend in Total Mentions for COVID-19, Health Authorities, Policies & Politics, Pharmaceutical Industry, and School over time from August 19 to August 26. Source: VCTR Project Dashboard](https://t.co/ablYvccVN9P)
PA Hashtag Cloud August 19 – August 25

Negative Attitudes August 19 – August 25
Negative Hashtag Cloud August 19 – August 25

Trending Posts on August 19 – August 25
Trending Posts on Instagram August 19 – August 25

Trending Posts on Reddit August 19 – August 25

Source: CrowdTangle Dashboard
For More Information

- Director Kathleen M. Carley - 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/
- Facebook: @IDeasCMU
- Twitter: @IDeaSCMU
- YouTube: IDeaS Center
- Ask to be on our Email-Distro Lists