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How do Interest Groups Adapt their Communication Strategy to Big Shocks? An Analysis of the Medicare-For-All Debate on Twitter During COVID-19

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Abstract

COVID-19 has reinvigorated the policy debate for a universal healthcare system, attracting much attention on social media. In this paper, we study the online discourse of Medicare-For-All before and after COVID-19 by examining the Twitter feeds of two opposing health advocacy groups -- Physicians for a National Health Program (PNHP) and Partnership for America's Healthcare Future (P4AHCF). Our empirical results show a sharp contrast between the two interest groups' communication strategies. PNHP shows a relatively consistent narrative before and after the onset of COVID-19 on March 11, 2020, marked by a people-centric content, references to a diverse demographic such as racial minority, low-income and immigrant communities, consistent levels of the scientific nature and sentiment score of its arguments and an increased number of Medicare for All tweets after March 11. In contrast, P4AHCF shows lesser engagement with diverse demographics, more scientized and data-centric tweets and an inconsistent narrative marked by a sudden surge in the positive sentiments and scientific nature of its arguments and a complete silence on Medicare for All right after the onset of COVID-19. The difference in communication strategy is consequential. PNHP has higher engagement of Twitter users and is more adaptive to a pandemic narrative than P4AHCF. We argue that the distinctive social media strategies can be explained by the groups' different audiences and objectives. The findings add to our understanding of activism on social media and the implication of the pandemic for health policy reform in the U.S.

Significance Statement:

Twitter-based public health research is a growing field and has proven useful for disease surveillance, behavior prediction, understanding sentiments about public health and engagement with health campaigns among others. In the context of COVID-19, Twitter has been found useful to understand attitudes towards vaccination, polarization, information gaps and misinformation. But none of the existing studies look into the dramatic effects of COVID-19 on the communication strategy of special interest groups. In this context, our paper accomplishes two important tasks. First, it demonstrates the significance of Twitter data in understanding the political narratives that inform public opinion on health policy. Second and more importantly, it undertakes a timely analysis on the impact of the COVID-19 on interest group narratives, a worthy area of inquiry in itself.

I. Introduction

Many have been baffled by the question: why was the U.S hit so hard by the COVID-19 pandemic? Apart from claiming the lives of more than 1.1 million Americans so far and counting,[3] the economic crisis generated by the pandemic resulted in more than 12 million people losing employer-based health insurance at the peak of the pandemic, according to some estimates,[4] which to critics exposed the fundamental weakness of that system. Effects of the pandemic were particularly tragic for marginalized communities and people of color who disproportionately suffer from comorbidities such as diabetes, asthma, obesity and cardiovascular diseases, which puts them at greater risk for worse COVID-19 clinical outcomes, in part due to their inadequate access to preventative care historically[5]. Overall, the pandemic brought to the surface longstanding and systemic inequities based on race, ethnicity and income within the U.S healthcare system.

Although there is no one answer to why the U.S was affected so badly by the pandemic, it is common to hear responses like “it is a mess of a system” and “coordination in the system is so poor.” In the middle of the pandemic, we witnessed the specter of states and hospitals bidding against each other, and against the federal government, for crucial supplies for their frontline workers.[1] The fragmented nature of the U.S healthcare system and lack of coordination between its various parts is considered to have impeded swift and coordinated strategic response needed in a time like the current crisis.[2]

This resurfacing of systemic issues in the healthcare system reinvigorated calls for universal healthcare, with the pandemic shifting public opinion greatly in favor of a Medicare-For-All system.[5,6] According to a Morning Consult/Politico poll data, public support for Medicare-For-All went from 50% to 59% between mid-February and the end of March 2020, the highest level of support in about nine months.[7] Perhaps not surprisingly, most countries with a universal healthcare system did so in the wake of a major crisis: the U.K, France and Japan did so after World War II, Rwanda after the genocide, and Mexico after democratization[6].

It is in this context that it is useful to examine how COVID-19 affected the present-day discourse on universal healthcare in the U.S. The question that animates this study is how opposing health advocacy groups defined and framed the idea of a Medicare-For-All / Single-Payer system, the more popular universal healthcare models in the present time, with the onset of an extraordinary health crisis generated by the pandemic.

To pursue this question, we examined the Twitter feeds of two leading -- and opposing -- health advocacy groups to trace how they frame the ideas of Medicare-For-All and Single-Payer. On one side is Physicians for a National Health Program (PNHP), a single-issue organization with more than 20,000 members and chapters across the U.S. PNHP has advocated for a universal, comprehensive single-payer national health program since 1987. It also is the only national-level physician's organization of its kind. Its members and staff conduct original research on health reforms, publish peer-reviewed articles in

journals, participate in town hall meetings and debates, and appear regularly in national media to advocate for a single-payer system.[8]

On the opposite side is the Partnership for America's Healthcare Future (P4AHCF), an alliance of doctors, nurses, community hospitals, insurance providers, biopharmaceutical companies formed in Spring 2018. P4AHCF declares its mission as expanding access, protecting patient choice, lowering cost, improving quality and fostering innovation while opposing any "one-size-fits-all" approach to health reforms, notably Medicare-For-All, Medicare buy-in, or the public Option. Its key members include America's Health Insurance Plans (AHIP), the Federation of American Hospitals (FAH), American Hospital Association (AHA), Blue Cross Blue Shield Association, Pharmaceutical Research and Manufacturers of America (PhRMA), and various Chambers of Commerce.[9] The American Medical Association, one of the partnership's founding members, dropped out in August 2019 after P4AHCF broadened its opposition from "Medicare-For-All" to more incremental changes, such as a government-run public option.[10] P4AHCF members spent a combined $143 million on lobbying in 2018 alone.[11] For our purposes, then, PNHP can be viewed as advocating for universal healthcare, while P4AHCF can be seen as the existing system's defender.

