

PA Vaccine Conversations and Misinformation on Twitter

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Vaccine Hesitancy Project Update based on September 17 – September 23, 2021

The CMU centers for:

Informed DEMocracy And Social cyber-security

Computational Analysis of Social and Organizational Systems



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- ❑ 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.

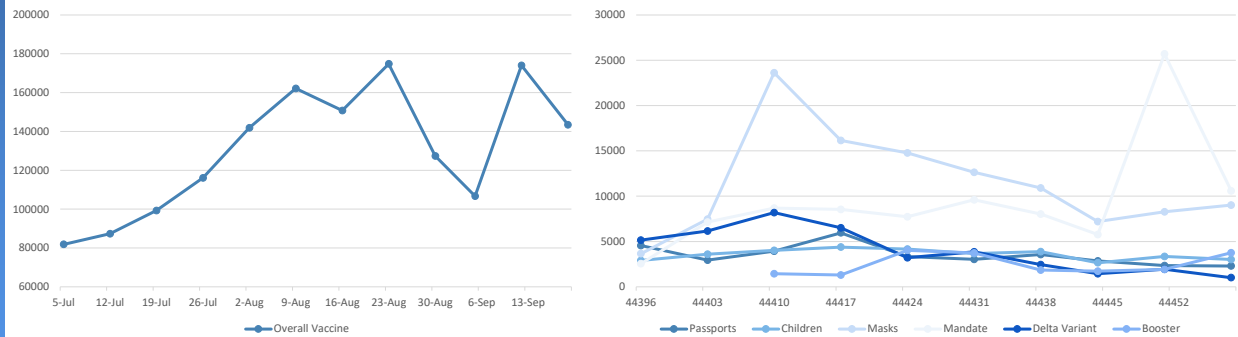
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Trends (tweets per week) September 17– September 23



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High Level View by City September 17 – September 23

| | Total PA | Philadelphia | | Pittsburgh | | Erie | | Allentown/Bethlehem | | Other | |
|-------------------|----------|--------------|-------|------------|-------|--------|-------|---------------------|-------|--------|-------|
| Conversation | Tweets | Tweets | % | Tweets | % | Tweets | % | Tweets | % | Tweets | % |
| Overall Vaccine | 120409 | 68979 | 57.3% | 27385 | 22.7% | 1190 | 1.0% | 19022 | 15.8% | 3833 | 3.2% |
| Vaccine Passports | 2288 | 959 | 1.4% | 676 | 2.5% | 40 | 3.4% | 552 | 2.9% | 61 | 1.6% |
| FDA Approval | 732 | 331 | 0.5% | 170 | 0.6% | 8 | 0.7% | 195 | 1.0% | 28 | 0.7% |
| Boosters | 3595 | 1819 | 2.6% | 834 | 3.0% | 48 | 4.0% | 748 | 3.9% | 146 | 3.8% |
| Misinfo: Shedding | 30 | 19 | 0.0% | 5 | 0.0% | | | 5 | 0.0% | 1 | 0.0% |
| "Experimental" | 313 | 152 | 0.2% | 80 | 0.3% | 3 | 0.3% | 67 | 0.4% | 11 | 0.3% |
| Children | 2228 | 1129 | 1.6% | 541 | 2.0% | 35 | 2.9% | 434 | 2.3% | 89 | 2.3% |
| Myocarditis | 159 | 91 | 0.1% | 35 | 0.1% | | | 28 | 0.1% | 5 | 0.1% |
| Heart | 951 | 519 | 0.8% | 194 | 0.7% | 7 | 0.6% | 196 | 1.0% | 35 | 0.9% |
| Masks | 8967 | 5499 | 8.0% | 1575 | 5.8% | 85 | 7.1% | 1335 | 7.0% | 473 | 12.3% |
| Infertility | 103 | 71 | 0.1% | 23 | 0.1% | 1 | 0.1% | 4 | 0.0% | 4 | 0.1% |
| Mandates | 9711 | 5065 | 7.3% | 1881 | 6.9% | 129 | 10.8% | 2307 | 12.1% | 329 | 8.6% |
| Natural Immunity | 2161 | 1497 | 2.2% | 364 | 1.3% | 8 | 0.7% | 261 | 1.4% | 31 | 0.8% |
| Efficacy | 363 | 187 | 0.3% | 71 | 0.3% | 1 | 0.1% | 96 | 0.5% | 8 | 0.2% |
| Spike Proteins | 127 | 66 | 0.1% | 38 | 0.1% | | | 22 | 0.1% | 1 | 0.0% |
| Delta Variant | 1626 | 935 | 1.4% | 324 | 1.2% | 24 | 2.0% | 281 | 1.5% | 62 | 1.6% |
| Race | 3060 | 1663 | 2.4% | 708 | 2.6% | 31 | 2.6% | 565 | 3.0% | 93 | 2.4% |
| Ivermectin | 444 | 228 | 0.3% | 117 | 0.4% | 5 | 0.4% | 81 | 0.4% | 13 | 0.3% |
| Military | 830 | 475 | 0.7% | 154 | 0.6% | 10 | 0.8% | 173 | 0.9% | 18 | 0.5% |
| Breakthrough | 507 | 293 | 0.4% | 104 | 0.4% | 2 | 0.2% | 86 | 0.5% | 22 | 0.6% |

