



# Knowledge Mobilization of Anti-vaccine Movement in Social Media

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## Abstract

*This study observes social movement in the digitalized era, especially on how the actor of anti-vaccine movement connected as well as spread and formed the knowledge in the social media. This study is essential to be further explored to enrich the theories of anti-vaccine in the digital era. The case to be studied here is the anti-vaccine movement on Facebook, which has developed in the context of the socio-politics of the Indonesian people in 2018-2019. Using Content Analysis as the method, this study finds that the Anti-vaccine Movement in Indonesia rejected the vaccine program by attacking the knowledge hegemony created by medical institutions and the government. It has formed new knowledge by issuing a counter toward the medical discourse. The argument centered on moral anger and structural repression by government agencies, worldwide institutions, pharmacy industries, and media and showed strong logic based on religious belief. This fact indicates that social media plays a role in spreading anti-vaccine ideas and gives way for the movement to develop and to have a dynamic network that can survive for a long of time. By mobilizing knowledge through a social movement in the digitalized world, the anti-vaccine movement in Indonesia has a broader network. It has the potential to influence the success of the government program.*

**Keywords:** anti-vaccine; health social movement; social media; social movement.

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## Introduction

This study is significant because the anti-vaccine movement is often highlighted as one of the factors that interfere with vaccination coverage. The governments in various countries, including Indonesia, have recognized how significant the impact of this movement is on decreasing vaccination coverage. Moreover, the coronavirus pandemic that hit the world at the end of 2019 to 2020 has raised the discourse on the importance of vaccines as an effective antidote. If this is left unchecked, such conditions will certainly affect the public health status in general and create a new crisis in the world. The main problem of this study lies in the need for clarification of the reality of when a social movement against the government in the digital world can influence public policies.

Why is the social movement in the health sector related to the anti-vaccine issue so significant to be observed? Nowadays, health is an aspect of life with a powerful and broad influence. As science pertaining to health and the provision of world health services takes place, a social movement has also emerged that responds to the existence of the two. The best-known concept of the social health movement is Health Social Movement, introduced by a sociologist named Phil Brown (Brown & Zavestoski, 2004). The emergence of the HSM concept has contributed to and even made significant changes to the reference of world epidemiological science and methods.

Several theories show that at least three things indicate that the phenomenon of social health movements, especially the anti-vaccine movement



in cyberspace, still needs to be understood. First, how the anti-vaccine movement works in the digital world so that it can influence the success or failure of a public policy. Second, what forms of knowledge drive vaccine skepticism on social media? Third, as stated by Blume (Blume, 2006), literature containing studies on the anti-vaccine movement as an organization that has an agenda, ideology, network, actors, resources, and the socio-political context in which the anti-vaccine movement is carried out are still not widely found. This is about how the anti-vaccine movement works in the digital world so that it may influence the success or failure of a public policy. This study believes that the results of a study conducted by Orsini (Orsini & Smith, 2010) confirm that social movements, science, and public policy, are closely related. Through a case study of Autism

in Canada, Orsini demonstrated how civil society accesses, modifies, and disseminates knowledge and discussed the implications of conceptualizing knowledge mobilization in the public policy process. However, the Orsini's study has limitations, that is raising the case of social movements in non-digital areas. Social movements in social media have different methods and characteristics from those in non-digital areas. This study is an answer to the criticism of how Orsini's work is applied in the the case of social movement in the digital world. The assumption is that when social movement works against the government in the digital world, science becomes the primary topic of debate. The strength of each party's argument determines the development of pro-vaccine and anti-vaccine partisans. How this social movement works in the media in accessing, modifying,



and disseminating knowledge and its influence on the public policy process still needs to be observed further through this study. However, this study will not focus on the impact of the anti-vaccine movement on health policy. This study aims to explore how the anti-vaccine movement actors connected and spread and formed knowledge in social media.

The theoretical and empirical debates show that there are different beliefs on vaccine rejection in the digital world. Some experts still focus on the belief that vaccine rejection is an individual decision. However, other experts believe otherwise. Vaccine experts say that today's anti-vaccine phenomenon exists not only in because of medical reason or in personal decisions. They also emphasize the existence and importance of "vaccine doubt" and forms of vaccine rejection as

a social condition that driven by skeptical behavior towards vaccination (Peretti-Watel et al., 2014; Yaqub et al., 2014).

Moreover, some experts say that "the antivaccine movement" is regarded as a social movement and consists of "anti-vaccine groups" and "anti-vaccine activists." These groups are, often cited by scientists, believed to be the leading cause of all forms of doubt in vaccine hesitancy or radical vaccine rejection (Betsch, 2011; Betsch et al., 2012; Zylbermand, 2017). Amidst this debate, research on the anti-vaccine phenomenon as a social movement has not been widely conducted. This leads to no theoretical reconstruction of the phenomenon of the anti-vaccine movement as a social movement related to particular ideological views. Therefore, this study attempts to explore the phenomenon more deeply.