Twitter-based public health research is a recent but growing field. The platform acts as a unique big data source based on real time content that has proven useful for disease and behavior prediction, surveillance of trends, understanding sentiments about public health issues and engagement with

health campaigns among others.[12] In the context of COVID-19 specifically, studies have found Twitter to be a useful communication channel to understand both public concerns and public awareness.[13,14] Twitter and the rise of social media in general has shifted the dynamics of top-down agenda setting by traditional media to more power in the hands of the general public. Studies have found a symbiotic relationship between Twitter and traditional media in informing each other's agenda.[15, 16] Among social media, Twitter is especially relevant to understand agenda building because journalists tend to be heavy users of Twitter and receive story ideas and sources from it routinely.[17,18] Existing literature studying political discourses on health during COVID-19 using Twitter data has explored various topics including analyses of pandemic discourses,[19] attitudes towards COVID-19 vaccination,[20, 21] polarization in online discourses,[22] information gaps for communities,[23] misinformation.[24] But none of these papers look into the dramatic effects of external events of the magnitude of COVID-19 on the communication strategy of special interest groups. In this context, our paper accomplishes two important tasks. First, it demonstrates the significance of social media data, such as from Twitter, in understanding the political narratives that inform public opinion on health policy. Second and more importantly, it undertakes a timely analysis on the impact of the COVID-19 on interest group narratives, a worthy area of inquiry in itself.

In the next section, we lay out the journey of the idea of single-payer/ Medicare-For-All amid a definitive rightward shift of American politics in the

last fifty years. This is followed by the results of our analysis which shows that PNHP leveraged COVID-19 to advocate for Medicare-For-All by increasing tweeting about it in the light of the pandemic whereas P4AHCF completely stops talking about Medicare-For-All after March 11 when the pandemic strikes. PNHP also tried to build a broad-based coalition for its advocacy of Medicare-For-All by alluding to wider demographics such as racial minorities, low income and immigrant communities while P4AHCF tried to maintain the status-quo by minimally engaging with these groups. P4AHCF also has a much more scientized narrative with references to data, evidence and scientific expertise, with a noticeable spike in scientization post-COVID coupled with a remarkably positive-sounding narrative in the wake of the pandemic, compared to PNHP. This apparent scientization of the pandemic by P4AHCF reflects in much less engagement with its content, marked by lower number of likes and retweets of its tweets compared to PNHP. We conclude by showing how reform proponents use crises like COVID-19 as a "window of opportunity" to further push their agenda while reform opponents go on a defensive arguing that the current system is "good enough".

II. Background

Modern day idea of single payer healthcare system was first proposed in 1971 by Senator Edward Kennedy and Martha Griffiths to create a Canadian-

inspired Single-Payer system, which was to be financed by one single insurer-the government, for all the medical services.[25] However, the rightward shift of American politics in the 1970s amidst the Vietnam War, Watergate and rising anti-tax sentiment and the conservative era of Regan administration in the1980s led to prominence of market-based solutions in the American healthcare system.[26] In these situations, as Congress turned away from the issue, activists took charge of health care reform leading to the creation of PNHP in late 1980s, which started from using the term "national health insurance" as describing their goal but soon moved to "single-payer" as their phrase of choice.[27] However, the idea of single-payer couldn't catch up beyond the health policy and activist circles and the Clinton Administration in the 1990s, distancing itself from the idea, took a more moderate approach and sought to expand coverage to everyone while keeping the role of private and employer insurance intact going for the idea of "managed competition", signifying a right-ward shift of the Democratic Party at the time.[26]

The new millennium brought in a change from the technical language of "single-payer" to a more aspirational idea of expanding a domestic, well-known and functioning policy of Medicare to cover everyone, starting from Rep Jon Conyer's Expanded and Improved Medicare-For-All Act of 2003, followed by Kennedy's 2006 Medicare-For-All Act.[26] Barack Obama initially supported the idea of "public option" but the Affordable Care Act, although being the biggest health reform since 1965, settled for something much more moderate, and got criticized from both the left and the right. The main

proponent of this model have been Vermont Senator Bernie Sanders, who has put forth five different versions of Medicare-For-All so far, with increasing support from his colleagues, reflected in increase in the number of cosponsors for his bills from zero in 2013 to 14 for the most recent version, which included four other Democratic Presidential aspirants.[28, 29] However, a recent poll by Kaiser Permanente suggests that there is a confusion among the general public about what Medicare-For-All means, with 56% supporting a true Medicare-For-All but 74% supporting a plan that gives people the option of choosing between their private insurance and governmental insurance.[30] There are also differences in pathways suggested by Democratic politicians to achieve universal healthcare with most assuming some role of private health insurance alongside a government plan. President Biden's support of a public option further puts the future of a Medicare-For-All on the back burner for the time being. The development of Medicare-For-All debate over the years suggest that there takes place a rightwards shift in its narrative around the time of general elections as various powerful interests align to set the parameters for what's politically feasible. It would be worthwhile to see how the COVID-19 pandemic shifts this debate as demands for a new social contract in the form of a stronger welfare state and strengthened public health system arise.

III. Methodology

For this study, we conducted a content analysis on Twitter data, which has been the dominant approach of using the platform's data for health research.[12] To gather Twitter data, we harnessed the power of Twitter's Application Program Interfaces (APIs), coupled with manually scraped twitter data by our undergraduate research assistants. We identified and collected tweets for the two accounts in question (@P4AHCF & @PNHP) based on the following hashtags: #MedicareForAll, #SinglePayer, #COVID19. Our initial search was based on two keywords "Medicare for All" and "Single-payer". We supplemented that with all the tweets from P4AHCF after finding scarce mentions of the two keywords from it in the post-pandemic period.

In total, we extracted 3659 tweets from the PNHP account and 1381 tweets from the P4AHCF account. These tweets encompassed a time frame spanning from April 2017 for PNHP, 2018 June for P4AHCF, and ended on May 2023 for PNHP and July 2023 for P4AHCF.

Subsequent to the extraction of tweets from the aforementioned accounts, our analytical workflow transitioned to the R data analysis environment. This allowed us a large amount of pre and post COVID-19 time period data, with which we could conduct all the analyses that we proceed with in this paper. A main task in this data processing was identifying and counting mentions of "Medicare-For-All" in the tweet text and hashtags. This required a nuanced approach to text analysis, where we employed regular expressions to detect various forms of the phrase, accounting for case sensitivity and different spellings. We aggregated these mentions by month,

creating a temporal overview of the discussion intensity around this topic. This time-based aggregation allowed us to observe trends and changes over time, particularly around key events such as the onset of the COVID-19 pandemic.

Figure 1 presents a comparative analysis of the monthly tweet volumes for two Twitter accounts, PNHP and P4AHCF, over a multi-year period. The visualization prominently features a solid line for PNHP, which demonstrates variable activity with several peaks, and a dashed line for P4AHCF, which generally indicates a lower level of tweeting activity. A red vertical line, labeled "COVID-19 start," intersects the timeline in March 2020, providing a clear point of reference for the onset of the global pandemic.