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High Level View by County September 17 – September 23

| County | Allegheny | Beaver | Butler | Cambria | Fayette | Indiana | Somerset | Westmoreland |
|-------------------|-----------|--------|--------|---------|---------|---------|----------|--------------|
| Overall Vaccine | 28012 | 42 | 95 | 21 | 106 | 16 | 16 | 99 |
| Vaccine Passports | 681 | 2 | 6 | 2 | 3 | 1 | | 2 |
| Not FDA Approved | 173 | | 3 | | | 1 | | |
| Boosters | 860 | | 5 | 1 | 3 | 1 | 1 | 5 |
| Misinfo: Shedding | 6 | | | | | | | |
| "Experimental" | 81 | | 2 | | | | | |
| Children | 551 | 1 | 4 | | 5 | | | |
| Myocarditis | 36 | | | | | | | |
| Heart | 198 | | | | 1 | | | 1 |
| Masks | 1648 | | 12 | 6 | 16 | 1 | 4 | 10 |
| Infertility | 24 | | | | | | | |
| Mandates | 1923 | 6 | 9 | | 16 | 3 | 1 | 10 |
| Natural Immunity | 367 | | 2 | | 1 | | | 1 |
| Efficacy | 72 | | | | | 1 | | |
| Spike Proteins | 38 | | | | | | | |
| Delta Variant | 330 | | 1 | | 3 | | | 3 |
| Race | 717 | | 3 | | 4 | | 1 | 4 |
| Ivermectin | 120 | | 3 | | | | | 1 |
| Military | 156 | | | | 1 | | | |
| Breakthrough | 108 | | | | 1 | | | |

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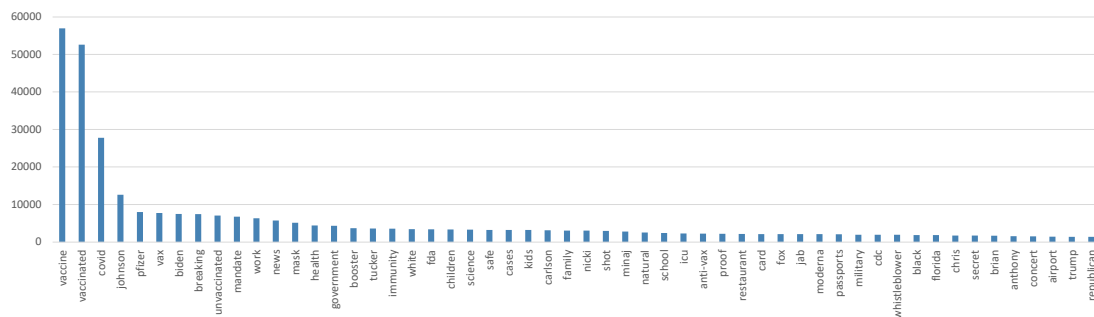
- Tweets counted here if there is a county location attached
- Race: pulled by one of the vaccine keywords plus at least one other term in ("Black", "African American", "of color", "Latin", "Hispanic", "brown", "eugenic")



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Top Words Used per Week September 17 – September 23

Word count in COVID-19 related tweets



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Top Hashtags by County September 17 – September 23

- ❑ 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 | Cambria | Fayette | West Moreland |
|-----------------------|---------------------|--------------------|---------------------|---------------------|
| covid19 (554) | covidvaxexposed (2) | anthonyjohnson (1) | getvaccinated (5) | steelers (4) |
| covidvaxexposed (522) | steelers (2) | azcardinals (1) | maga (2) | biden (1) |
| steelers (343) | covid19 (2) | bengals (1) | vaccinemandate (2) | covid19 (1) |
| anthonyjohnson (185) | donotcomply (1) | covid19 (1) | covidvaxexposed (1) | covidvaxexposed (1) |
| foxkillsamerica (177) | firstresponders (1) | steelers (1) | deltavariant (1) | freedomrally (1) |

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Top Hashtags by City September 17 – September 23

- ❑ 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 (878) | covid19 (162) | covidvaxexposed (225) | covid19 (547) | covid19 (18) | covid19 (299) | covidvaxexposed (38) |
| covidvaxexposed (389) | covidvaxexposed (53) | covid19 (220) | covidvaxexposed (517) | demvoice1 (14) | covidvaxexposed (275) | steelers (38) |
| vaccine (280) | vaccine (35) | foxkillsamerica (75) | steelers (323) | covidvaxexposed (11) | foxkillsamerica (129) | getvaccinated (32) |
| foxkillsamerica (232) | foxkillsamerica (15) | vaccine (41) | anthonyjohnson (185) | foxkillsamerica (10) | vaccine (58) | wearamask (22) |
| getvaccinated (227) | naturalimmunity (10) | getvaccinated (39) | foxkillsamerica (175) | vaccine (9) | vaccinated (51) | nickiminaj (17) |

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Top URLs by County September 17 – September 23