Blume (Blume, 2006) said that literatures on studies of the anti-vaccine movement as an organization that has an agenda, ideology, network, actors, resources, and socio-political context in which the anti-vaccine movement operates had not been found. The assumption that the anti-vaccine movement is not a single movement but is a movement that is being carried or carried by and on other socio-political agendas has been conveyed by Jeremy Ward et al. (Ward, 2016a). Allegations of different agendas that take advantage of the vaccine controversy issue also strengthened when the Ministry of Health of the Republic of Indonesia released the results of immunization coverage in Indonesia. According to them, one of the reasons for vaccine rejection is misinformation and misperceptions about vaccines. One of the causes of

low immunization achievement relies on several factors, such as religious beliefs, fear (the effects of vaccines), belief in conspiracy theories, and public distrust of the government (Ministry & Health, 2014a).

The anti-vaccine actors are suspected to be behind the dissemination of misinformation, including the spread through social media in Indonesia (Ministry & Health, 2014b). The Ministry of Health of the Republic of Indonesia stated that religious narratives are part of the reasons developed by the anti-vaccines. The issue of religion is one of the main concerns among citizens who usually access cyberspace in Indonesia. The current trend is that religious issues are also the easiest consumption material compared to other issues, especially those related to vaccines. Therefore, when the MUI doubted about the haram status of

several vaccines in 2010 occurred (Pauzi & Man, 2017), people looked for information on the internet. This is used as the right moment by the anti-vaccines as the material to develop negative campaigns against vaccines. Similarly, many AEFI and conspiracy issues have been found on social media when the anti-vaccines give opposing arguments about vaccines.

For this reason, a certain attention to the strategy of how Indonesia's anti-vaccine movement works in social media is very relevant to be observed amidst the euphoria of the widespread internet network and the socio-political conditions in those years. The 2017-2020 period was a very "noisy" year in cyberspace, especially in Indonesian's social media related to the presidential and legislative elections. In the same years, Indonesia's immunization coverage achievements

decreased dramatically. It is the time when the virtual world is clamorous, and the socio-political context is "hot," where there is a very strong 'push-pull' of war between social and political actors in cyberspace. Thus, it is interesting to observe if it has a significant connection with the anti-vaccine movement.

## Method

Facebook was chosen because it has high capabilities in social networking, content sharing, virtual world community, and high collaborative work (Kaplan & Haenlein, 2020), making this type of social media more widely used by Indonesian anti-vaccine activists. The data collection began with identifying individual accounts, fan pages, and anti-vaccine groups. The first step was to crawl data with a specific date and backdate method, starting from December 31, 2019, to January 1, 2017.



The data consisted of posts, comments, and reshares from accounts, fan pages, and groups containing related keywords. In this process, 4,535 posts relevant to the issue of vaccines were found. Based on the screening process, 30 personal accounts of anti-vaccine actors were obtained, and six anti-vaccine groups in Indonesia were accessible. These accounts were then used as sampling. In terms of all the sampled accounts, each of them was compiled into one file containing information in the form of profiles, statuses, posts (photos, videos, posters, etc.), reshares, and comments with complete arguments regarding criticism and rejection for vaccination.

This study also conducted a content analysis of all posts for each account during the 2017-2019 period. By observing all the posts, the researchers could understand the actors' actions

and reasons when publishing their thoughts on vaccines. The accounts did comprehensively depict their profile, agenda, network power, and public interests behind each of their posts. Therefore, this study also conducted semi-structured interviews with 15 participants consisting of 10 Facebook account owners, one head of AEFI victims handling, one social media expert, two observers of the anti-vaccine movement, and one pediatrician. The participants are the members of the sample from Facebook and the key figures with good knowledge and understanding of anti-vaccine phenomena and social media. Therefore, offline interviews were conducted to rectify this flaw and to corroborate the content analysis result. The interviews were conducted, recorded, transcribed, analyzed, and made anonymously. All interviewees gave their consent in the form

of verbal permission to be quoted prior to the interview. The interview guideline was managed to be three main questions: a) how can the actors be interested in vaccines, b) why they believed that the vaccines are dangerous and require public mobilization, and c) how do they increasingly get involved in public criticism of the vaccination during that period and with whom they get involved? The information is obtained using semi-structured interviews, such as their history, reasons, and motives behind the anti-vaccine movement, the network of actors (individuals and/or groups they represent) as well as the strategies they use to mobilize their discourses on social media.

The data collection was performed using the Facebook Graph API, which provides public data. The downloaded pages and data are Facebook entities for the public and

are accessible to anyone. The user contents used in this study are public so that the researchers could retrieve them unless the users set them up in privacy for the researchers, thus making them inaccessible. During the in-depth interview process, the interviewees gave verbal consent to interview before the meeting. The interviewees' consent for recording and reporting purpose were received orally before the interview was conducted.