At the outset of COVID-19, a substantial spike in activity is observed for P4AHCF, potentially reflecting an intensified engagement with pandemic-related topics or a response to heightened public interest during this period. In contrast, PNHP's activity, while higher overall, does not exhibit a similar sharp increase; instead, it shows a slight decline followed by a gradual recovery to pre-pandemic levels. This contrast may suggest differing strategies or focuses of the two accounts in response to the pandemic, with P4AHCF possibly capitalizing on a more focused set of topics that gained relevance during the early stages of COVID-19.

IV. Hypotheses and Research Questions

Our main research question for this paper is – how did COVID-19 change narrative strategies of the two advocacy groups analyzed in this study regarding the Medicare-For-All healthcare system? To this end, we have five main hypotheses. In our next two hypotheses, we conjecture how Covid-19 might change the two groups' communication strategies. For PNHP, we posit that the group would leverage COVID-19, that claimed the lives of Americans more than any other country in the world, to double down on their advocacy for Medicare-For-All. They would achieve this through personally relatable communication, highlighting stories of personal tragedy during COVID-19 and using other timely events such as the Black Lives Matter protest to highlight the systemic racism issues within the American Healthcare system to broaden the scope of conflict and invite more people into their discussion.

H1: Compared to pre-Covid level, PNHP increases the number of tweets on Medicare-For-All and becomes more engaging.

For P4AHCF, we posit that the group opposing reforms would try to avoid discussion of Medicare-For-All in the light of covid-19, which exposed the weaknesses of the American healthcare system, as it would put pressure on the medical-industrial complex for reforms.

H2: Compared to pre-Covid level, P4AHCF decreases the number of tweets on Medicare-For-All and becomes less engaging.

In our next three hypotheses, we contrast the communication strategies of the two interest groups. We posit that prior to COVID-19, PNHP, the group advocating for healthcare reforms, would try to build a broad-based coalition

for its cause to invite a wider audience in the discussion for healthcare reforms. In contrast, P4AHCF would try to minimize the participation of a wider audience in the discussion, scientise the conversation, find recluse in data/science/ evidence or make it more esoteric to maintain the status quo and avert calls for universal healthcare.

H3: PNHP's tweets have more references to demographic groups and personalized stories than P4AHCF.

H4: P4AHCF's tweets have more statistics and scientific reports than PNHP. As a result, PNHP's narrative would be much more engaging than P4AHCF.

H5: PNHP's tweets have higher engagement than P4AHCF.

V. Results

A. Medicare-For-All mentions

Figure 2 illustrates the impact of COVID-19 on the narratives of the two groups based on their tweets on Medicare-For-All / Single-payer before and after March 11, 2020, the day the WHO declared COVID-19 a pandemic. The solid line representing PNHP shows fluctuations in the proportion of topic-specific tweets, with a noticeable increase leading up to the onset of COVID-19, marked by the red vertical line. Supporting our first hypothesis, H1, this suggests an escalation in discussions around 'MedicareForAll' by PNHP as the pandemic began, possibly a reflection of the growing discourse on healthcare issues spurred by the crisis. Conversely, the dashed line for

P4AHCF reveals a different pattern, with proportions generally lower than PNHP's before the pandemic and a sharp decline to zero immediately after the pandemic starts. This drop indicates that P4AHCF shifted focus away from tweeting about 'Medicare for All' after the onset of the pandemic, which proves our second hypothesis, H2, to be correct. The visual contrast between the two accounts' engagement on this issue underscores distinct approaches or changes in priorities in the context of the healthcare debate during a critical time.

B. References to demographic groups

PNHP seems to be engaging in the strategy of creating a broad-based coalition for its cause, by alluding to the issues of race, income status, age, gender (marginally) and immigrant communities while advocating for Medicare-For-All (See Figure 3 and Table 1 for the schema used to code for the themes of race, gender, low-income, age and immigration status). PNHP tweets: “Our health care crisis is a racial justice issue, 59% of the uninsured are people of color." #MedicareForAll” (@PNHP: 2019-10-29). “We should remember that, even if every state expanded Medicaid, millions of immigrants would remain uninsured…” (PNHP:2019-10-29). “Low-income workers and their families are falling through the cracks of our fragmented, dysfunctional health care financing system. #SinglePayer #MedicareForAll would improve coverage for these workers, and for everybody else” (@PNHP:2019-12-05).

For its part, P4AHCF makes zero or minimal reference to race, gender, income or immigrant status of those experiencing obstacles to coverage in the current healthcare system while talking about Medicare-For-All and Single-Payer system. When it does refer to income status, it does so in connection with how middle-income families stand to lose if a Medicare-For-All system is adopted. It tweets: “Our latest #VoterVitals poll finds voters top health care priority is lowering costs, but a one-size-fits-all new government insurance system like Medicare-For-All would raise taxes on middle class families. We can’t afford a one-size-fits-all system. (@P4AHCF: 2020-03-11)”

PNHP’s references to a variety of demographic groups continued before as well as after the onset of COVID-19 (See figure 4 and 5) in contrast to P4AHCF which had minimal references to these themes. PNHP also leveraged the larger economic crisis prompted by the pandemic, leading to large-scale unemployment and loss of health insurance for millions of Americans, to point to the pitfalls of the employer-sponsored coverage, in order to push for healthcare as a ‘right,’ and to promote Medicare-For-All and Single-payer system as a remedy. Highlighting these aspects, PNHP tweets: "This #COVID19 crisis proves we need health care as a human right, not an employment benefit." #SinglePayer #MedicareForAll” (@PNHP:2020-06-30). Similarly, PNHP used the suddenly salient racial justice movement as a way to point out racial disparities in the U.S healthcare system and how it could be addressed by Medicare-For-All / Single Payer. It tweets: “How has slavery’s legacy impacted present day health disparities? How does systemic racism

perpetuate these health disparities? How can a #MedicareForAll system begin to address racial health inequities?" (@PNHP: 2020-07-01).

