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COVID-19 Vaccination Policy: The United States and China

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Abstract
This study examines Covid-19 vaccination policies in the United States and China. The method used in this research is qualitative research with a literature study approach. This research sends research map information using export data to RIS Export file format, which is then processed using VOSviewers to determine the big data that will be analyzed to obtain comparative data results of this research with previous research. In the second discussion, the author processed the data using Nvivo 12 to explore and describe the COVID-19 vaccination Policy in the United States and China to explain the data efficiently. This study found that the United States and China showed a strong government response to control the spread of COVID-19. The findings suggest that countries with effective vaccination policies tend to be more successful in curbing the spread of COVID-19 than countries without vaccination programs. Governments in both countries have implemented various policies to break the chain of transmission of COVID-19, such as lockdowns, social distancing, quarantine, and vaccination policies. The vaccination policy in the United States and China is successful because the vaccination presence in the two countries is fairly high, with the United States reaching 73.65% while China reaching 87.24%.

Keywords: Policy, vaccination, Covid-19, United States, China

Abstrak
Penelitian ini bertujuan untuk melihat kebijakan vaksinasi Covid-19 di Amerika Serikat dan China. Metode yang digunakan dalam penelitian ini adalah penelitian kualitatif dengan pendekatan studi pustaka. Penelitian ini melakukan pengiriman informasi peta penelitian dengan menggunakan data ekspor ke RIS Format file ekspor, yang kemudian diolah menggunakan VOSviewers untuk menentukan data besar yang akan dianalisis untuk memperoleh hasil data perbandingan penelitian ini dengan penelitian terdahulu. Pada pembahasan kedua, penulis mengolah data menggunakan Nvivo 12 untuk mengeksplorasi dan mendeskripsikan Kebijakan Vaksinasi Covid-19 di Amerika Serikat dan China untuk menjelaskan data secara efisien. Hasil Penelitian ini menemukan bahwa Amerika Serikat dan China menunjukkan respons pemerintah yang kuat untuk mengendalikan penyebaran COVID-19. Temuan ini menunjukkan bahwa negara dengan kebijakan vaksinasi yang efektif cenderung lebih berhasil dalam membatasi penyebaran COVID-19 dibandingkan negara yang tidak memiliki program vaksinasi. Pemerintah di kedua negara telah menerapkan berbagai kebijakan untuk memutus rantai penularan COVID-19, seperti kebijakan lockdown, social distancing, karantina, dan vaksinasi. Kebijakan Vaksinasi yang ada di Amerika Serikat dan China sudah bisa dikatakan berhasil karena dengan melihat presentasi Vaksinasi di dua negara tersebut yang terbilang tinggi yaitu Amerika serikat mencapai 73,65% sedangkan China mencapai 87,24%.

Kata Kunci: Kebijakan, Vaksinasi, Covid-19, Amerika Serikat, China.

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INTRODUCTION

At the beginning of 2020, the world was shocked by various news reports containing information about the COVID-19 pandemic, also known as the coronavirus (Schmelz & Bowles, 2021). Initially, the virus was discovered by a patient infected with COVID-19 in Wuhan, Hubei Province, China, on December 8, 2019 (Nawaz Ali et al., 2021). Since then, it has spread to most countries worldwide (Goel & Nelson, 2021). Then, it spreads, destroys the joints, and threatens the world economy (Tatapudi et al., 2021). The COVID-19 data dated August 26 released from Worldometers data shows that there are 214,669,534 people identified as positive for COVID-19 from 216 countries in the world and 4,474,991 of them have died, and 192,015,401 have recovered. When Covid-19 emerged at the end of 2019 and began to spread in China at the end of January 2020, then spread throughout the world throughout February until now (Maltezou et al., 2022). Covid-19 is a disease caused by a new Coronavirus, namely SARS-CoV-2 (Coronavirus Disease (Covid-19), Corona Virus is a zoonosis, so there is a possibility that this virus originated from animals and is eventually transmitted to humans (Druedahl et al., 2021). The most common symptoms of COVID-19 victims are fever, dry cough, and easy fatigue. Transmission generally occurs through droplets and direct contact with the virus (Carson et al., 2021).

The global Covid-19 pandemic has created new problems for nation-states, especially regarding how countries can prevent and stop the spread of this virus from becoming more widespread (H. Wang et al., 2021). The virus has spread to almost all countries, including the United States. The United States is one of the countries that has the best response to Covid-19. The United States first confirmed a case of Covid-19 on January 20, 2020. To limit the spread of the SARS-CoV-2 virus, the US government implemented policies limiting mobility between countries (Chung & Chan, 2021). The first Covid-19 case in China was detected on December 31, 2019, and the number of positive patients reached 66,550. The Covid-19 virus pandemic has raised new challenges for nation-states to overcome. In particular, it is about how the state responds and seeks to prevent and stop the spread of the virus much more widely. So, it needs to be handled according to the right government policy. If the policy is not right, it will cause new problems because there is no uncertainty about when this virus will end (Q. Wang et al., 2022).

Public policy is a government activity that solves societal problems directly or through institutions that affect society. First, policies are made by the government for people's lives. Second, there is policy output in the form of programs for the community. And third, there is a policy impact on people's lives (Hung, 2022). Public policy is a government action in the form of government programs to achieve goals or objectives (Vidyarthi & Hyaat Khan, 2022). Implementation is actions taken by individuals, government officials or private groups to achieve the objectives outlined in policy decisions (RG, 2018). Policy implementation is understanding what happens after formulating a program. These events arise after the

enactment of policy guidelines, which include efforts to bring about real impacts or consequences on society or events (Ngoy et al., 2022).