| Allegheny | Butler + Beaver | Cambria | Fayette | West Moreland |
|---|---|--|---|--|
| https://twitter.com/Saltymusicstan/status/1438507369294561286/video/1 "I'm convinced we living in a simulation atp" + video "Nicki Minaj tweet sparks local vaccine protest" (182) | https://pittsburghsportsnow.com/2021/09/22/duquesne-player-profile-freshman-point-guard-jackie-johnson/ Duquesne Player Profile: Freshman Point Guard Jackie Johnson (3) | https://twitter.com/Saltymusicstan/status/1438507369294561286/video/1 "I'm convinced we living in a simulation atp" + video "Nicki Minaj tweet sparks local vaccine protest" (1) | https://www.breitbart.com/entertainment/2021/09/10/nolte-howard-stern-proves-democrats-want-unvaccinated-trump-voters-dead/ Nolte: Howard Stern Proves Democrats Want Unvaccinated Trump Voters Dead (3) | https://twitter.com/Saltymusicstan/status/1438507369294561286/video/1 "I'm convinced we living in a simulation atp" + video "Nicki Minaj tweet sparks local vaccine protest" (3) |
| https://www.breitbart.com/entertainment/2021/09/10/nolte-howard-stern-proves-democrats-want-unvaccinated-trump-voters-dead/ Nolte: Howard Stern Proves Democrats Want Unvaccinated Trump Voters Dead (92) | https://tribhssn.triblive.com/piaa-board-approves-vaccine-mandate-for-officials-doesnt-foresee-shortage/ PIAA board approves vaccine mandate for officials, doesn't foresee shortage (2) | https://wjac.com/news/coronavirus/fda-panel-is-first-key-test-for-biden-covid-19-booster-plan FDA advisory panel rejects widespread Pfizer booster shots (1) | https://on.msnbc.com/3CedONk Carmine's hostess attacked after asking diners for proof of vaccination (2) | http://dlvr.it/57xWpw Psaki Suggests Illegal Immigrants Don't Need To Prove Vaccination Status Since 'They're Not Intending To Stay Here' (1) |
| https://www.foxnews.com/us/pittsburgh-cbp-officers-seize-fake-covid-vaccine-cards-shipped-from-china Pittsburgh CBP officers seize fake COVID vaccine cards shipped from China (92) | http://apne.ws/5Cs0Yb Pfizer says COVID-19 vaccine works in kids ages 5 to 11 (2) | https://www.werecentralpa.com/health/coronavirus/penn-state-holding-vaccine-clinic-before-villanova-game/ Penn State holding COVID vaccine clinic before Villanova game (1) | https://www.cnn.com/2021/09/18/us/mari-johnson-davis-missing-tulip-fbi-10000-reward/index.html FBI offers \$10,000 reward for information on the disappearance of Native American woman (2) | http://pa.gov/get-vaccinated Getting the COVID Vaccine (1) |
| https://on.msnbc.com/3CedONk Carmine's hostess attacked after asking diners for proof of vaccination (75) | https://wapo.st/3AIF09 These children had covid-19. Now, they have long-haul symptoms. (2) | https://www.nfl.com/news/steve-smith-andre-johnson-122-modern-era-nominees-pro-football-hall-of-fame Steve Smith, Andre Johnson lead 122 modern-era nominees for Pro Football Hall of Fame Class of 2022 (1) | https://www.outkick.com/mandatory-vaccines-announced-in-la-county-following-newsom-recall-win-gov-mandate?utm_medium=Social&utm_source=twitter&utm_campaign=1631739754-1-MANDATORY-VACCINES-ANNOUNCED-IN-LA-COUNTY-FOLLOWING-NEWSOM-RECALL-WIN (2) | http://pa.gov/get-vaccinated (1) |
| http://FightVaccinePassports.com Fight Vaccine Passports A new civil liberties project — fighting against forced vaccines! (66) | https://www.washingtonpost.com/outlook/2021/09/15/natural-immunity-vaccine-mandate/ Natural immunity to covid is powerful. Policymakers seem afraid to say so. (2) | https://www.tribdem.com/coronavirus/conemaugh-icu-staff-urges-vaccinations-cambria-somerset-add-covid-19-deaths/article_ba700682-1bd9-11ec-841f-a77865971924.html?utm_campaign=blow&utm_source=twitter&utm_medium=social Conemaugh ICU staff urges vaccinations in new video; Cambria, Somerset add COVID-19 deaths (1) | http://4.nbcrn.com/1.1cxdGF Carmine's Hostess Attacked After Asking Tourists for Vaccination Proof to Dine Inside (1) | https://cnn.it/3IPKfaj Covid-19 death rate more than 4 times higher in least vaccinated states than in most vaccinated (1) |

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Top URLs by City September 17 – September 23