In contrast, the narrative offered by P4AHCF shifted dramatically after March 11 with the onset of COVID-19. It started focusing instead on firefighting the issues arising within the healthcare system due to the COVID-19 and its economic impacts in a way of putting the house in order or cleaning up its act. A new theme of #Workingtogether emerged frequently in its tweets in this period, emphasizing how different industry stakeholders, including health care providers, hospitals, insurance industry and pharmaceutical companies, were working together to defeat COVID-19, expand coverage, and provide Americans with adequate healthcare. It tweets: "What do America's leading doctors, nurses, clinicians, hospitals, health insurance providers, biopharmaceutical companies and employers all have in common? They're #WorkingTogether to ensure Americans get healthy and stay healthy" (@P4AHCF:2020-04-15). Further, it made sure to highlight the merits of the free market in ensuring patient choice, freedom and quality even during a pandemic by tweeting: "The free market is #WorkingTogether to keep control in the hands of patients as they choose where and how they receive care during the #COVID19 crisis" (@P4AHCF:2020-05-18).

Consistent with the strategy of minimizing the scope of discussion, P4AHCF makes minimal reference to race, income or immigrant status of people in its tweets, even avoiding talking about the racial issues in the American healthcare system in the light of the Black Lives Matter movement.

C. References to scientific terms and data

Figure 6 presented here depicts the monthly total of 'scientization' tweets from the PNHP and P4AHCF Twitter accounts, covering the period of one year before and after the declaration of the COVID-19 pandemic, indicated by the prominent red vertical line. The scientization-related keywords used to filter and create this plot were "numbers," "scien\w*," "study," "evidence," "evidence-based," "statistics," "data," "research," "analysis," "findings," "clinical," "scientific," "data-driven," "experiment," and "quantitative," totaling fifteen keywords.

These terms were selected to capture the essence of scientific discussion and evidence-based dialogue within the tweets of these two accounts, reflecting on how their communication strategies might have been influenced by the evolving public health crisis. We used this as a proxy to understand the extent to which both groups scientize the conversation about Medicare-For-All reforms. By scientization, we mean here the process of making a political debate into one largely about numbers and science. Medicare-For-All or the idea of universal healthcare is on the other hand an intensely political issue, which requires redistribution of resources to ensure that everyone in society gets access to quality care irrespective of their identity and means. Political issues are routinely scientized and relegated to the domain of science and expertise to take them away from democratic

accountability by making the conversation more esoteric, beyond the reach of common people who might not have a grasp on numbers or science.

After the onset of COVID-19, the P4AHCF exhibits a significant surge in 'scientization' tweets at the juncture labeled 'COVID-19 start', whereas PNHP shows a relatively low and constant level of activity. The conspicuous increase for P4AHCF suggests a heightened focus on scientific discourse as the pandemic unfolds, potentially signaling a strategic emphasis on data-driven response to public concern regarding the health crisis. In contrast, the steady pattern observed for PNHP may reflect an already established, consistent engagement with scientific topics, undisturbed by the onset of the pandemic. This divergence in tweeting behavior could imply differing organizational priorities or audience engagement strategies during a period marked by increased public attention to scientific and health-related information.

D. Sentiment Analysis

Figure 7 showcases a Bing sentiment analysis over time for tweets from the PNHP and P4AHCF accounts. A sentiment score is calculated using the Bing lexicon, which categorizes words into positive or negative sentiments, and then aggregates these values for a net sentiment score. The sentiment analysis shows a noticeable surge in sentiment score for P4AHCF at the start of the pandemic. This upward spike, depicted by the dashed line, could indicate an increase in positive messaging or a concerted effort to

engage with the audience on a more positive note during the uncertain times marked by the beginning of the pandemic.

In contrast, the sentiment trajectory for PNHP, represented by the solid line, remains relatively stable without dramatic shifts, suggesting a consistent tone in their Twitter communications throughout the same period. The marked divergence in sentiment response between the two accounts at the onset of COVID-19 is particularly striking. P4AHCF's pronounced sentiment increase could reflect a strategic pivot in their narrative to address the pandemic's challenges.

At first glance, the upswing in positive sentiment during a period typically associated with uncertainty and anxiety seems counterintuitive. This anomaly prompts a deeper inquiry into the nature of the communication strategies employed by P4AHCF during the emergent phase of the pandemic. One could speculate that P4AHCF's communications may have strategically focused on fostering a sense of agency and collective resilience. It is conceivable that their tweets during this period were imbued with constructive narratives, emphasizing actionable insights, scientific advancements, and community solidarity—all of which could be coded as positive by the sentiment analysis algorithm. Such an approach would not only diverge from the prevailing tone of discourse at the time but also position P4AHCF as a source of proactive guidance amidst the burgeoning crisis.

The distinct uptick in positive sentiment from P4AHCF's scientific tweets during the early phase of COVID-19, as detected by sentiment analysis,

presents an intriguing finding that defies the expected negative sentiment during a crisis. The prevalence of terms typically associated with progress, like "innovation" and "research," suggests that P4AHCF's communication strategy may have been heavily oriented towards positive, forward-looking messages. This pattern, consistent across various sentiment lexicons, offers an unexpected narrative that contrasts with the broader context of uncertainty. It underscores the unique role that scientific discourse may play in shaping public sentiment, especially in the communication strategies of healthcare-focused entities. The case of P4AHCF provides a thought-provoking subject for further discussion, highlighting how interest groups can deploy positive messaging amidst the challenges posed by a global pandemic.

In the broader context of the research, the Bing sentiment analysis is complemented by two other methods—AFINN and NRC—presented in the appendix. AFINN assigns a numeric value to each word for its sentiment strength, while NRC classifies words into emotional categories including positive and negative sentiments. The consistency of results across these diverse sentiment analysis methods strengthens the robustness of the findings. An aggregated sentiment score, combining insights from all three methods, offers a comprehensive view of the overall sentiment trends. This multi-faceted approach ensures that the sentiment analysis is not reliant on a single lexicon, thereby enhancing the credibility of the conclusions drawn from the sentiment trends observed in the tweets.

E. Engagement

Figure 8 and 9 represent engagement with the content of both groups over the course of time. It is worth mentioning here that PNHP had 17,800 followers while P4AHCF had 23,000 followers as of Jan 12, 2024. Despite having a relatively smaller follower base, PNHP's tweets show consistently higher engagement than P4AHCF both in terms of likes and retweets before and after the onset of the pandemic. The second graph, showing the normalized retweets, echoes a similar trend as the first one showing normalized likes or favorites. PNHP experiences more pronounced peaks and sustains elevated engagement levels in comparison to P4AHCF. The normalized retweet count is an indicator of the content's reach and the audience's willingness to share it within their networks. PNHP's ability to consistently achieve higher likes and retweet counts could be attributed to a variety of factors, including the relevance and relatability of their tweets or a more engaged core follower base.