Since the beginning of the pandemic, virus transmission and deaths have been reduced through a range of measures: individual precautions, including social distancing, wearing masks, hand hygiene, and limiting outdoor interpersonal contact; widespread testing to identify individuals infected with the virus; and non-pharmaceutical policy responses from governments, including school and workplace closures, bans on public gatherings, travel restrictions, and stay-at-home orders. With the successful development, evaluation and production of several vaccines, governments are turning to vaccination as an important solution to the pandemic (Kusejko et al., 2022). During the Covid-19 pandemic, the United States Government and the Chinese Government continued to work to deal with the spread of Covid-19. One of the efforts made by the governments of the United States and China in countering Covid-19 is by carrying out mass vaccinations. Vaccination is a process in the body where a person becomes immune or protected from a disease so that if one day he is exposed to the disease, he will not get sick or only experience mild pain, usually by administering a vaccine (Yan et al., 2021). Vaccination not only aims to break the chain of disease transmission and stop outbreaks but also, in the long term, to eliminate and even eradicate the disease itself (Sung et al., 2021). Vaccines are expected to train the body to recognize, fight and be immune to the cause of the disease, virus or bacteria. Vaccines are not a cure, but vaccines can urge the development of immunity specific to COVID-19 disease in order to be free from this virus (Liu et al., 2021).

Several previous studies have examined the COVID-19 vaccination policy, including research conducted by (Afolabi & Ilesanmi, 2021) which discusses Addressing COVID-19 vaccine hesitancy: Lessons from the role of community participation in previous vaccination programs. To encourage acceptance of the COVID-19 vaccine, it is necessary to map assets, resources, civil society organizations, and community stakeholders to gain insight into the culture and values of the community related to the COVID-19 vaccine. This will help address misunderstandings while encouraging COVID-19 vaccination socialization activities relevant to each community. Policymakers should understand that implementing a comprehensive grassroots approach will give communities a voice and help leverage community-initiated and community-driven ideas to drive COVID-19 vaccine acceptance. Then, Research from (Rafliansah Aziz et al., 2021) discusses COVID-19 Vaccinations and the Right to Health in Indonesia: Social Justice Analysis. This study shows that some aspects of vaccination fall under distributive justice and the welfare state. However, the independent vaccination policy does not refer to distributive justice and the welfare state, causing injustice, discrimination, and economic inequality because it only gives access to vaccines to certain privileged citizens.

Furthermore, research from (Knezevic et al., 2022) discusses the WHO International Standard for evaluating the antibody response to COVID-19 vaccines: a call for urgent action by the scientific community. Highlight the importance of WHO International Standards in evaluating antibody responses to COVID-19 vaccines. The results show that these standards play a crucial role in ensuring harmonization of antibody testing at the global level, allowing for more consistent comparisons of results between laboratories and countries. In addition, the scientific community's rapid adoption of these standards supports the development of evidence-based policies, improves understanding of the correlates of protection, and accelerates responses to pandemics. Finally, research from (F.K. Cheng, 2022) which discusses the Debate on mandatory COVID-19 vaccination. The results revealed that although the compulsory vaccination policy can increase immunization coverage, the policy also has the potential to create resistance among the public, especially individuals who are sceptical of the government and health authorities. The results show that the main factors for resistance to compulsory vaccination include concerns about side effects, violation of individual rights, and low levels of trust in the information provided by the government. In addition, coercive policies risk reducing public compliance with health programs. Therefore, approaches based on education, transparency, and incentives are considered more effective in increasing voluntary vaccination acceptance.

Based on previous research, this paper has a similar theme in examining the COVID-19 vaccination policy, especially to restore the world to its pre-pandemic condition. Various countries, including China and the United States, have implemented vaccination programs to control the spread of the virus. This paper compares the extent of the implementation of the COVID-19 pandemic vaccination policy in the two countries. As countries that are both affected by the pandemic, the United States and China implement vaccination strategies with different approaches. The United States prioritizes individual freedom in choosing vaccination, with various incentives and educational campaigns, while China applies a more centralized approach with stricter policies to ensure broad vaccination coverage. In addition, adopting international standards in evaluating immune responses to vaccines is an important step in ensuring the effectiveness and uniformity of vaccination policies globally. Policies are the first cornerstone that must be put in place to address these issues successfully. Decision-making on anticipatory policies related to efforts to prevent the spread of COVID-19, manage infected patients, protect health workers, and control public attention must be carefully considered. Researchers chose China and the United States because China was the first country affected by COVID-19, and vaccination was first carried out in China. At the same time, the United States is the country with the highest vaccination rates.

METHOD

This research uses a qualitative method with a literature review approach by focusing on bibliometric studies. The bibliometric study is an approach to highlighting critical insights

generated from scientific literature supplied annually by researchers from various countries worldwide (Martinho, 2021). This approach involves using bibliographic data, such as citations, number of publications, and journals published, to identify trends, patterns, and structures in academic knowledge production (Akram et al., 2022; Xiao & Li, 2021). Bibliometric studies aim to develop and map a survey (Setyaningsih et al., 2016).

The data in this study consists of articles published between 2020 and 2021 in journals published in the Scopus database. The consideration of using the Scopus Database as a data source is because it is one of the two most important databases and has high-quality articles published in journals. Figure 1 presents the criteria and filters we used in data collection and analysis techniques. As for the data limitation process of this research, the authors used the following formula to produce 603 articles from 1,470 scientific articles with the keywords “Vaccination Policy” and “Covid-19” Data reduction formula searched by Scopus database: (TITLE-ABS-KEY (Vaccination Policy) AND TITLE-ABS-KEY (Covid-19)) AND PUBYEAR > 2020 AND PUBYEAR < 2021 AND (LIMIT-TO (LANGUAGE, “English”)) AND (LIMIT-TO (SRCTYPE, “j”) AND (LIMIT-TO (PUBSTAGE, ‘final’) AND (LIMIT-TO (DOCTYPE, ‘ar’)) AND (LIMIT-TO (EXACTKEYWORD, ‘COVID-19’) OR LIMIT-TO (EXACTKEYWORD, ‘Vaccination’)). Some data was analyzed descriptively based on the year of publication, publishing institution, country of publication, journal/publication name, document type, and research topic.