| Philadelphia | Chester | Norristown | Pittsburgh | Erie | Allentown/ Bethlehem | Other |
|---|--|--|---|--|--|--|
| http://pa.gov/get-vaccinated (495) | http://pa.gov/get-vaccinated (22) | http://pa.gov/get-vaccinated (22) | https://twitter.com/Saltymusicstan/status/1438507369294561286/video/1 "I'm convinced we living in a simulation atp" + video "Nicki Minaj tweet sparks local vaccine protest" (181) | http://erie.gov/vax (9) | http://FightVaccinePassports.com Fight Vaccine Passports A new civil liberties project — fighting against forced vaccines! (61) | http://pa.gov/get-vaccinated (30) |
| https://twitter.com/Saltymusicstan/status/1438507369294561286/video/1 "I'm convinced we living in a simulation atp" + video "Nicki Minaj tweet sparks local vaccine protest" (262) | https://on.msnbc.com/3CedONk Carmine's hostess attacked after asking diners for proof of vaccination (15) | https://on.msnbc.com/3CedONk Carmine's hostess attacked after asking diners for proof of vaccination (15) | https://www.foxnews.com/us/pittsburgh-cbp-officers-seize-fake-covid-vaccine-cards-shipped-from-china Pittsburgh CBP officers seize fake COVID vaccine cards shipped from China (92) | https://on.msnbc.com/3CedONk Carmine's hostess attacked after asking diners for proof of vaccination (6) | http://pa.gov/get-vaccinated (52) | https://cnn.it/2XlzpPa A North Carolina-based health care system has suspended hundreds of employees for not getting a Covid-19 vaccine (25) |
| https://www.usatoday.com/story/entertainment/celebrities/2021/09/19/chris-rock-covid-19-positive-comedian-urges-vaccine/8411020002/ Chris Rock reveals he has COVID-19, urges vaccination: "Trust me you don't want this" (228) | https://twitter.com/Saltymusicstan/status/1438507369294561286/video/1 "I'm convinced we living in a simulation atp" + video "Nicki Minaj tweet sparks local vaccine protest" (14) | https://twitter.com/Saltymusicstan/status/1438507369294561286/video/1 "I'm convinced we living in a simulation atp" + video "Nicki Minaj tweet sparks local vaccine protest" (14) | https://www.breitbart.com/entertainment/2021/09/10/nolte-howard-stern-proves-democrats-want-unvaccinated-trump-voters-dead/ Nolte: Howard Stern Proves Democrats Want Unvaccinated Trump Voters Dead (91) | http://apne.ws/cTFkTr US panel backs COVID-19 boosters only for seniors, high-risk (3) | https://twitter.com/Saltymusicstan/status/1438507369294561286/video/1 "I'm convinced we living in a simulation atp" + video "Nicki Minaj tweet sparks local vaccine protest" (50) | https://twitter.com/Saltymusicstan/status/1438507369294561286/video/1 "I'm convinced we living in a simulation atp" + video "Nicki Minaj tweet sparks local vaccine protest" (18) |
| https://www.tn.com/2021/09/19/anthony-johnson-friday-star-dead-at-55/ FRIDAY STAR ANTHONY JOHNSON Dead at 55 (200) | https://www.usatoday.com/story/entertainment/celebrities/2021/09/19/chris-rock-covid-19-positive-comedian-urges-vaccine/8411020002/ Chris Rock reveals he has COVID-19, urges vaccination: "Trust me you don't want this" (11) | https://www.usatoday.com/story/entertainment/celebrities/2021/09/19/chris-rock-covid-19-positive-comedian-urges-vaccine/8411020002/ Chris Rock reveals he has COVID-19, urges vaccination: "Trust me you don't want this" (11) | https://on.msnbc.com/3CedONk Carmine's hostess attacked after asking diners for proof of vaccination (74) | http://hnhu.org/popup HNHU COVID-19 Vaccine Clinics (3) | https://on.msnbc.com/3CedONk Carmine's hostess attacked after asking diners for proof of vaccination (49) | https://www.inquirer.com/phillies/phil-liles-didi-gregorius-blames-covid-vaccine-20210916.html Phillies' Didi Gregorius blames COVID-19 vaccine for elbow issues; experts say he's wrong (14) |
| https://on.msnbc.com/3CedONk Carmine's hostess attacked after asking diners for proof of vaccination (153) | https://bit.ly/2lofFcj At least 7 conservative radio hosts and anti-mask advocates have died from COVID-19 after bashing the vaccines (10) | https://bit.ly/2lofFcj At least 7 conservative radio hosts and anti-mask advocates have died from COVID-19 after bashing the vaccines (10) | http://FightVaccinePassports.com Fight Vaccine Passports A new civil liberties project — fighting against forced vaccines! (66) | https://nbcnews.to/3hPFK33 U.S. to ease Covid travel entry rules, require vaccinations for foreign visitors (3) | https://www.usatoday.com/story/entertainment/celebrities/2021/09/19/chris-rock-covid-19-positive-comedian-urges-vaccine/8411020002/ Chris Rock reveals he has COVID-19, urges vaccination: "Trust me you don't want this" (43) | https://on.msnbc.com/3CedONk Carmine's hostess attacked after asking diners for proof of vaccination (13) |

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Top Influencers by County September 17 – September 23

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

| Allegheny | Butler | Cambria | Fayette | West Moreland | Beaver | Somerset |
|-----------------|-----------------|-----------------------------|-----------------------------------|----------------|-----------------|------------------------------|
| JohnFetterman | TaylorHaasePGH | KelseyJorogers | mommydog67 | missi_matthews | colin_dunlap | Rosebud1668 (high bot score) |
| KDKA | geophersun | rican_playboi | gsfulton | MartyGriffinKD | PghSportsNow | markscheig |
| TotalSportsEnt | eifler_chris | dougkeklak (high bot score) | ShariseJMoore | erjmanlasvegas | DashaBurns | markwentaway |
| BethanyCherisse | JDipaola_Trib | DiontaeClaypool | rissaroodlee | MCipriani_WTAE | CoolHipsterName | Big_Dave52 |
| DarnelSugarfoo | takeheartmonica | ConemaughHealth | Gigi419 (antivax, high bot score) | MeghanKDKA | TribLiveHSSN | John37298511 |

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

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Top Influencers by City September 17 – September 23

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

| Philadelphia | Chester | Norristown | Pittsburgh | Erie | Allentown/Bethlehem | Other |
|-----------------|--|--|-----------------|-----------------------------|-----------------------------|-----------------|
| ReallyAmerican1 | TheNBACentral | MsAvaArmstrong (high bot score, antivax) | KDKA | ECDOH | CNN | NICKIMINAJ |
| FoxNews | drcraigwax | PoliticusSarah | TotalSportsEnt | HowieDittman | EricBoehlert | OccupyDemocrats |
| WillRock2424 | DrsMeena | donsummer | BethanyCherisse | ErieNewsNow | RED_IN_PA_2 | POTUS |
| preciousihenec1 | erin_VMD (high bot score, pro vaccination) | ClaudetteGGibs1 | DarnelSugarfoo | BlyntJames (high bot score) | reopenpa | GovernorTomWolf |
| barstoolsports | adosresources | jeff_pill | WPXI | AHNtoday | MedicVet68 (high bot score) | HHSGov |