## Literature Review

Vaccine refusal in the early 19th century relied on mass deployment and demonstrative means to press its interests (Koopmans, 2003). Meanwhile, vaccine rejection in the digital era uses discourse and knowledge mobilization as weapons of debate (Bromberg, 2013; Kata, 2010; Sierra-Caballero, 2018). The power of narrative and argumentation is important





to win debates with opposition groups with different opinions (Jansen, 2010; Joyce, 2010; Klimburg & Mirtl, 2012).

In the digital era, the attitudes of vaccine-repellent actors are presented through the discourse they spread about vaccines. From the outset, the attitude of these vaccine-repellent actors was simplified as a rejection caused purely by health-related matters, particularly vaccines. This is reinforced by a study conducted by Kerr (Kerr, 2009) which confirms that in terms of theory, the anti-vaccine group has the same characteristics as one type of the Health Social Movement, namely Embodied Health Social Science (Brown & Zavestoski, 2004). Kerr's theory clearly illustrates that the group's activities are designed by actors who have experienced a type of disease or disability and believe it to be "truth" based on what they feel. However, this has

been criticized by Ward because, according to him, when referring to the concept of "vaccine hesitancy," the attitudes of these actors can arise due to different motives, perhaps even due to the existence of cultural, political, and other interests (Ward, 2016a). Ward also asserts that the notion that the of vaccine-repellents is a social movement should lead to the study that the anti-vaccine movement is an "impure" social movement (Ward, 2016b; Ward et al., 2016). The Anti-vaccine Movement, understood as a New Social Movement that has its characteristic. It is not oriented to ideological based on the social class attached to the Old Social Movement. This anti-vaccine strategy also has organizing tactics that lean more towards "disruptive" and focus more on the mobilization of public opinion (Ward, 2016a; Ward et al., 2016). The Word Study reinforces this by mentioning that vaccine-



repellent groups are not just collection of people with skeptical views, but they move in unorganized, intentional, even ideologically manner (Singh, 2001). Thus, it can be said that the actors of the anti-vaccine movement are not who simply move with homogeneous motives and health frameworks (Kata, 2012). Whether or not in an organized and structured manner, the actors of the anti-vaccine movement are believed to have used issues outside the vaccine discourse as an effort to lower one's intention to vaccinate (Broniatowski et al., 2018; Fadda et al., 2015; Olive et al., 2018; Schmidt et al., 2018; Ward et al., 2016). Reinforced by Blume's argument, currently, the phenomenon of vaccine refusal cannot be seen as a social movement with single purpose and interest (Blume, 2006). Vaccine-repellent actors have taken advantage of discourses

beyond health issues so that the anti-vaccination movement emerged as a dynamic, fluid, networked movement with issues outside the realm of health.

The discourse debate in health issues stems from the emergence of parties opposed to the ruling party (Singh, 2001). As is well known, the health issue is a space for public discussion and not a monopoly of medical authority or the state (Baumgaertner et al., 2018). Meanwhile, the Social Health Movement is a form of resistance to the medical or state authorities' monopolistic attitude around health information (Brown et al., 2004). Gieryn explained that this movement usually occurs when two parties claim they are the "more legitimate" party. In scientific debates, such as the historical debate between doctors and homeopaths in the early 1900s, both sides used science as



a trade tool. Therefore, knowledge is used by any arguing party to expand or seek followers, the rejection of ideas, and protect interested parties, to a truth claim (Gieryn, 1983). Along the way, Health Social Movement as a form of public resistance to authority in the field of health can be categorized into the following three types:

- movement of access to health that addresses issues related to improving or gaining access to health services,
- constituent-based health movement protesting disproportionate outcomes and treatment by the scientific community, such as a health movement based on efforts to end gender inequality, SARA (Tribes, Religions, and Races), social class, and sexual orientation in health services,

- the Embodied Health Social Movement (EHSM), which is a movement formed by a group of people with experiences of illness or disability who believe in “truth” based on what they feel yet social movement theory has not yet been applied to these movements. Health social movements (HSMs)(Brown et al., 2004)(Brown et al., 2004).

In the researchers’ initial observations, EHSM can be adopted to explain the discourse of the vaccine rejection movement. This push for vaccine refusal with the EHSM type carries the characteristic of “understanding disease, disability or sick experience by challenging the knowledge, diagnosis, treatment, and prevention of diseases derived from dominant medical knowledge” (Brown et al., 2004)(Brown et al., 2004). The key to this EHSM is how activists organize and criticize



“epidemiological dominance” through personal awareness and understanding derived from their experiences (Brown et al., 2004). Explicitly, Brown defines the epidemiological dominance paradigm as “the codification of beliefs about diseases and their causes by science, government, and the private sector. It includes established institutions authorized to issue diagnoses, methods of treatment, and treatment of people with diseases, as well as journals, media, universities, medical philanthropy, and government officials. (Brown et al., 2004) Domination of the epidemiological paradigm departs from the results of a century-long campaign by the field of general medicine for cultural authority as described by Gieryn (1983). The EHSM makes the argument that the patient’s experience (what is felt) and level of knowledge

should be included in both treatment methods and patient care decisions – including court decisions – regarding certain diseases. The decisive reason for the need to consider the patient’s experience is because, during this time, sociologists believe the body interacts with the social environment and influences social actions (Klawiter, 1999).