This research sends research map information using export data to the RIS Export file format, which is then processed using VOSviewers to determine the big data that will be analyzed to obtain data results for comparison with previous research. In the second discussion, the author processed the data using Nvivo 12 Plus to explore and describe the COVID-19 vaccination Policy in the United States and China to explain the data efficiently.

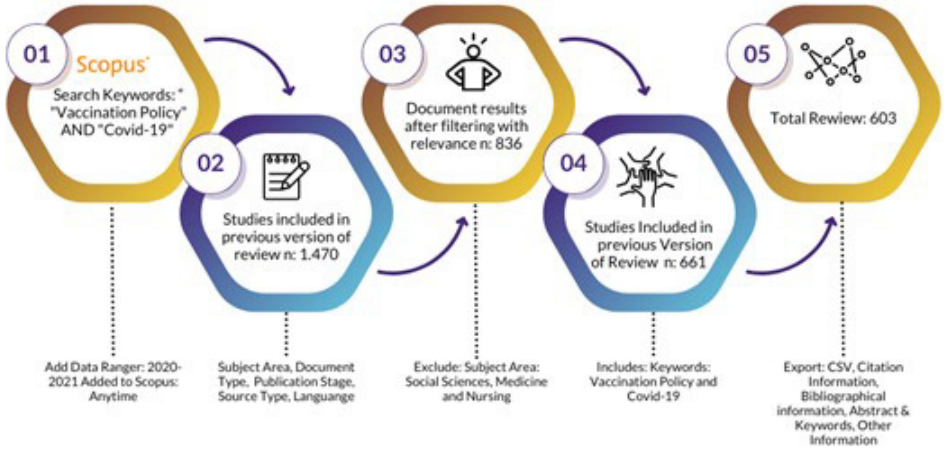

Figure 1. The PRISMA flow diagram identifies, screens, and includes papers for our bibliometric review.
Source Fig: Processed by Author 2022

Based on Figure 1, the authors used the VOSviewer tool widely used in bibliometric analysis. This method has been widely adopted in research to map the development of a field of study visually. This study uses the technique to analyze the portrait of the development of Vaccination Policy studies (Past, Present, and Future Research). The VOSviewer tool, with the Visualization of Data and Network Visualization approaches, visualizes the development of Vaccination Policy studies by country. In addition, for more in-depth analysis, this research also uses the NVivo 12 Plus tool, which functions in text-based qualitative analysis to identify patterns, themes, and relationships in Vaccination Policy studies.

RESULTS AND DISCUSSION

The coronavirus (COVID-19) outbreak is a disease that affects most countries worldwide. Governments around the world are faced with difficult decisions regarding health security policies in their respective countries. How the public responds to the appeal to prevent the spread of Covid-19 is as relevant as the government. Therefore, in a pandemic, the government plays a vital role in adapting quickly and managing appropriate policies to prevent the pandemic from spreading rapidly. However, the magnitude of these impacts varied widely between countries, some of which successfully limited the spread of disease and prevented deaths. There are many reasons why some countries may be more severely affected than others. Differences in government policy responses can control the COVID-19 virus outbreak. To deal with Covid-19, several countries have implemented a strategy to provide vaccines. This vaccine is an effort to help the United States and Chinese governments deal with COVID-19. This COVID-19 vaccination activity, besides increasing the community's immunity/ antibodies, also aims to reduce the transmission rate of COVID-19. With the implementation of the Covid-19 vaccination policy, we can slowly reduce the number of Covid-19 transmissions. This is where the government swiftly pays attention to the safety of its people by making regulations/policies on COVID-19 vaccination. Seen from the picture below:

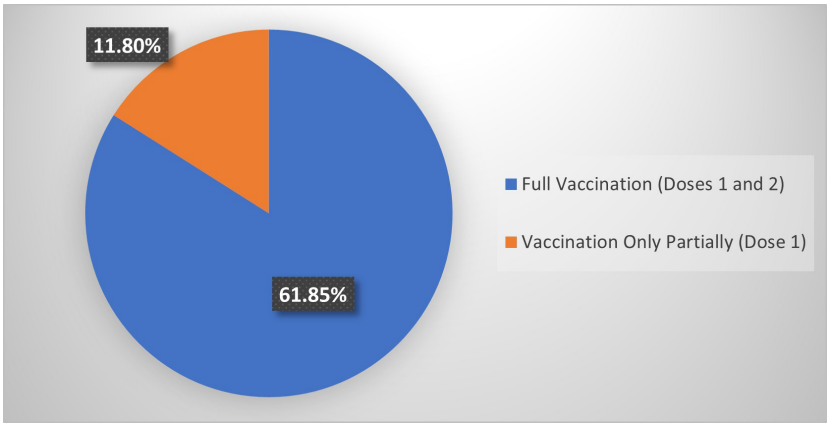

Figure 2. Corona Virus (Covid-19) Vaccination Data in the United States
Source Figure: Processed by Author 2022

Figure 2 above shows that COVID-19 vaccination coverage in the United States is close to the target. This can be seen from the percentage of total vaccinations reaching 73.65%, with 61.85% of citizens receiving the full vaccination (two doses), while the other 11.80% have only received the first dose. This data shows that almost all citizens who have received the first dose have also completed vaccination with the second dose. With this achievement, the United States is among the countries with the highest vaccination rates worldwide.

The United States government applies different policies for people vaccinated and those who have not. For example, only vaccinated citizens can enter eating places such as cafes, restaurants, and food courts. This policy encourages people not vaccinated to receive the vaccine immediately to access public facilities more freely. In addition, the United States also applies strict regulations for international travelers. Every individual flying to the United States from another country must undergo a COVID-19 test before boarding the plane and be quarantined upon arrival in the country. The government also requires all US residents aged two years or older to show a negative COVID-19 test result taken three days before departure as a condition of travel. This policy aims to reduce the spread of the virus and ensure public health safety.