The brief spike in engagement for both accounts at the beginning of the pandemic suggests a heightened public interest in health-related content during that period. However, PNHP maintains a lead over P4AHCF, which could imply that their messaging or content strategy is particularly effective in eliciting a response from their audience. It is a matter of further research whether greater engagement with PNHP's tweets is because of its contents being more people-centric, speaking to a wider audience and leveraging contemporary issues like the Black Lives Matter movement to make its

narrative more personally relatable. Similarly, it needs further investigation whether the overly scientised and optimistic narrative of P4AHCF during the pandemic fell out of sync with the general public mood during a rare human tragedy leading to lesser engagement.

VI. Discussion

The empirical results show a sharp contrast between how the two interest groups communicate on social media. PNHP shows a relatively consistent narrative with an increasingly higher number of tweets about Medicare for All after the onset of COVID-19, consistent appeal to a wide demographic base and personal stories, and relatively stable levels of references to scientific arguments and sentiment score. In contrast, in the light of the pandemic, P4AHCF goes suddenly silent about Medicare for All, spikes the use of numbers, scientific studies and evidence in their narrative, become overly optimistic in terms of sentiments, at the same time avoiding engagement with a wider demographic base or references to people's experiences and stories.

As a result of the communication strategies, P4AHCF's content doesn't have much traction among people compared to PNHP as shown in our findings about engagement. This resulted from multiple issues in their strategy: using impersonal content as explained in the earlier paragraph, which has been found in communication research as responsible for less engagement; not acknowledging issues facing people during a health emergency and

sounding delusionally positive; not speaking to a wider audience by failing to highlight broader social dimensions of the problem; and using repetitive and robotic content. Their strategy clearly seems to have hurt their engagement.

PNHP appears to be the more successful group on social media. It is more popular, more engaging, and gets more attention. Does that mean P4AHCF failed and made sub-optimal choices by emphasizing cold numbers and statistics? We do not think so. The distinctive communication strategies that P4AHCF and PNHP adopted can be explained by their different audiences and objectives.

In the academic literature on lobbying, interest groups are classified into two categories: the protective group and the promotional group (Stewart, 1959). The protective group, also referred to as "private interest groups", works to protect personal interests of members. Trade unions, financial groups, and professional bodies are all prominent examples of a protective group. Such a group is oftentimes exclusive, and its membership is restricted to the section of society whose interests they represent. P4AHCF is clearly a protective group as it represents the interests of hospitals and insurance companies.

The promotional group, also referred to as "public interest groups", works to advocate ideas, issues and policies that would be of broader interest than the direct benefit to its members. Charities, environmental groups, and animal rights groups are all prominent examples of a promotional group. Such groups are invariably and explicitly non-partisan and represent a segment of

society whose focus is on promoting a particularly appealing cause or value. This makes the promotional group much more inclusive as its primary purpose is to establish wide popular support and gain as much voters' attention. PNHP is clearly a promotional group as it represents physicians, medical students, and health professionals that supports a universal single-payer national health insurance program.

As a protectionist group, P4AHCF's objective is to maximize the payoff of its group members – hospital management boards, insurance plans, and various Chambers of Commerce. The number strategy works for P4AHCF as its strategy is one of "scientising" the discussion about Medicare for All and the pandemic overall, making political debates into scientific ones, to take it away from popular scrutiny and into the domain of technical expertise which cannot be questioned easily by the lay individuals. This strategy also speaks to the policy making community which relies way more on "data" in this era marked by "evidence-based" policymaking. Scientising the debate for universal healthcare and the pandemic would be an optimal strategy for P4AHCF because their tweets are a statement of their policy stance, possibly for future legislative hearings.

In contrast to numbers and statistics, individual stories and experience would naturally have a better resonance with the general public. As a promotional group, PNHP's objective is to win the support of the general public, especially the voters. Therefore, individual stories and users' endorsement are the optimal strategy for them. PNHP makes reference to

stories and experiences of the general public to increase the proximity of its narrative and make it more relatable to the public to create a more convincing case in favor of a Medicare-For-All or Single-Payer system. It tweets: "Charlie woke up from her nap and gave me a huge hug for pushing #MedicareForAll. Charlie was a micro preemie, just like my own kid. They are miracles. The costs of Charlie's health care has made her mom, Rebecca, a super advocate for #MedicareForAll. Thank you Rebecca &Charlie!" (@PNHP: 2019-04-30). This also allows PNHP to speak to a wider audience. PNHP also leverages temporal issues such as the Black Lives Matter movement to expand its reach and invite new stakeholders in its audience, showing successfully in its engagement.

Our results support all of our hypotheses. The two advocacy groups chosen here for analysis have very different narrative strategies to push for their cause, which also responds very differently to an external shock like COVID-19. In response to big shocks like Covid, the P4AHCF's number strategy is far less flexible or adaptive than the PNHP's people-centric strategy. Individual stories and people-centric content have the room to pick and choose, whereas statistics are harder to manipulate for self-serving purposes. This also explains why P4AHCF suddenly goes radio silent on Medicare-For-All after March 11.

Not coincidentally, this period also saw an increasing public support for a greater governmental role in the healthcare system and for a national health plan, evident in the jump in public support for Medicare-For-All right

after the onset of COVID-19. The COVID-19 pandemic exposed the need for a universal healthcare system, which the opponents of reforms found best to avoid commenting on during a time when most people could personally relate to the deficiencies of the American healthcare system. The higher engagement of PNHP's tweeting strategy, however, does not necessarily mean that the group will be more effective in influencing the actual health policy. How the political activism on social media affects the policy making process is worth more exploration.