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

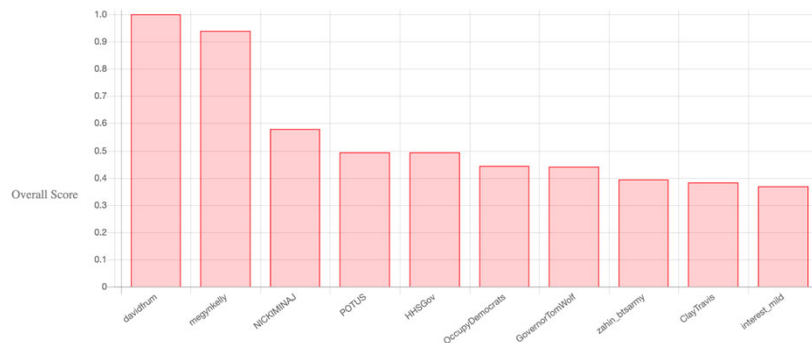
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Analysis of Tweeters - Super Spreaders

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



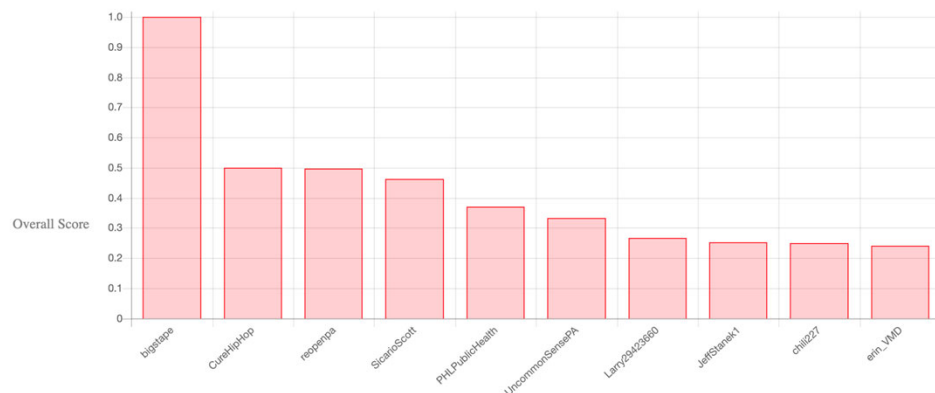
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Analysis of Tweeters - Super Friends

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



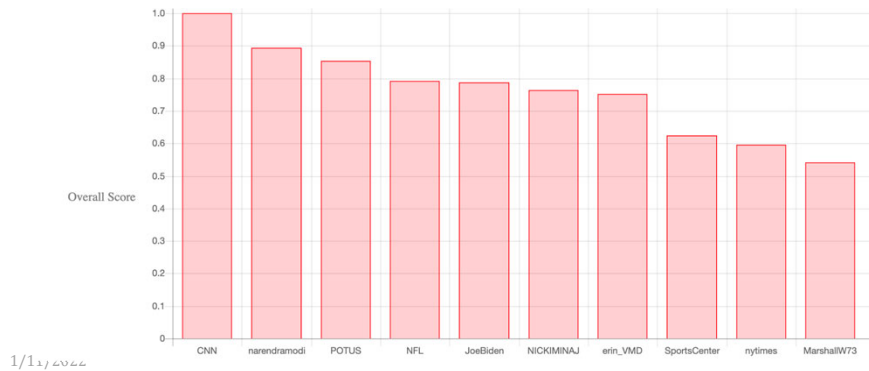
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Analysis of Tweeters - Other Influencers

- 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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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.

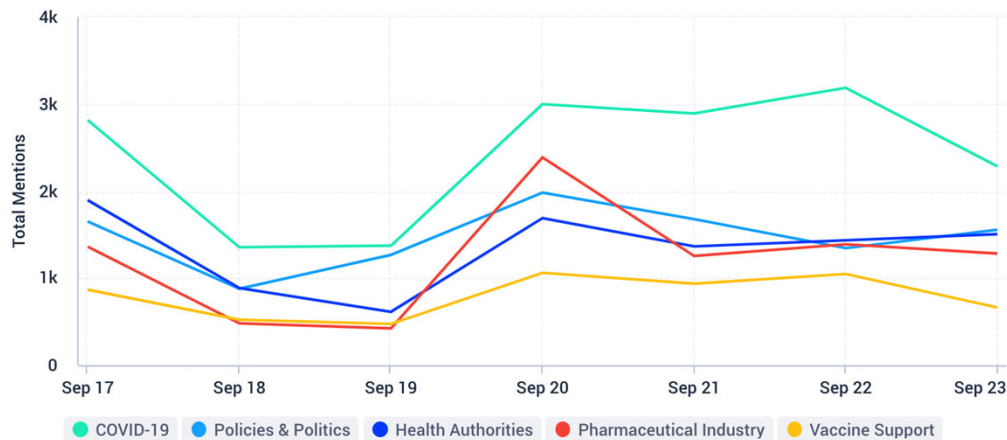
| Agent Label | Value |
|---------------------------------|-------|
| NICKIMINAJ | 1,767 |
| HHSGov | 1,688 |
| POTUS | 995 |
| GovernorTomWolf | 831 |
| FoxNews | 761 |
| DLoesch | 757 |
| JoeBiden | 754 |
| TuckerCarlson | 747 |
| catturd2 | 644 |
| JoyAnnReid | 634 |

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General PA Conversation September 17 – September 23