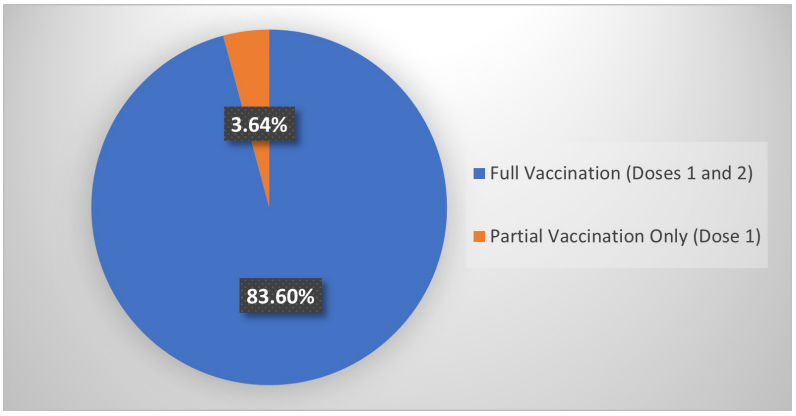

Figure 3. Corona Virus (Covid-19) Vaccination Data in China
Source Figure: Processed by Author 2022

Figure 3 shows that overall, COVID-19 vaccination in China has achieved very high coverage, with 87.24% vaccinated. Of these, 83.60% have received the full dose, while 3.64% have only received the first dose. This data shows that almost all citizens who received the first dose have also completed the second vaccination dose. With this achievement, China is one of the countries with the largest vaccination coverage in the world. The Chinese government also continues implementing additional preventive measures, such as using masks in public places, social distancing policies, and body temperature measurements in various public facilities to ensure effective pandemic control.

The success of China's vaccination program is supported by a centralized and systematic approach, where the government manages the entire process of vaccine distribution and administration. Unlike countries that give individuals freedom in vaccination, China uses a "top-down" model, where the government actively organizes and encourages people to vaccinate. In addition, the Zero COVID Policy implemented until the end of 2022, including strict lockdowns and aggressive contact tracing, has accelerated vaccination as part of the pandemic control strategy. Vaccinated communities also have more freedom in mobility and access to public places, so more people are encouraged to receive the vaccine.

Although vaccination coverage in China is very high, some challenges remain. One is the lower efficacy of domestic vaccines such as Sinovac and Sinopharm than mRNA vaccines such as Pfizer and Moderna, so the government encourages booster doses to increase protection against new variants. In addition, the vaccination rate of older people was initially lower than other age groups, prompting the government to take a persuasive approach to increase vaccination coverage among older people. The policy change from zero COVID-19 to easing restrictions by the end of 2022 also led to a surge in cases in the short term, posing new challenges in pandemic management. However, overall, the centralized and controlled approach implemented by the Chinese government has allowed the country to achieve high vaccination coverage, making it one of the successful examples of COVID-19 vaccination management.

Table 1. The handling of Covid-19 by the United States and China

Type of Treatment	United States	China
First Case Confirmed	January 20, 2020	December 31, 2019
Total Cases	68.557.114 (20-01-2022)	105.411(20-01-22)
Number of New Cases	851.784 Cases (20-01-22)	66 Cases (20-01-2022)
Mortality rate	857.644	4.636
Methods	Vaccination	Vaccination

Table 1 shows that China became the first country to confirm COVID-19 cases on December 31, 2019, earlier than the United States, which reported its first case on January 20, 2020. However, the number of cases in China is much lower than in the United States. As of January 20, 2022, the total number of cases in China only reached 105,411, while in the United States, it reached 68,557,114. This difference shows that although the outbreak first appeared in China, its spread is more controlled than in the United States.

Significant differences were also seen in the number of new cases and deaths. On January 20, 2022, the United States reported 851,784 new cases in one day, while China only reported 66 new cases. The death rate from COVID-19 in the United States is also very

high, reaching 857,644, while in China, it is only 4,636. This difference reflects the effectiveness of health policies in each country. China's Zero COVID Policy approach, which includes strict lockdowns, aggressive contact tracing, mandatory quarantine, and strict travel restrictions, has drastically reduced the number of cases. Meanwhile, the United States has a more flexible policy that relies on vaccination as the main strategy, without as strict social restrictions as in China.

Both China and the United States use vaccination as the main method of dealing with the pandemic. However, the effectiveness of vaccination policies in the two countries is different. China uses a centralized approach with government-controlled vaccine distribution, making vaccination mandatory for most of the population. In contrast, in the United States, vaccination policies are more voluntary, with compliance rates varying more across regions. In addition, the rate of resistance to vaccination among the American public is also higher than in China. This results in uneven vaccination coverage and continues the surge of cases.

1. Publication of Articles

The development of research related to the Covid-19 vaccination policy, which has been going on for approximately the last 2 years, has received a lot of attention among researchers, as can be seen from the percentage in the Scopus database. The image below shows data on the increase in Covid-19 vaccination policy research publications.

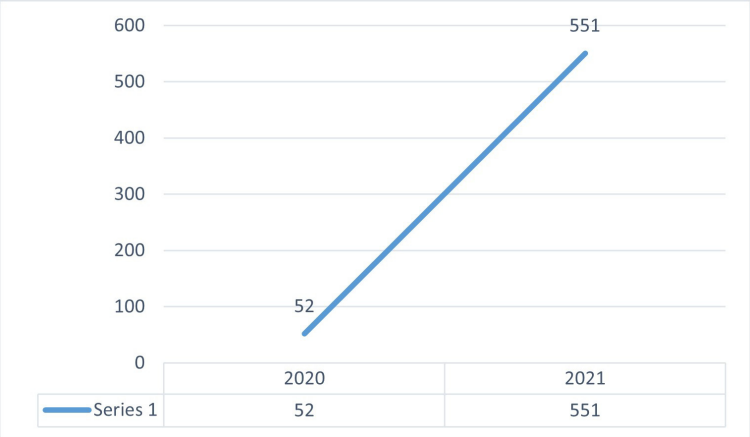

Figure 4. Document By Year

Based on Figure 4, this study obtained publication data on COVID-19 vaccination policies from 2020 to 2021, with 603 documents collected. In 2020, the number of publications was still relatively low at 52 papers, as the pandemic had just started, and the main research attention was focused on virus characteristics, initial control methods, and vaccine development. However, in 2021, publications increased dramatically to 551 documents,