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Figures and Tables

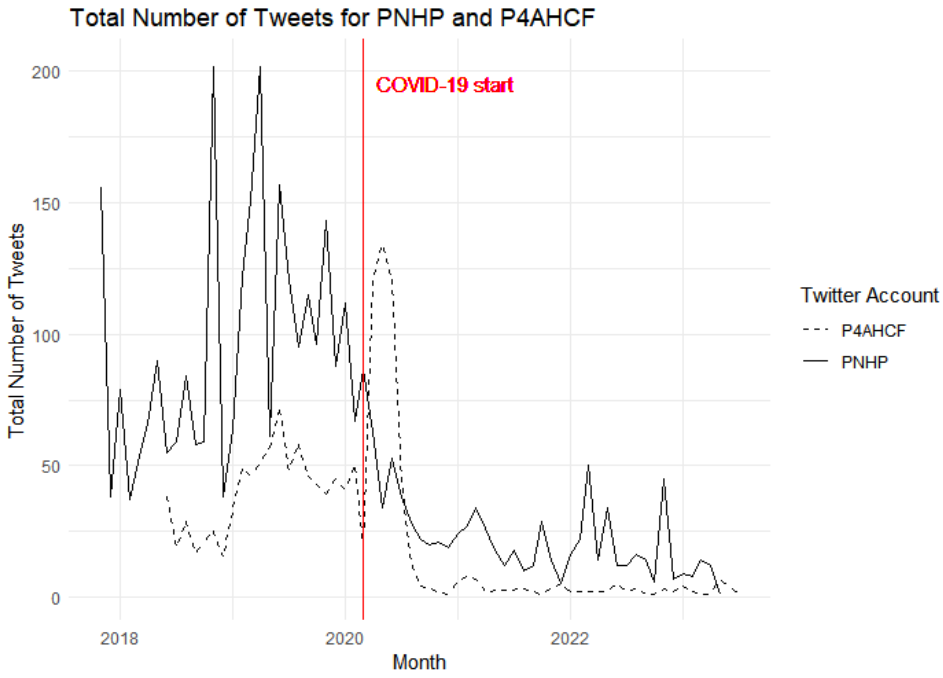

Figure 1 - Total Number of Tweets across time

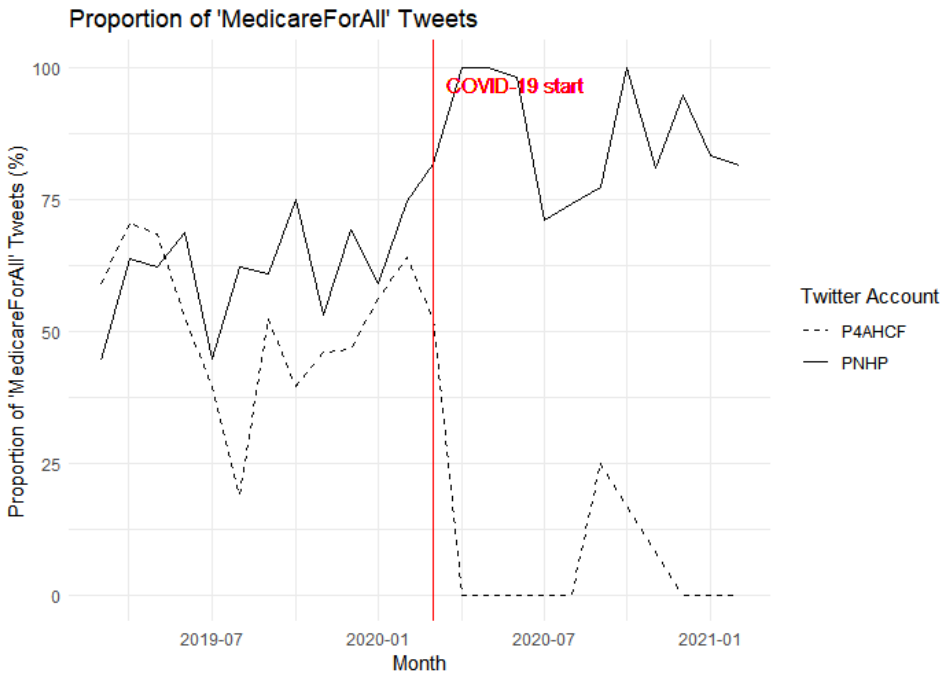

Figure 2- Proportion of Medicare-For-All related tweets over time