The most prominent characteristic of the EHSM is the tendency of EHSM constituents and activists to become “lay experts”. Being a “lay expert “ means adapting the biomedical tools and knowledge they have as well as familiarizing themselves with technical knowledge on the topic of a particular disease. In the end, these lay activists claim to have more understanding than traditional or accredited experts (Brown & Mikkelsen, 1990).

In addition to being lay experts, activists apply their knowledge by combining popular



epidemiology with reflections on their own disease experiences. Lay experts also seek to form alliances with trusted health professionals and scientists in pursuit of their movement's goals, including disease prevention, research, funding, and ownership of access to limited resources. (Brown et al., 2004; Brown & J.Mikkelsen, 1990).

Brown added that ESHM also refers to the commonality of grievances it has to form a collective identity that will be politicized. There will be resistance when this collective identity conflicts with a dominant discourse. In order for the politicized collective identity to be easily formed, Brown assessed the need to connect it with broader social and political criticism, such as issues of fairness, political interests, SARA, and equitable development.

The whole issue is managed in such a way as an integral part of the emergence of a particular disease (Brown et al., 2004).

On the other hand, sociopolitical factors have been identified by some researchers as one of the causes behind the rejection of vaccines (Debus & Tosun, 2021; Estep, 2017; Hornsey et al., 2020). The chances of vaccine rejection are stronger when the ideology of parents interacts with politics (Engin & Vezzoni, 2020; Hornsey et al., 2018; Rabinowitz et al., 2016). The stronger a person considers himself to be the jealous k wing and the more interested he is in politics, the more likely it is that the ideology of the envious k wing generates skeptical attitudes and beliefs towards vaccines and vaccinations (Baumgaertner et al., 2018). Meanwhile, Cadeddu found that Italians who put themselves on the right in the left-right ideological spectrum and

they tend to perceive vaccines as something dangerous (Cadeddu et al., 2020). The politicization of policy became a phenomenon that emerged later, as was the case in France. Ward, et al. (2020) found that French people who feel close to established parties in the center-left, center, and center-right will choose to be vaccinated. In contrast, people who identify with the left and right wing, or do not identify with any party will refuse the vaccine. This helps us understand that political and social factors play an important role in vaccine decisions.

It can be said that the narrative spread by the anti-vaccine movement is a discourse that is contrary to the discourse developed by the government (Allcott & Gentzkow, 2017; Bovet & Makse, 2019; Isaac, 2016; Schackmuth, 2018; Shirsat, 2018). Often these different discourses use conspiracy

theories to strengthen the arguments of government attackers. The findings from a study conducted by Kim and Chao which examined the effects of exposure to government conspiracy theory videos were proven to cause cynicism toward the government (Kim & Cao, 2016). This cynicism will eventually lead to a decline in social trust in government administrators. In the context of health policy, several previous studies have suggested that health service providers may experience program failure if they lose their "Social Trust" (Allcott & Gentzkow, 2017; Bovet & Makse, 2019; Isaac, 2016; Schackmuth, 2018; Shirsat, 2018). Trust is something that is sometimes not fairly distributed. Sometimes this trust is controlled by certain social groups, and when the controller is an irresponsible social group, or conversely, when certain social groups experience