reflecting increased scientific attention to vaccination policies. This surge can be attributed to the start of global mass vaccination programs, new COVID-19 variants that affect vaccine effectiveness, and various government policies to increase vaccination coverage, such as incentives, vaccine mandates, and mobility restrictions for unvaccinated individuals. This significant increase in the number of publications shows that COVID-19 vaccination policies have become one of the key issues in global research, reflecting these policies' complexity and wide-ranging impact on public health, economics, and social stability. Research in this area is expected to grow, especially in assessing the long-term effectiveness of vaccination and policy responses to future pandemic challenges.

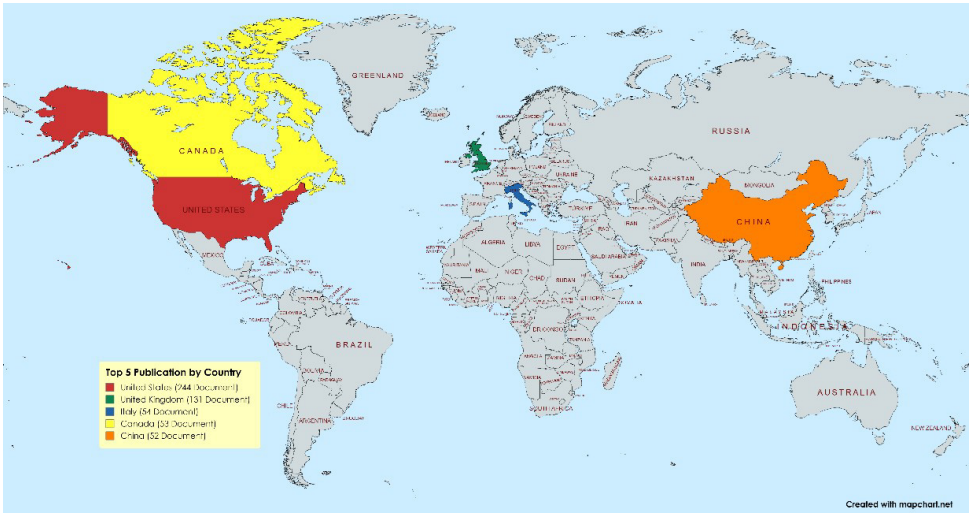

Figure 5. Top Countries Contributing to Covid-19 Vaccination Policy from 2020 to 2021

Figure 5 shows the publication trend based on the global geographical distribution with the research period from 2020 to 2021. Research contributions relevant to the keywords "Vaccination and Policy" and "Covid-19" are dominated by 5 central countries: the United States, United Kingdom, Italy, Canada, and China. The United States led the way with 244 documents, followed by the United Kingdom with 131 papers, demonstrating both countries' commitment to vaccination policy development. Italy, Canada, and China contributed substantially with 54, 53, and 52 documents, respectively. This trend reflects the concerted efforts of countries with intense research and development capacity to respond to the global health crisis caused by the Covid-19 pandemic.

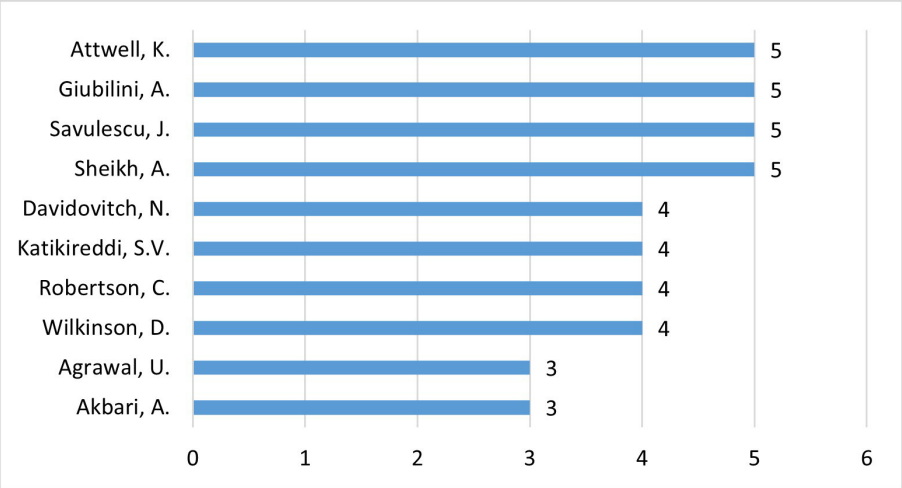

Figure 6: Authors who contributed the most to the Covid-19 Vaccination Policy from 2020 to 2021

Figure 6 shows that the authors with high contributions are Attwell, K., Giubilini, A., Savulescu, J., and Sheikh, A., each contributing 5 documents. This shows that these four authors have a sustained interest and high productivity in the COVID-19 vaccination policy. Furthermore, Davidovitch, N., Katikireddi, S.V., Robertson, C., and Wilkinson, D. each contributed 4 documents demonstrating their significant role in vaccination policy-related research and publications during the study period. Meanwhile, Agrawal, U., and Akbari, A. contributed 3 papers each, showing consistent contributions in the literature on COVID-19 vaccination policies, albeit in slightly lower numbers than the lead authors. These authors have significantly contributed to developing and publishing comprehensive and evidence-based vaccination policies, supporting global efforts to address the COVID-19 pandemic.

2. Visualization of the Covid-19 Vaccination Policy

Covid-19 is a disease that attacks the respiratory system and has recently spread to various countries worldwide. The disease affects health and can also increase deaths from Covid-19. The risk of death from the disease caused by the SARS-Cov2 virus is known to improve if other comorbidities accompany it. This virus attacks the respiratory system and can cause death (Paul et al., 2022). The symptoms experienced when contracting the coronavirus are usually mild and appear gradually. Some people become infected but have only mild symptoms (Denu et al., 2022).