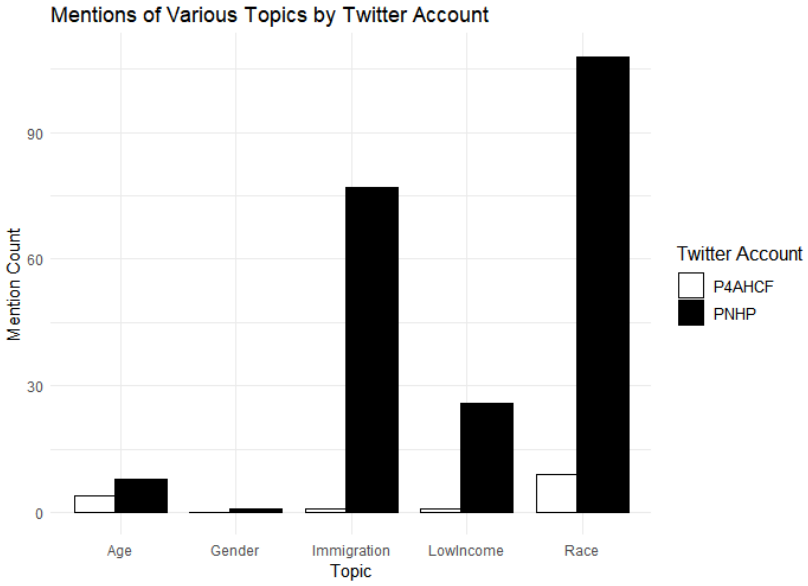

Figure 3 - Overall mention of different demographic groups

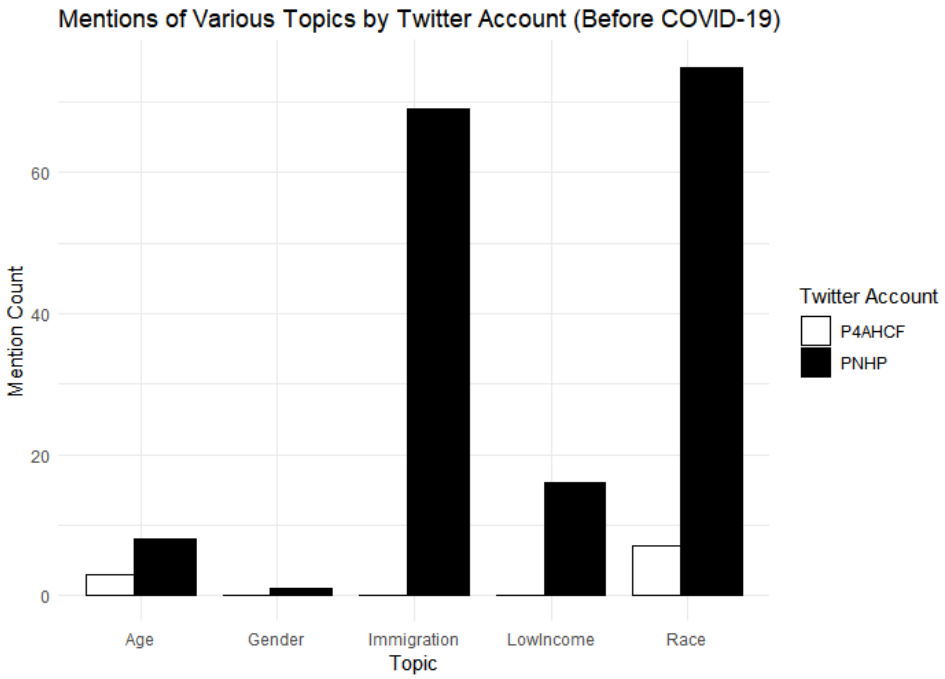

Figure 4 - Mention of demographic groups before COVID-19

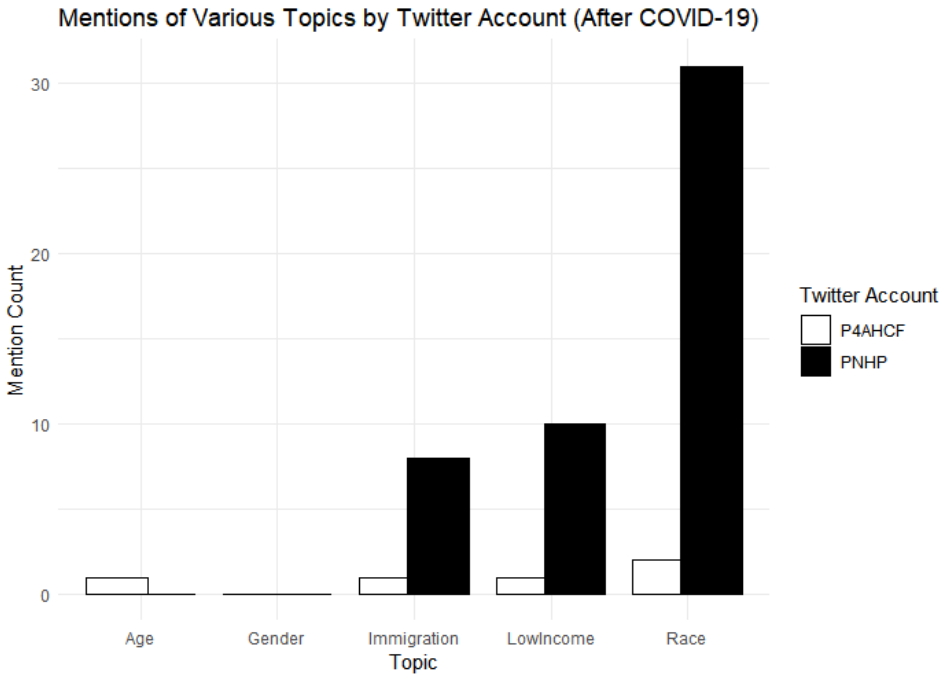

Figure 5 - Mention of Topics (After COVID-19)