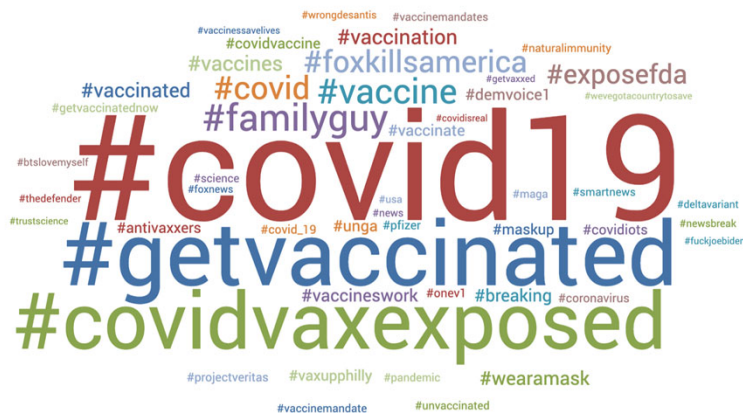


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PA Hashtag Cloud September 17 – September 23



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Trending PA stories September 17 – September 23

- ❑ getvaccineanswers.org - Questions & Answers About COVID-19 Vaccines (263 Mentions)
- ❑ pa.gov - COVID Vaccines in Pennsylvania (180 Mentions)
- ❑ youtube.com - PART 1: Federal Govt HHS Whistleblower Goes Public With Secret Recordings "Vaccine is Full of Sh*t" (136 Mentions)
- ❑ nytimes.com - Covid Vaccine Prompts Strong Immune Response in Younger Children, Pfizer Says (104 Mentions)
- ❑ washingtonpost.com - Republican attacks on vaccine mandates undercut crucial tool to combat pandemic, experts say (97 Mentions)
- ❑ justthenews.com - Sidelined? Hundreds of Navy SEALs told they won't be deployed if they refuse COVID vaccine (98 Mentions)

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Trending PA tweets September 17 – September 23

If the vaccine was dangerous they would've given it to poor people first, not politicians and billionaires.

507
Retweets

BREAKING NEWS: Three Texas women are arrested after brutally beating up a New York City restaurant hostess simply because she asked them to show proof of vaccination before seating them, as required by the city's new policy. RT IF YOU THINK THAT THEY MUST BE LOCKED UP!

284
Retweets

I work at a thrift store and found this vaccine card from 1956. Felt weirdly timely <https://t.co/pjo8nhwwUL>

383
Retweets

New York City requires vaccine passports to eat in a restaurant or go to the gym. Meanwhile less than four hours away Penn State has over 100k people packed in a football stadium. Which life do you want? We really are living in two Americas right now. <https://t.co/tp3ltQ5HMq>

270
Retweets

3 **Occupify Democrats**
[@occupydemocrats](https://twitter.com/occupydemocrats)

BREAKING NEWS: The Biden White House reveals that it is "seriously considering" a COVID vaccine mandate for all air travelers. RT IF YOU THINK THAT IT IS A GREAT IDEA!

310
Retweets

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Trending PA tweets September 17 – September 23

The world has administered 6 billion doses of COVID vaccines to 3.4 Billion people For people waiting for more data before getting the shot The data is in We've vaccinated nearly half of all humanity The vaccines are safe

248
Retweets

Vaccines that changed your life: 1796 smallpox. 1885 rabies. 1890 tetanus. 1896 typhoid fever. 1906 TB. 1923 diphtheria. 1926 whooping cough. 1932 yellow fever. 1937 flu. 1952 polio. 1963 measles. 1967 mumps. 1969 rubella. 1974 chickenpox.

212
Retweets

Watch the new #FamilyGuy Short! Stewie and Brian travel inside Peter's body to explain how vaccines work. Have questions about the COVID-19 vaccines? Visit <https://t.co/Yz9vi7AYYD> for the most accurate and timely facts so we can all get back to the moments we love and miss most. <https://t.co/d08P2VjlcU>

226
Retweets

BREAKING: @JoeBiden is "seriously considering" a COVID vaccine mandate for air travel. Retweet to tell the Biden administration you support this.

197
Retweets

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"We have to protect the vaccinated from the unvaccinated". Weird. I thought that was the vaccine's job.

167
Retweets



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Top PA Twitter Authors September 17 – September 23

| By mentions | By influence |
|-------------------|------------------|
| @erin_vmd | @questlove |
| @iridescentashes | @malcolmnance |
| @cdekeane | @6abc |
| @bob_levitt | @fox29philly |
| @phillygirl741 | @accuweather |
| @c3kenneth | @nbcphiladelphia |
| @edward_bruc | @ericfisher |
| @mishao1989 | @phillyinquirer |
| @riliberalskiddin | @wpxi |
| @blyntjames | @cbsphilly |

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Trending negative PA stories September 17 – September 23

- ❑ theexpose.uk - FDA experts reveal the Covid-19 Vaccines are killing at least 2 people for every 1 life they save as they vote 16 - 2 against the approval of booster shots (86 Mentions)
- ❑ childrenshealthdefense.org - Sign Up for our Free News and Updates! (38 Mentions)
- ❑ openvaers.com - COVID Vaccine Data (34 Mentions)
- ❑ childrenshealthdefense.org - 'This Is Evil at the Highest Level,' Says HHS Whistleblower (19 Mentions)
- ❑ medrxiv.org - Comparing SARS-CoV-2 natural immunity to vaccine-induced immunity: reinfections versus breakthrough infections (13 Mentions)
- ❑ childrenshealthdefense.org - Experts Tell FDA Vaccines 'Harm More People Than They Save,' But NIH Director Believes Boosters Will Be Approved in Coming Weeks (12 Mentions)
- ❑ jccf.ca - Mandatory mRNA vaccine mandate for Alberta physicians | Justice Centre for Constitutional Freedoms (9 Mentions)