With the Covid-19 pandemic, the Government has set a policy to limit all social activities to reduce the possibility of transmitting Covid-19 to the community. The Government has also established a COVID-19 prevention health protocol with 3M, namely wearing masks, washing hands with soap or hand sanitizer, and maintaining a safe social distance of at

least 1 meter. Another policy implemented by the Government to reduce the spike in COVID-19 cases is to provide COVID-19 vaccines to all citizens. The vaccine aims to bring up a person's immune response to the SARS-Cov-2 virus attack so that the body can fight infection with the Covid-19 virus. Of course, the immune system against Covid-19 after being vaccinated cannot be formed instantly. The 3M health protocol launched by the Government must still be implemented to provide maximum protection against COVID-19 attacks.

The COVID-19 vaccination is carried out after certainty of safety and efficacy, is an effort to reduce morbidity and mortality, and encourages the formation of herd immunity. In addition, the COVID-19 vaccination aims to protect and strengthen the health system, maintain productivity, and reduce the social and economic impact on the community. This Vaccination is one of the Government's efforts to break the chain of the spread of the coronavirus, which is expected to restore social and economic stability slowly. Using the COVID-19 vaccine would significantly reduce the current disparity and overall disease burden due to COVID-19. The vaccination program and the success of handling Covid-19 will depend on the community's will. A high vaccination rate protects both vaccinated and unvaccinated, creates herd immunity, and reduces the risk of viral mutation.

In this study related to the COVID-19 vaccination policy, the following is a visualization of the mapping results in Figure 1 above, which for the network between publication topics or articles is 603. The mapping visualization is obtained from the Scopus database using bibliometrics, overlays, and density in Vosviewers. A bibliometric network of vertices and edges shows a solid or bound relationship represented by distance. The closer the distance between the nodes, the more significant the correlation between the nodes. Topics related to the COVID-19 vaccination policy are indeed interrelated; this is because, during the COVID-19 pandemic, the Government made a vaccination policy to overcome the transmission of COVID-19. Visualization of the Covid-19 vaccination policy mapping can be seen from Vosviewers who have been analyzed as in Figure 4 below:

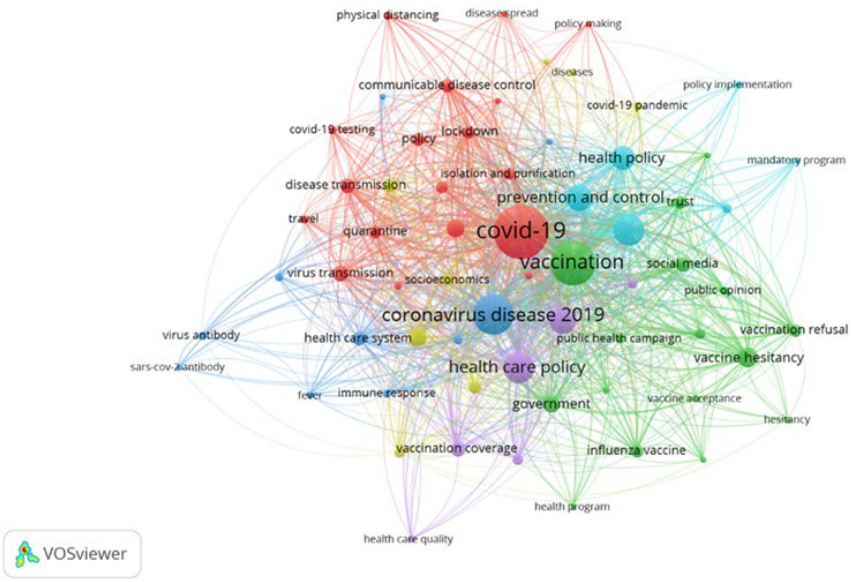

Figure 7. Network Visualization

Through the keywords vaccination policy and COVID-19, the keywords connected zone are the keywords, namely covid-19, Vaccination, coronavirus disease 2019, health care policy, policy, and Government. By default, Vosviewers consist of all title fields up to 6 clusters of abstracts. The colors of each cluster are red, yellow, dark blue, light blue, green, and purple; the following is an explanation of the various clusters in Table 2 below:

Table 2. Divisions for each cluster

Cluster 1 (18 Item)	*Communicable disease control, covid-19, covid-19 testing, disease spread, disease transmission, hand washing, isolation and purificatio, lockdown, physical distancing, policy, policy making, politics, protocol compliance, public policy, quarantina, social distancing, travel, virus transmission.*
Cluster 2 (16 Item)	*Communication, cooperation, covid-19 vaccine, government, hesitancy, influenza vaccine, public health campaign, public opinion, social acceptance, social media, trust, vaccination, vaccination refusal, vaccine acceptance, vaccine hesitancy.*
Cluster 3 (10 Item)	*Coronavirus disase 2019, fever, government regulation, health care system, immune response, immunity, public health service, sars-cov-2 antibody, social support, virus antibody.*
Cluster 4 (8 Item)	*Comorbidity, coronavirus infection, covid-19 pandemic, diseases, mortality, mortality rate, socioeconomics, viruses.*
Cluster 5 (6 Item)	*Economics, global health, health care policy, health care quality, public health, vaccination coverage.*
Cluster 6 (6 Item)	*Covid-19 vaccines, health policy, mandatory program, mass vaccination, policy implementation, prevention and control.*

Based on Table 2 above, related to the cluster analysis above, it can be interpreted that the COVID-19 vaccination policy for the government took the approach of providing COVID-19 vaccination. Various forms of vaccination policies are tied to each other from the several clusters shown in Figure 4; the vaccination policy is related to the presence of COVID-19 to accelerate the Response to the COVID-19 pandemic; the strategy taken by the government is the provision of vaccines. For the health of every citizen during a pandemic. Vaccines are considered one of the most effective tools available to prevent the transmission of Covid-19.