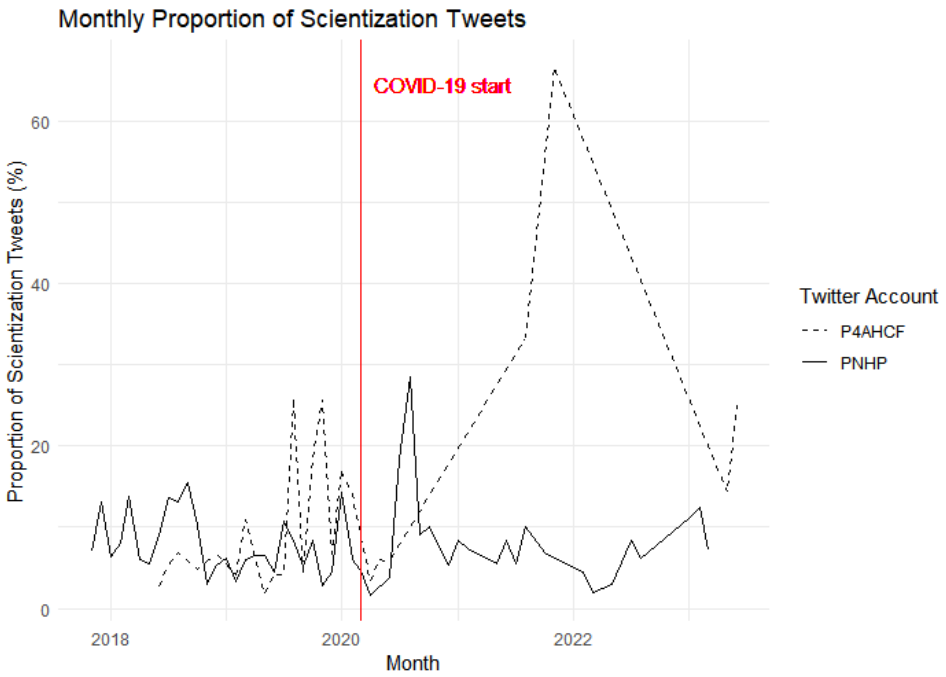

Figure 6 - Scientization tweets across time

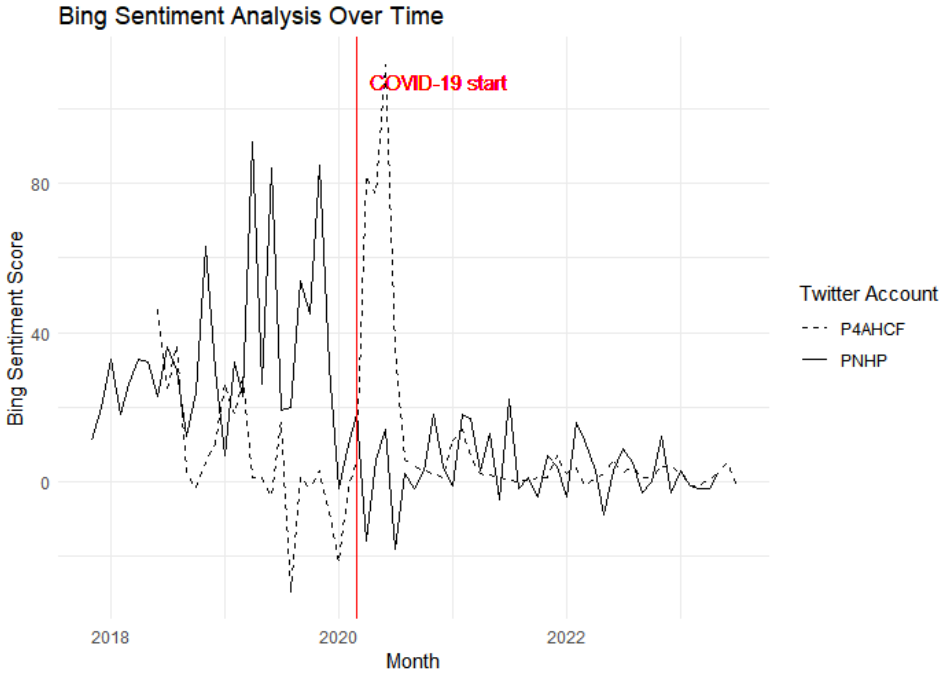

Figure 7 - Bing Sentiment Scores across time

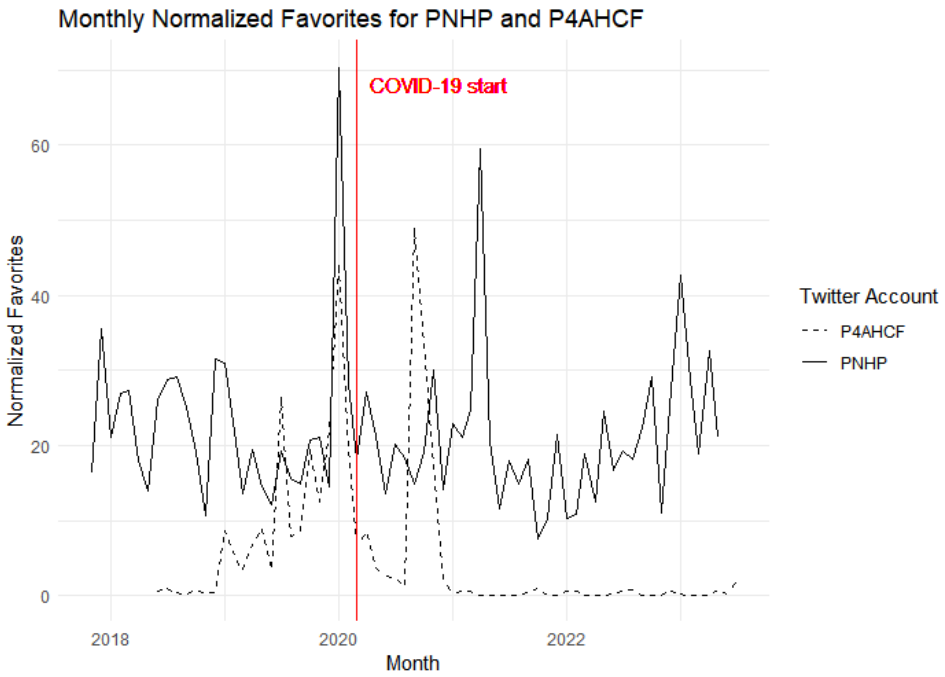

Figure 8 - Average number of likes per tweet for the two groups over time

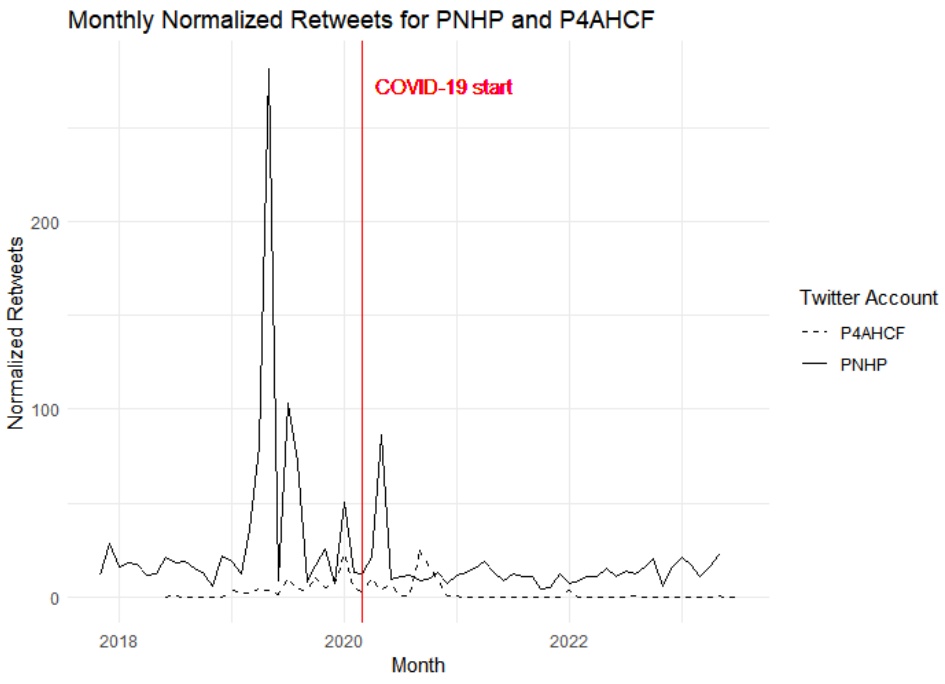

Figure 9 - Average number of retweets per tweet for the two groups over time

Indicator	**Keywords used**
Race	race, racism, racial discrimination, racial disparities, racial inequality, ethnic, ethnic group, ethnicity, minority
Low Income	poverty, socioeconomic, economic inequality, income gap, financial hardship, disadvantaged, impoverished, underprivileged
Gender	gender equality, gender discrimination, gender bias, gender pay gap, gender identity, sexism, gender stereotypes, LGBTQ+
Immigration	immigrants, immigration policy, undocumented, refugee, asylum seekers, border control, migration, citizenship
Age	elderly, senior citizens, aging population, ageism, generational, youth, baby boomers, millennials

Table 1 - Keywords used for Indicators.