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25

Trending Negative PA tweets September 17 – September 23

BOMBHELL Info During Todays FDA Vax Meeting Dr Rose States Based on The VAERS Data... The Risks Far Outweigh The Benefits Especially For Children Over A 1000% Increase In Adverse Events In 2021! Questions If The Shots Are Driving The Variants Clear Failure of These Products
<https://t.co/ju7WV1Fk2j>

80
Retweets

<https://t.co/LoqY4INy0Y>

46
Retweets

what if the opposition to vaccines is not rooted in any actual logic whatsoever but instead emotional contrarianism and vulnerability to quack cure marketing techniques that fuel the right wing economy

32
Retweets

Antivaxxers' affection for Regeneron is fascinating. It's under an EUA, and is not FDA-approved. It's a new technology. Its clinical trials started just before the trials for the vaxxes, so we have no idea what the long-term effects of taking it are. And yet antivaxxers love it.

61
Retweets

Fox News' spreading of disinformation and lies about vaccines are causing people to die. Legal experts must find someone with standing and file a lawsuit.

31
Retweets

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*support for vaccines may appear in this section if the comments on that post were expressing criticism of that post.



26

Trending Negative PA tweets September 17 – September 23

So I'm trying to understand this. They are refusing a 20 dollar shot of an FDA approved vaccine and instead getting a \$20,000 taxpayer funded antibody treatment that is NOT FDA approved, takes up valuable space, is effective but much costlier...how is this okay?

26
Retweets

MUST SEE Project Veritas video: HHS whistleblower+ registered nurse Jodi O'Malley shares recorded conversations between her + colleagues about gov's failure to acknowledge COVID vaccine risks + lack of efficacy. #TheDefender:
<https://t.co/zL66EdwTnD> <https://t.co/UVUrTS1UMK>

19
Retweets

Project Veritas released a video confirming what we already knew: doctors are afraid to report adverse events to VAERS because questioning the vaccines is heresy. And people are dying for it. <https://t.co/VpfJrpRAaU>

20
Retweets

BREAKING: FDA advisory board elected NOT to approve Covid boosters. In a meeting that was streamed live, Jessica Rose an FDA advisory scientist, sited the explosive number of injuries & deaths reported compared to previous vaccines in the Vaers as reason to pause on boosters.
<https://t.co/O4Cfs99p82>

18
Retweets

Is this taken out of context? I have not seen the full clip. If this is accurate, it sounds like she is reporting vaccine enhanced disease in those with waning vaccine-induced immune responses. Which is the great fear among those paying attention.

17
Retweets

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Top PA Negative Twitter Authors September 17 – September 23

| By mentions | By influence |
|------------------|------------------|
| @phrozentech9 | @malcolmnance |
| @jwetzal70 | @fox29philly |
| @petes3boys | @phillyinquirer |
| @cdekeane | @chuckwendig |
| @michaelpghpa | @factcheckdotorg |
| @jesse_kozlowski | @fox43 |
| @mishao1989 | @ryanlcooper |
| @christi06249366 | @maxkennerly |
| @no1spec09418373 | @pahealthdept |
| @sandersonnoreen | @chris_1791 |

*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 Posts on Facebook September 17 – September 23

Sean Parnell
Sep 20, 2021 at 4:38 PM

Apparently COVID doesn't affect the rich and famous. Only the rest of us little people. Because...Science!

944 110 433

UPMC Children's Hospital...
Sep 17, 2021 at 4:30 PM

The number of children coming to the Emergency Department at UPMC Children's is historic, says Ray Pitetti, MD, chief of Emergency Medicine. In response, the hospital is opening an ED Fast Track area and establishing an ED medical tent, which we are preparing to operationalize over the next day. If your child truly needs emergency care, UPMC Children's is here to support you. If a more minor illness or injury, use UPMC Children's AnywhereCare or call your pediatrician or a nurse line for advice. For COVID testing locations near you, click here. upmc.me/3EwRWIW

See less

1.5K 631 7.4K

WPXI-TV Pittsburgh
Sep 22, 2021 at 10:01 AM

The new variant infected 46 residents and staff in a Kentucky nursing home.

New R.1 COVID-19 variant detected in U.S. outbreak
WPXI.COM

954 841 418

WPXI-TV Pittsburgh
Sep 17, 2021 at 2:56 PM

Kids are being treated in this tent outside UPMC Children's Hospital of Pittsburgh as a local doctor tells Amy Hudak it's the worst he's seen in 20 years. Hear what's causing that surge in patients -- and it's not just COVID.

See less

UPMC Children's Hospital puts up tent to help treat influx of patients
WPXI.COM

1.1K 892 575

WPXI-TV Pittsburgh
Sep 21, 2021 at 5:51 AM

As soon as the vaccine is approved for children, Pittsburgh teachers want students to get it.

'Can't come fast enough': Pittsburgh teachers ready for students to get COVID-
WPXI.COM

1.4K 1.0K 102

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29

29

Trending Posts on Facebook September 17 – September 23

WPXI-TV Pittsburgh
Sep 17, 2021 at 3:38 PM

BREAKING: The majority of board members have voted not to approve vaccine boosters at this time.

FDA advisers debate COVID-19 booster shots, board votes not to approve
WPXI.COM

713 194 177

KDKA-TV | CBS Pittsburgh
Sep 20, 2021 at 7:01 AM

BREAKING NEWS: Pfizer says its COVID-19 vaccine works for children ages 5 to 11. The vaccine maker plans to seek authorization for this age group soon, a key step toward beginning vaccinations for youngsters.