The cluster analysis above also shows that the COVID-19 risk reduction can be reduced if herd immunity is formed, which can be achieved through vaccination policies. If a person has immunity to Covid-19, he will indirectly protect other individuals who do not have an exemption. The limits of herd immunity largely depend on how contagious the disease is (Chen et al., 2022). Vaccination programs are an effective way to reduce the number of cases. However, it is essential to remember that vaccine interventions to mitigate Covid-19 are not enough. There is no single vaccine that has effectiveness up to 100%. Therefore, in the case of COVID-19, even though vaccination has been carried out, health protocols must still be followed, such as wearing masks, maintaining distance, washing hands, avoiding crowds, and reducing mobility.

3. Comparison of Covid-19 Vaccination Policies in the United States and China

The government has developed and implemented various policies for the Covid-19 pandemic. Vaccination is one of the policies taken by the government. Vaccination is giving vaccines by injection or dripping into the mouth to increase the production of antibodies to ward off certain diseases. Therefore, vaccines are one of the most important and influential ways to prevent illness and maintain body condition. Vaccines help create immunity to protect themselves from infection without causing harmful side effects. With the COVID-19 vaccination, you can save the body by creating an antibody response without getting sick from the coronavirus. The Covid-19 vaccine can prevent someone from getting the coronavirus. This can be seen through the mapping of vaccination policy in the United States in Figure 8:

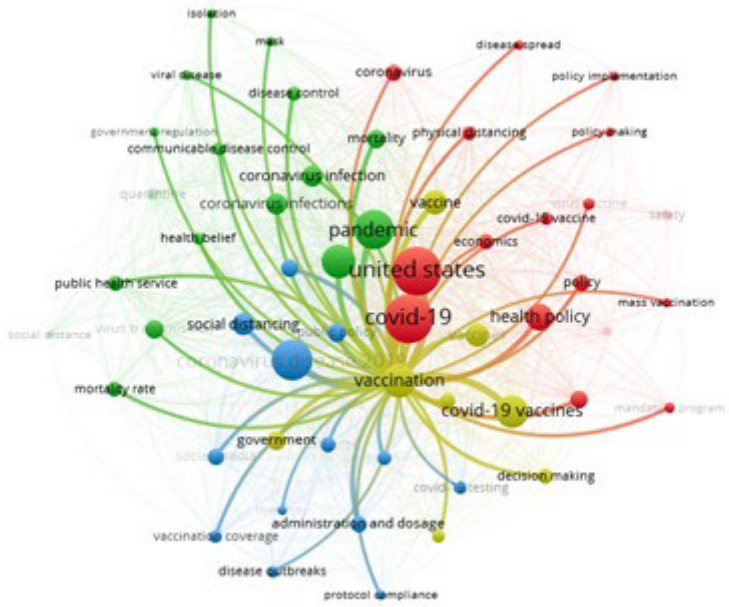

Figure 8. Network Visualization United States

Based on the data visualization in Figure 8 above, it can be seen that in the United States, the spread of Covid-19 is the largest cluster that is interconnected into several other clusters; vaccination is a government policy in dealing with the space of Covid-19; this government policy aims to reduce the risk of transmission of the coronavirus as the cause of Covid-19 disease, reduce morbidity and mortality due to covid-19, besides that it also protects the community from the Covid-19 virus and increases immune immunity by activating antibodies in the body to reduce the impact of the virus—transmission of the Covid-19 disease. The existence of the COVID-19 pandemic has forced people to limit activities because of its passive spread and cause of death. Therefore, the United States government has imposed a social distancing (Social distancing), Quarantine, and Vaccination policy to handle the COVID-19 virus.

To substantially reduce the morbidity and mortality from COVID-19, an effective and safe vaccine must be given rapidly and widely to the public as soon as it is available. However, vaccine availability alone is insufficient to guarantee broad immunological protection; vaccines must also be acceptable to the health community and the general public. Vaccine indecision is a significant barrier to vaccine uptake and the achievement of community immunity, which is necessary to protect the most vulnerable populations. Depending on various biological, environmental, and socio-behavioral factors, the threshold for COVID-19 herd immunity (Goren et al., 2022). Next is the handling of the COVID-19 virus, which is an outbreak that originated in China. In China's vaccination policy on data mapping through Vosviwers, it can be seen from Figure 9:

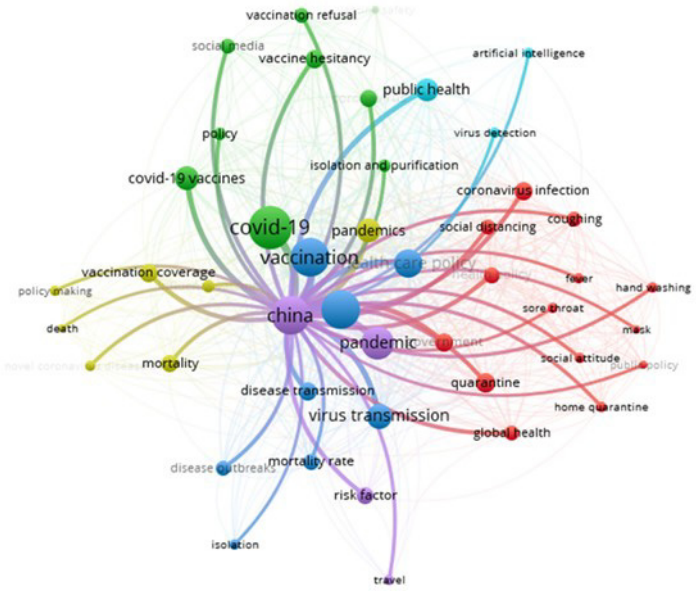

Figure 9. Network Visualization China

Based on Figure 9, the largest cluster in this study includes COVID-19, which the WHO confirms to have originated from China. The Chinese government implemented various policies to control the spread of the virus, starting with social distancing and eventually turning to vaccination as the main strategy. This vaccination policy aims to reduce transmission, reduce the burden on the health system, and save lives. The Chinese government implemented a mass vaccination strategy with a strict regulatory approach and an aggressive vaccination campaign, including access restrictions for unvaccinated citizens. Public trust in the government is important in compliance with this health policy. In addition, the government also combines vaccination with mass testing policies, strict quarantine, and close contact tracing to ensure the long-term effectiveness of the COVID-19 control strategy.