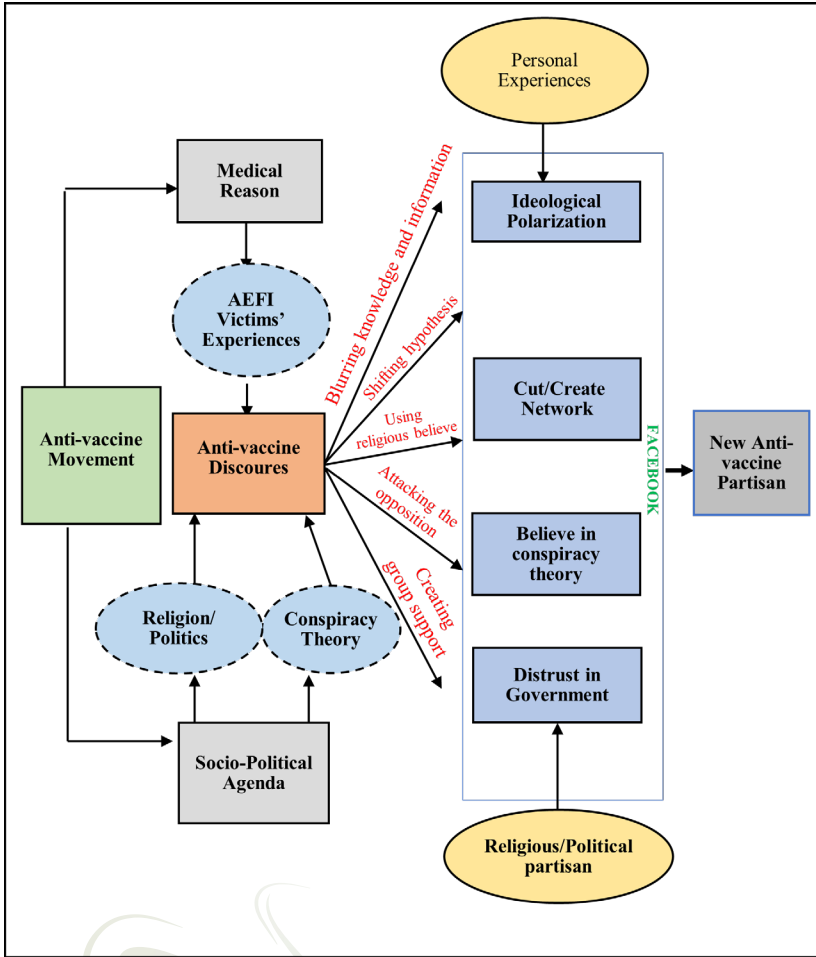
disappointment with something, they will build opinions that are detrimental to a program so that it harms the targets of a policy.

## Result

Based on the results of the content analysis on Facebook, there has been a process of knowledge mobilization by anti-vaccine actors. The actors, the process of knowledge mobilization, and the dynamics of communication patterns that occur on Facebook are presented in Figure 1. There are three main components in the figure. The first component shows the process of interconnecting anti-vaccine discourse from two types of anti-vaccine actors. The second component provides an overview of the methods used by the actors in distributing and conducting counter discourse-against the opposing discourses. The third component describes what happens on the Facebook

page when anti-vaccine activists interact and communicate. The consequences arose during the process of interaction and communication. In the end, all the activities of the anti-vaccine driving actors can influence people's decisions to vaccinate. Someone with a bad experience after getting vaccinated and people who use the issue of vaccines as a means of pressure on the government will quickly be attracted and become sympathizers of this anti-vaccine social movement.





**Figure 1. Mobilization of the Knowledge on Anti-vaccine Movement on Facebook 2018-2019**





### **A. Interconnection of Anti-vaccine Discourse Among the Actors**

Anti-vaccine discourses emerged through a knowledge mobilization process distributed by two groups of anti-vaccine. They are actors who reject vaccines for health or biomedical reasons. The group consists of those who consistently reject all types of vaccines by using arguments from health aspects. They are pure vaccine-repellents because they aim to reject vaccine administration. The characteristic of the actors is “consistent rejection of all types of vaccines on an ongoing basis.” This can be seen from their respective Facebook posts, where very little space is devoted to other topics. The second characteristic is that the arguments and discourses they used are principles that attack vaccines. Vaccines have the primary function of

increasing immunity, but it is precisely this principle that this group attacks. They make use of narratives based on health sciences to support their arguments. They even constantly issued hypotheses explaining that vaccines are dangerous. Medical evidence had been used to support the anti-vaccine idea. The posted by the actors stated that human immunity can be obtained from healthy foods or lifestyles.

Vaccines are defined as inserting viruses into the human body, and not everyone has sufficient strength, so it will result in the danger of adverse events following immunization (AEFI) and other serious diseases. Arguments related to the chemical content of vaccines resulting in blood clots, organ damage, autism, and brain damage were also used by this group. The narrative is a typical argument that is often mentioned.



The actors shared the jargon “fight for safe vaccines.” This is the main claim by literature on scientific controversies regarding the dangers of vaccination.

The results of the interviews show that, in general, the actors were not initially ignorant of the vaccination. They become critics and reject getting the vaccination since there are family members who are claimed to be suffering from AEFI. At first, some of them were the parents who had given vaccines to their children. However, their perspective on vaccines has changed. They did not really care about vaccine-related issues, but then they rejected them. The parents feel that they have followed all the recommended procedures to get their children vaccinated and have chosen a trusted health facility. However, they are then faced with an incident that makes their child or family member sick and even die after getting the

vaccination. They found out that they were the victims of AEFI after they searched for the information on the internet and connected with a anti-vaccine group. They obtained information that their child had the same experience as those described as AEFI. After observing and joining the groups against vaccines, both on Facebook and on WhatsApp, their perspective on vaccines changed. During this process, the anti-vaccine discourse was supported and disseminated through their posts on Facebook.