See less

Pfizer Says COVID-19 Vaccine Works In Kids Ages 5 To 11
PITTSBURGH.CBSLOCAL.COM

890 765 100

WPXI-TV Pittsburgh
Sep 20, 2021 at 7:00 PM

Pfizer says their COVID-19 vaccine works for kids 5-11 years old. After giving them a smaller dose than an adult, their bodies responded with antibodies similar to what was seen in teenagers.

'Hopeful': Pittsburgh pediatrician says Pfizer's COVID-19 vaccine for kids
WPXI.COM

704 583 42

WPXI-TV Pittsburgh
Sep 20, 2021 at 6:58 AM

BREAKING: Pfizer says it plans to seek authorization soon.

Pfizer says its COVID-19 vaccine works for kids ages 5 to 11
WPXI.COM

813 469 67

WPXI-TV Pittsburgh
Sep 22, 2021 at 8:00 PM

More than 100 Penn State University students are on interim suspension for failing to comply with the university's covid-19 testing requirement.

More than 100 Penn State students suspended for bucking vaccine-or-test
WPXI.COM

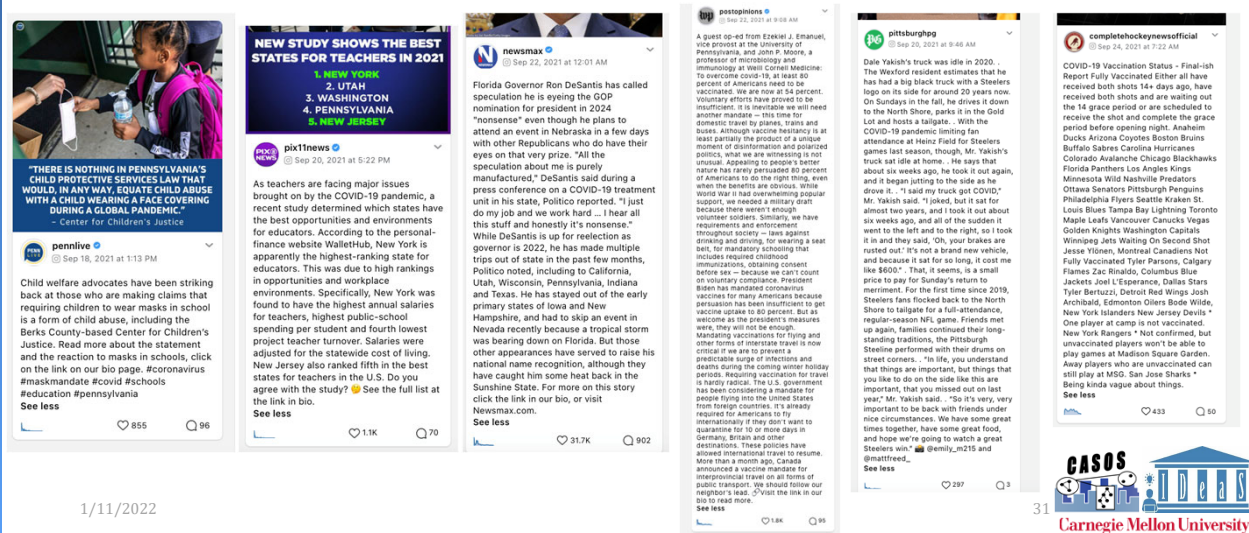
715 526 58

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Trending Posts on Instagram September 17 – September 23



31

Trending Posts on Reddit September 17 – September 23



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General Trends September 17 – September 23

- ❑ This week, overall trending stories covered more issues about vaccination for children, upcoming Pfizer intentions to obtain authorization for vaccine for children, also the articles about booster shot authorization was extensively reposted;
- ❑ Trending story this week from Twitter: <https://twitter.com/Saltymusicstan/status/1438507369294561286/video/1> "I'm convinced we living in a simulation atp" + video "Nicki Minaj tweet sparks local vaccine protest." Nicki Minaj name was also trending in hashtags on social media this week;
- ❑ Other trending story covered a hostile incident in New York and a movement against vaccine passports: <https://on.msnbc.com/3CgdONk> Carmine's hostess attacked after asking diners for proof of vaccination; <http://FightVaccinePassports.com> Fight Vaccine PassportsA new civil liberties project — fighting against forced vaccines!
- ❑ Mandates and Masks conversations are still popular (trending hashtags #novaccinemandates; #novaccinepassports and others were identified) as well as the conversations about mandates at school, mentions of children/kids, vaccine passports, natural immunity, military. In addition to those issues, there are mentions of harmful disinformation that is spread by Fox News and Tucker Carlson (hashtags like #foxxkillsamerica);
- ❑ Trending disinformation stories:
<https://www.breitbart.com/entertainment/2021/09/10/nolte-howard-stern-proves-democrats-want-unvaccinated-trump-voters-dead/>, Nolte: Howard Stern Proves Democrats Want Unvaccinated Trump Voters Dead; [youtube.com](https://www.youtube.com/watch?v=PART1) - PART 1: Federal Govt HHS Whistleblower Goes Public With Secret Recordings "Vaccine is Full of Sh*t"; theexpose.uk - FDA experts reveal the Covid-19 Vaccines are killing at least 2 people for every 1 life they save as they vote 16 - 2 against the approval of booster shots; childrenshealthdefense.org - "This Is Evil at the Highest Level," Says HHS Whistleblower; childrenshealthdefense.org - Experts Tell FDA Vaccines 'Harm More People Than They Save,' But NIH Director Believes Boosters Will Be Approved in Coming Weeks
- ❑ Facebook, Instagram, and Reddit messages also cover issues about vaccination for children, boosters, and COVID mandates.

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For More Information

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- ❑ 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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