4. Analysis of Covid-19 Vaccination Policy Comparison of the United States and China

Vaccination policies impact reducing the number of COVID-19 cases that are still not under control. Given that the impact of vaccines on society is not only determined by their efficacy, the government must continue to make educational efforts and encourage active community involvement to comply with the COVID-19 health protocol. The government is trying to prevent the spread of Covid-19 from protecting all its citizens. The steps taken are generally aimed at each individual so that they are aware that the space of COVID-19 is a very complex problem because it can inhibit almost all human activities, which generally interact more with other humans and, of course, facilitate the spread of the virus. Implementing

the COVID-19 vaccine injection is a policy taken by the United States and Chinese governments to prevent the spread of the coronavirus.

The following are the results of the Covid-19 vaccination policy compared to the United States and China. The analysis of this data explains that the COVID-19 vaccination policy can be seen in Figure 10 regarding grouping words through Word Frequency as followThe following are the results of the Covid-19 vaccination policy compared to the United States and China. The analysis of this data explains that the COVID-19 vaccination policy can be seen in Figure 10 regarding grouping words through Word Frequency as follow:

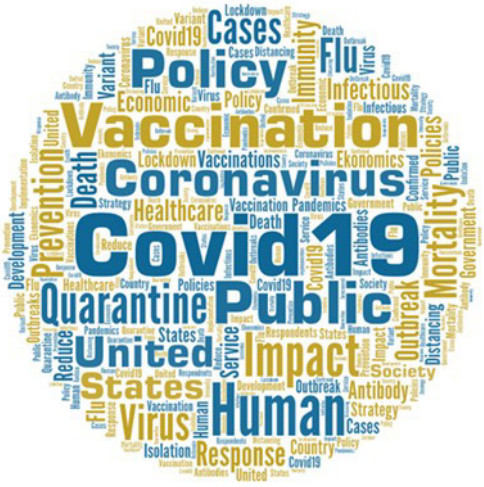

Figure 10. Covid-19 Vaccination Policy in the perspective of analysis in the United States

Based on the figure, the word cloud analysis displays the 50 most popular words in research on vaccination policy in the United States. The dominant words include Covid-19, Policy, Vaccination, Coronavirus, and Quarantine, reflecting the primary focus on public health policy dealing with the pandemic. Vaccination is seen as the government's main strategy to interrupt the spread of the virus and reduce its impact on the health system and economy. However, vaccination policy is seen from a health aspect and a political economy framework. Vaccines are a tool to increase immunity and are related to global geopolitical and economic interests. Countries with strong economies, such as the United States, face lower economic risks because they have better health infrastructure, widespread access to vaccines, and the ability to manage the impact of a pandemic more effectively than countries with limited resources.

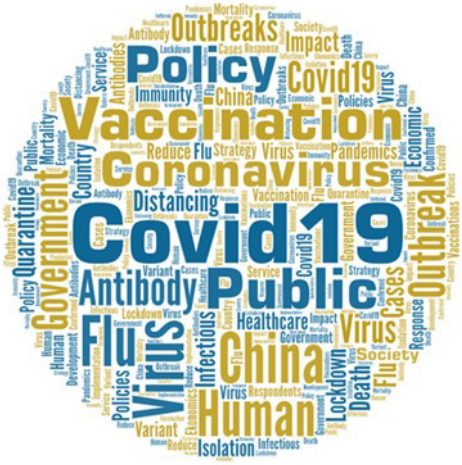

Figure 11. Covid-19 Vaccination Policy on the perspective of analysis in China

Based on the figure, the word cloud analysis displays the 50 most popular words in research on vaccination policy in China. The dominant words include Covid-19, Vaccination, Policy, Human, and Coronavirus, which reflect the main focus of public health policies in dealing with the pandemic. Vaccination is the government's main strategy in breaking the chain of virus spread while reducing the number of infections and deaths due to COVID-19. The Chinese government is implementing a wide-ranging mass vaccination policy, including prioritization for vulnerable groups, implementation of vaccination certificates, and incentives for people who have received the vaccine.

Apart from being a preventive measure, vaccination also plays a role in planning more effective policy interventions. The Chinese government emphasizes the importance of public education in increasing public confidence in vaccines. These efforts include information campaigns, transparency of vaccine effectiveness data, and science-based policies to convince the public of the safety and benefits of vaccines. In addition, China is also developing international cooperation in vaccine distribution, such as through the COVAX program and the Belt and Road Initiative (BRI) Health Silk Road, which aims to help other countries access vaccines. China's vaccination policy not only seeks to control the spread of the virus but also reduce the pandemic's negative social and economic impacts and strengthen the country's position in global health diplomacy.

CONCLUSION

Based on some of the explanations above regarding the COVID-19 vaccination policy, the two countries, namely the United States and China, can be categorized as countries that are quite responsive in dealing with the spread of the COVID-19 virus, after finding that the country is performing better in limiting the spread of Covid-19 than countries without vaccination. The government has formed policies to break the chain of transmission of

COVID-19, such as implementing the lockdown, social distancing, quarantine, and, recently, vaccination. Vaccination policies in the United States and China can already be successful because by looking at the presentation of vaccinations in these two countries, which is relatively high, the United States reaches 73.65% while China reaches 87.24%. Countries ' procurement of COVID-19 vaccines is an effort to deal with COVID-19, including the United States and China to reduce the number of people affected and the death rate due to COVID-19.

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