The second group consists of actors who use the issue of refusing vaccines as their political and ideological agenda. It indicates that the group of actors is not a pure vaccine-repellent. The actors are more heterogeneous and have the most significant number. All actors in the two groups also refuse all types of vaccines. All of them said the same argument as



the previous group. However, the actors differ in one key aspect “Vaccines are not their main concern.” The actors’ narrative does not directly relate to the vaccines. The narrative is often used to accompany or form the basis of an argument against vaccines. If it is compared to the previous group, they are firmly against “conspiracy theory.” However, it is the actors of this group who emphasize the conspiracy theory as a reason for refusing vaccines. Finally, this is performed continuously and consistently.

The incident that encouraged this group to campaign for negative aspects about vaccines was when their ideology was disturbed by the medical and government authorities. The motivation for refusing vaccines comes from information about the illegality of vaccines. The context of halal-haram vaccines is the primary debate and has

the highest quantity of conversation on Facebook posts. Such an issue is a crucial topic, considering that Indonesia is a Muslim country as its majority population. Islamic values have become one of the rules for the Indonesian Muslim behavior.

Another big issue is a trade conspiracy or political conspiracy behind the production and distribution of vaccines. The issue has sparked a debate about vaccines on the Facebook walls of these actors. The topic of the Chinese workers’ arrival in Indonesia in 2019, for instance, then led to the discussions about vaccines on several Facebook walls of this second group. They spread the argument that the vaccine was produced by a Chinese company. The vaccine is injected by the Chinese people into Indonesian children as an effort to make the Indonesian human resources destroyed and weak. The human resources

will not be able to have adequate capacity and competence to compete, so they need foreign workers from China.

The mobilization of conspiracy issues also emerged when the incident of the “Criminalization of ulama” incident resulted from political polarization due to the Indonesian Presidential Election 2019. The issue of vaccines was associated with attempts to destroy Muslims by countries that hate Islam. The content of metals and chemicals in vaccines is a weapon to weaken Islam. The Muslim children’s brains and minds are weakened using the vaccines so that they will be easily controlled by the Islamic opposition countries. The incumbent government, in this case, is often associated with being involved in attempts to destroy Muslims through vaccination programs.

The actors of pure and impure anti-vaccine groups then interact and support each other by following, sharing, and resharing anti-vaccine content. They provide mutual reinforcement in terms of conveying arguments on vaccine rejection in the comments section and creating anti-vaccine groups on Facebook and even on WhatsApp groups. The anti-vaccine discourse is strongly disseminated by them. It is also obvious that they are not only producing and spreading anti-vaccine discourse, but they are also fighting against pro-vaccine arguments and discourses.

## **B. Method of Anti-vaccine Discourse Mobilization**

The second component of Figure 1 shows the methods used to disseminate the anti-vaccine discourse and fight pro-vaccine discourse. There are at least five recorded methods used



in this study. The first method used by the anti-vaccine actors is by describing an attempt to “Obscure information and knowledge.” In general, the anti-vaccine actors try to obscure information through posting and distributing videos or posters. They reject and denigrate information and knowledge that does not support the anti-vaccine position. Arguments are drawn from studies promoting an anti-vaccine agenda. The information they share often contains untrusted and unproven information. Popular stories of vaccine failure are shared along with misinformation by medical and government assumptions. The second method used by the anti-vaccines is that they also make “Experience-based hypotheses.” The presence of several types of diseases and improper human behaviors are considered the result of vaccination. Many children today,

for instance, are disobedient to their parents, indicating that it is the result of chemicals that have been put into their bodies when they were children and produced hormonal imbalances. The hormones then made the children disobedient to their parents. Another example is that the presence of chronic diseases in the human body is assumed to be the effect of vaccines. The arguments from foreigners’ anti-vaccine posts abroad are widely used as references to strengthen this narrative.

Also, “Religious-based arguments” is the most prominent argumentation framework that emerges. The anti-vaccine actors declared the dangers of vaccines since it has been against religious values. The issue of halal vaccines is the most frequent discussion on the Facebook page. They also criticized medical practitioners for abandoning the religious aspect of making



or administering vaccines. In the end, they performed treatments and disease prevention using methods that are believed to be suitable with religious beliefs as an alternative to administering the vaccines.

Meanwhile, in disseminating narratives and arguments, the anti-vaccine group often “holds open debates” through captions or comments on their social media posts. Besides, the strategy of blocking vaccine supporters” accounts and attacking individuals who oppose their arguments are also performed. To strengthen the support and networking, the group “forms other groups” both on Facebook and WhatsApp. They intensively strengthen each other’s support and participate in discussions about health and religion.

### **C. The process of Interaction and Dynamic of Anti-vaccine Discourse**

The presence of photos, videos, posters, and captions about anti-vaccine depicts the dynamics of communication patterns and discourse on the Facebook accounts of the anti-vaccine actors. The actors, both from groups that use medical arguments (most of them have personal experience related to AEFI) and religious belief as well as political arguments (some of them have political agendas outside of vaccines), actively participate in anti-vaccine discussions on Facebook. Based on observations and interviews, at least four interaction processes can be identified.

#### **1. Ideological polarization in society**

One of the consequences of the pro-vaccine and anti-vaccine debate is ideological polarization



among Facebook users. Anti-vaccine groups are actively creating anti-vaccine discourse on Facebook, and aggressively pushing information without facts and credible sources. They tend to actively deliver personal opinions to the fact that is sometimes biased by personal interests. They aggressively try to influence opinions, thoughts, and decisions on vaccine administration decisions without providing factual information. They even tend to be fanatical about their opinions and do not try to validate their beliefs and thus, making them have closed thoughts. This creates a pretty strong polarization between the anti-vaccine and pro-vaccine actors.

## **2. Cut and create network**

The decision to reject vaccination and actively participate in anti-vaccine campaigns has brought an effect

on the personal relationships of supporters. The argument against this vaccine is proven to be able to break the relationship of people who previously have been nurtured. However, they could create new relationships with like-minded people even though they have never met. The anti-vaccine activists on Facebook also consciously add and/or delete friends on social media. This is very relevant to how a social movement is formed. The similarity of opinions in discourse can lead to similarities in viewpoints and attitudes, so this may become a process of increasing members of a social movement.

## **3. Information Bias**

The anti-vaccine actors tend to promote their favorite narratives, and this is often performed without information from reliable sources. When the information matches their ideology and



beliefs, they like, promote, or share it on their Facebook page. This will automatically add an echo chamber and an anti-vaccine bubble filter. When anti-vaccine actors become part of the echo chamber, they will repeatedly receive information that will influence their personal judgment. Meanwhile, the pro-vaccine actors will turn away from the narratives and arguments since they take it as something unpleasant, so they finally reject the information. It confirms that whether a social media user accepts a fact or not is greatly influenced by their previous ideological preferences, thus carrying out a confirmation process to prove the truth.

#### **4. Distrust in Government**

The findings of this study confirm that many arguments and narratives from the anti-vaccine actors using conspiracy theories that attack the medical

world and the government have proven to be able to generate cynicism against the government. The discourse promoting anti-government conspiracy theory has the potential to generate long-term cynicism against the government. Therefore, the actors disseminate the information on Facebook, and thus, the impact on government distrust increases rapidly.

Using the communication pattern that occurs on Facebook, the actors of the anti-vaccine movement often manage to get new partisans in the end. The new partisans are generally “the vaccine doubters,” those who are questioning and unsure about vaccines. They possess the same characteristics as the anti-vaccine actors (i.e., those who have had bad experiences with vaccines and people who have certain socio-political agendas.





#### D. Discussion

The anti-vaccine movement mentioned in this study referred to the social movement with the same characteristics as one of the Health Social Movement types called the Embodied Health Social Science (Brown & Zavestoski, 2004), a movement formed by people who have illness or disability who believe in the “truth” according to the state they feel. However, the anti-vaccine movement is not merely moving for personal reasons related to the experience of illness and disability that led to the decision to reject the vaccination. This study found that there are ideological aspects with the socio-political background of the individual that also influence it. The discourse to reject vaccination using arguments against medical knowledge and ideology is obviously seen here. As these two arguments exist, Indonesia’s

anti-vaccine movement has developed and networked and is continuously reproduced, so the anti-vaccine movement has never disappeared but has been getting solid and intense in Indonesia.

The anti-vaccine movements in social media have different methods and characteristics from social movements in non-digital areas (Bromberg, 2013; Hill et al., 2018; Jansen, 2010; Juris, 2005; Mavragani & Ochoa, 2018; Turner, 2013). In line with Orsini (Orsini & Smith, 2010), the role of knowledge is very dominant in the activities of the anti-vaccine movement on Facebook to spread its interests in the digital world. Instead of relying on street protest movements, the anti-vaccine movement organizations are required to win in discourse debates in the digital world. The main goal is to attract new members as well as to spread its interests. To win the debate in the discourse

battle in cyberspace, the anti-vaccine movement organizations utilize knowledge. They explore how social movements in the digital world use knowledge as a means of discourse battle. Knowledge and expertise are fiercely contested by the actors of the anti-vaccine movement, the government, and medical practitioners. Even when the anti-vaccine movement activists clash with the government, they try to “disrupt” the scientific definition of the knowledge mainstream for their own goal.

Public knowledge about vaccination outside the dominant government and medical discourse managed by the anti-vaccine movement actors has proven to be able to move many Facebook users to reject vaccination. In the end, the anti-vaccine movement is identified as an action against the administration of vaccines either individually or in groups.

The group is then suspected to be one of the important reasons for the increase in vaccine rejections in recent years (Lutkenhaus et al., 2019; Meyer et al., 2019; Paterson et al., 2016; Schmidt et al., 2018; Yusmawati, 2018). Using such a strategy, the anti-vaccine movement on Facebook has become a strong factor that plays a key role in sparking controversy and can raise doubts about vaccines.

The presence of religious and political discourse that exists from arguments outside of the vaccine issue in the anti-vaccine movement campaign on Facebook shows that the agenda of the anti-vaccine movement is not something pure. There has been a unification of anti-vaccine issues with struggle issues in other socio-political contexts. There are even actors who focus on the struggle in other areas but use the issue of vaccines as their tool. It was found



that political factors influenced the discourse carried by the anti-vaccine actors. The discourse on distrust of the government went hand in hand with the religious discourse. The emergence of this issue can be assumed due to the situation ahead of the 2019 Presidential Election.

The discourse on the same bad experiences of patients was politicized by actors of the anti-vaccine movement to produce a collective identity. At the end, when this collective identity conflicts with a dominant discourse, there is resistance. These impure anti-vaccine actors were aware that once a politicized collective identity is formed, the identity of collective disease complaints must be linked with broader social and political criticism (e.g., issues of structural justice, political

interests, and racial inequality and equitable development as triggers for the emergence of the disease).

The most influential medium for disseminating the anti-vaccination movement for parents' beliefs about immunization is the internet. Internet users search for information online to get information about immunizations or vaccinations of government programs. They also search for pages on the internet that discuss vaccines. Facebook is the most widely used platform for discussions about this issue. However, the availability of inaccurate information on Facebook has provided misinformation, and one of the researchers name the internet as the 'modern Pandora box' (Mayer & Till, 2019). Meanwhile, the arguments put forward by the anti-vaccination actors' posts provide arguments used to



support the vaccine rejection. The general arguments are focused on: (1) the safety and efficacy of vaccines (i.e., contain poison, cause disease of unknown factors, cause reduced brain function); (2) The focus is more about alternative medicine - the promotion of other treatments that are better than a vaccination and the 'natural' approach; (3) freedom of religious belief; (4) conspiracy theory; (5) morality and religion - vaccination is against the God's will.

It highlights that the narrative disseminated by the anti-vaccine movement is false news or a hoax. The existing research on the effects of false news or hoax generally focuses on political issues, such as presidential elections (Allcott & Gentzkow, 2017; Bovet & Makse, 2019; Isaac, 2016; Schackmuth, 2018; Shirsat, 2018), several issues related to industrial products and services. False news or

hoaxes often contain conspiracy theories to strengthen their arguments against government attackers. The findings of this study examining the effects of exposure to government conspiracy theory videos shared by anti-vaccine groups were proven to incite cynicism against the government. The belief in the government conspiracy was then followed by distrust in the government. This suggests that the messages of media promoting government conspiracy theories have the potential to generate long-term cynicism against the government. Therefore, if the posts disseminated through social media have an impact on government distrust, they will then increase rapidly.

## Conclusion

The anti-vaccine movement is a movement that opposes government policies, especially those related to vaccine



administration to the community. It has a position as actor representing civil society in the health sector who disagree with the government policies and the dominant medical knowledge related to administering vaccines to the community. To achieve their goal, the anti-vaccine movement attempts to compete between discourse and knowledge amidst the dominant discourse brought by the government. The government uses medical science as the basis for the issuance of its policies.

In this case, the knowledge and expertise created by the anti-vaccine movement are used to be disseminated through the digital world to influence public policy. Social movements have proven to be one of the pillars that are considered in the public policy process while running their agency by mobilizing and disseminating knowledge. Like other social movements

in the health sector, the anti-vaccine movement produces discourse from the sources of knowledge and research outside biomedicine and disseminates it through various ways, including online campaigns. The discourse presenting that vaccines are the product of the world drug companies' conspiracy that may cause autism, even against one religion, has become the basic knowledge disseminated by this movement.

In the context of health policy, health service providers need to understand the climate of "social trust." Trust is sometimes not distributed fairly and, sometimes, is controlled by certain social groups as the controller of an irresponsible social group. Conversely, suppose certain social groups are disappointed with something. In that case, they will deliver an opinion that is detrimental to a program, and thus, it will have bad



effects on the target of the policy. Healthcare providers are required to understand what trust, distrust, and antitrust are for related health issues.

This study has a limitation, such as only examining an anti-vaccine movement through the discourse that circulated through the media (i.e., Facebook). Meanwhile, there are many media used by the anti-vaccine actors as a medium

of counterwork. Further study should aim to broaden its scope on the propaganda tools used by an anti-vaccine movement, especially in the digital world, to obtain a more comprehensive and varied depiction of the phenomenon of the anti-vaccine movement on social media.



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